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Kiel Working Papers

Working Paper No 51

THE CONSEQUENCES OF FREE TRADE IN
MANUFACTURES BETWEEN ISRAEL AND THE EEC

by
Richard Pomfret

July 1976

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Kiel

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A C K N O W L E D G E M E N T S

This study reports research undertaken in the project "Die wirtschaftliche Integration Israels mit den Europäischen Gemeinschaften" being carried out by the Institut für Weltwirtschaft in Kiel and the David Horowitz Institute (Tel-Aviv University), with financial support provided by the Stiftung Volkswagenwerk.

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Chapter 1: Introduction

In 1975 Israel and the EEC signed a preferential trade agreement, which included provision for free trade in manufactured goods between the signatories by 1989 at the latest. The present study examines the economic consequences for Israel of such a free trade area. Although political factors are clearly important in determining the course of EEC-Israel relations, analysis of their economic aspects is facilitated by abstracting from the political issues. Within this framework, the free trade area can be seen as a case of mutual preferences between a large economically developed bloc and a small semi-industrialized country.

During the 1960s economists and policy-makers, dissatisfied with the results of industrialization by import substitution, began to advocate the export of manufactures according to comparative advantage as a suitable development strategy for the less-developed countries (LDCs). A major obstacle to the success of this strategy was considered to be the tariff barriers existing in the high-income countries, where the largest markets lay, and the UN Conference on Trade and Development expended much energy between 1964 and 1971 in negotiating a system of preferential tariffs to be offered to LDCs. The intention was that eighteen developed countries would participate in the common system, but lack of agreement led to each country or bloc adopting a separate scheme. The individual preference systems which have emerged have come under a great deal of criticism, because they exclude some manufactured goods (usually the ones in which the LDCs have a comparative advantage) and place ceilings on preferential trade in other goods.¹

The inadequacy of the general systems of preferences has led some of the countries interested in pursuing a development strategy based on manufactured export expansion to seek more useful preferences via bilateral agreements.

¹ The first point is made in Murray (1973a) and the second in Murray (1973b).

The most far-reaching of such agreements are those negotiated between the EEC and the Mediterranean countries. The various ad hoc agreements have gradually evolved into the Global Mediterranean Policy, under which a free trade area involving the EEC and the entire Mediterranean littoral is envisaged. The 1975 EEC-Israel agreement is, in its economic aspects, one of the most advanced steps in that policy. Other Mediterranean countries have been less willing than Israel to expose their manufacturing sectors to EEC competition and will closely follow the effects on Israel of the mutual preferences.

The theoretical framework for analyzing free trade areas has been developed in a branch of economics known as customs union theory. Two questions have dominated the theoretical discussions: (i) what are the sources of welfare gains and losses, (ii) are there any valid economic reasons for forming a customs union or free trade area? The answers to the former question have been well-defined in theory, but empirical studies have been primarily restricted to unions between developed countries (overwhelmingly to the EEC).² A satisfactory positive answer to the latter question has yet to be found, and in the conclusion of the present study it will be appropriate to ask whether the free trade area represents the optimal economic policy for Israel.

The study is divided into two parts. The first part provides the theoretical, historical and institutional background necessary for analyzing the proposed free trade area. Part Two contains the analysis of the effects of the free trade area on Israel. The analysis is undertaken at a macroeconomic level and aims to provide orders of magnitude rather than exact measures; the shortcomings of the chosen aggregation level are most noticeable with respect to the consequences for factor productivity. A simplifying assumption is that the Israeli economy is a Marshallian pure competitor in world markets and that her import demand can be fully satisfied by the EEC at the world price. Since this assumption is highly important for the estimates, its empirical relevance is examined in an appendix. The analysis is restricted to the so-called primary and secondary effects of preferences and ignores the less direct, or "tertiary", effects such as the consequences of exchange rate adjustments resulting from the trade effects of the preferences.

PART ONE

THE BACKGROUND

Chapter 2: The Theoretical Background

The economic theory of preferential trading has developed rapidly in the last 25 years. Before that time customs unions had been able to appeal to proponents of both free trade and protection, because they contained elements of both policies. With the development of the general theory of the second best in the 1950s, however, it was recognized that a policy of preferential tariff reductions may be inferior to a policy of no tariff reductions. The present chapter opens by surveying the arguments in favour of free trade or protection as the optimal policy for a small semi-industrialized country like Israel. This is followed by a review of the sources of gains and losses from a free trade area between a small semi-industrialized country and a large industrialized partner, from the former's point of view. Although there are several sources of gain and few sources of loss for the small country, the major conclusion of customs union theory is that the free trade area can never be a superior policy to unilateral tariff elimination. The chapter ends with a preview of how the gains and losses to Israel of free trade with the EEC are to be estimated in Part Two.

1. Free Trade vs. Protection as the Engine for Industrialization

Before coming down to the customs union issue it may be useful to overview the arguments pro and contra free trade. To bring the discussion rapidly towards relevance to Israel, two arguments in favour of free trade can be ignored. Firstly, free trade can stimulate demand and lead to idle resources being brought into use, but the Israeli economy is already operating at full employment. Secondly, trade can be a vehicle for the dissemination of knowledge, but for Israel this role is likely to be minimal because her business community is internationally oriented and highly aware of product innovations in developed countries' markets.

The fundamental argument in favour of free trade rests on the static gains from trade. By trading according to comparative advantage a country is able to operate on a higher social indifference curve than in the no trade situation

(Samuelson (1962)). The static gains can be related to the dynamic process of industrialization in several ways. The augmenting of available resources should lead to an increase in domestic savings. A second argument refers to the case where capital goods can only be produced domestically at prohibitive cost, so that the constraint on implementing a social preference for purchasing capital goods in order to foster economic growth is the economy's ability to transform domestic resources into foreign exchange.¹ A purely dynamic gain from trade arises if export markets provide more profitable outlets than domestic markets and hence encourage capital formation. This will be particularly potent if the country's comparative advantage is in products where unrealized scale economies are large at output levels supplying the domestic market alone (Pomfret (1975)).

For a real-income-maximizing country arguments in favour of protection can only rest on one of two foundations: a terms of trade effect or the existence of distortions. Since Israel is unable to affect its terms of trade (the "small country" assumption), the former is inapplicable to the present case. Since international markets are in general highly competitive, the distortions which could form the basis of a protectionist argument must be domestic, in which case an optimal production tax-cum-subsidy will exist and will be the first-best solution. The issue is clouded, however, by the possibility of the first-best solution being infeasible for political, administrative or other reasons, in which case a tariff may be the best feasible solution and superior to free trade. Once this possibility is admitted, there is no difficulty in finding domestic distortions in a developing economy. The oldest and most intellectually respectable is the infant industry argument based on the existence of externalities, which reduce the private return on a long-term investment below the social return. Further features of developing countries

¹ The foreign exchange constraint on development has been frequently discussed in the economic literature. There is some debate as to whether it is the binding constraint on growth and whether it is in fact independent of the savings constraint. The earliest exposition of the argument was related to Israel (Chenery and Bruno (1962)) and Israeli policy-makers continue to consider it the binding constraint for that country.

are factor price distortions and a predilection for industry (reflected in the relative private return on manufacturing activity being lower than is implied by the society's objective function), which are revealed in subsidies to capital goods imports and to domestic industry via LDCs' tariff structure. In the presence of any of these, and other, market distortions protection can be justified if no superior policy package is considered feasible. The difficulties of identifying externalities, social objective functions, etc. and of judging the feasibility of untried policies make this conclusion rather amorphous.²

The lack of clear conclusions from economic theory has led to appeals to economic history,³ but the experience of the developed countries of Europe and North America lends itself to divergent explanations. At first sight trade appears to have been an important factor in England's industrial growth, but not in that of nineteenth century Germany or North America. Advocates of free trade could, however, see a significant role for exports in German industrial growth insofar as some of her most distinctive industrial products (e.g. chemicals and machinery) showed high rates of export growth in the latter part of the century (Hoffman (1965), p. 151) and, although exports of manufactured goods were not important in North America, the initial stimulus for aggregate economic growth has been identified with "staple" exports. An alternative view of the historical evidence, while admitting the benefits of free trade for English industrial growth, claims that the first industrial nation was a unique case and that successful later industrializers developed their

² There is also a school of thought favouring protection on the negative grounds that free trade is harmful to the less-developed country, partly because the LDC is tied to products with little growth potential, but mainly because the social consequences of "dependence" limit development. The specific content of these theories appears not to be justified by the facts, but their more abstract (and most potent) features are not easily testable.

³ For example, Haberler in his survey of international trade theories concluded with regard to the choice of national development policies that: "Economic history has more to offer than theoretical analysis for the solution of these problems" (Haberler (1961), p. 58).

manufacturing sectors behind protective barriers.⁴ This is not the place to resolve the historical dispute, but, if we expand our time horizon, it can be concluded that the lessons for today's LDCs are indecisive. Expansion of foreign trade is neither a necessary (cf. Soviet Russia) nor a sufficient (cf. Holland whose commercial development surpassed that of England in the seventeenth century) condition for industrial growth, but it was part of a successful industrialization strategy in some countries (not only England, but also some of the small European nations). In sum, the historical experience of the developed countries provides little guide as to the optimum trade policy for an LDC today.

The post-1945 experience of developing countries also offers little guidance to the relative merits of free trade and protection. Almost all LDCs interested in industrialization relied heavily on protection during the 1950s and a small number, including Israel, were successful. In the 1960s the "success stories" turned to more outwar-looking development strategies and continued to develop industrially. This evidence could be used in support of either protection or free trade. It has also been used as the basis for a sequential theory of the optimal trade policy, i. e. import substitution and export expansion are not alternative paths to industrialization but the former should precede the latter (Paauw and Fei (1973)).

The reasons why a protectionist trade regime should be a necessary precursor of free trade for an industrializing country have never been rigorously stated. On the macroeconomic level there is no obvious argument why this should be true, and there is no a priori reason why the optimal bundle of projects at any point in time should not include both importsubstituting and exporting projects. For an individual industry there may be a second-best case for the precedence of protectionism if learning by doing exists, especially if the learning effects are connected with quality improvements

⁴ E. g. Bairoch (1972). It has recently been argued that even the English cotton industry developed first behind protective barriers against competing Indian products and only later became an exporter (Rostow (1975), esp. pp. 61-6); for consideration of this sequential view of protection and free trade see below.

or if transport costs are high. In industries where transport costs are very high import substitution may represent the limit of growth and some of these industries may have relatively low cost benefit ratios, but in such cases the protection is natural and tariff barriers are redundant. For these reasons import-substituting projects may have a greater weight in the earlier stages of industrialization than in the later stages.

A major factor determining the optimum balance between import substituting and exporting projects in a country is size. The concept of a country's economic size is many-sided, but two aspects are important here: the range of natural endowments and the level of domestic demand. Import substitution will be more important if the country has a wide range of natural resources, especially fertile land and natural resource production inputs, and if the country has a large enough population (and/or initial income level) that the minimum economic scale of production can soon be covered by domestic demand in sectors where economies of scale are significant, i. e. especially in capital goods industries. Thus it is not surprising that the U.S.A. and the U.S.S.R. could remove any foreign exchange constraint by domestic production of import substitutes, but such a strategy is not valid for small LDCs today, who must pursue a more outward-looking development strategy.⁵

A definitive solution to the hoary problem of whether free trade or protection is the superior engine for industrialization cannot be expected here, but some conclusions can be drawn for Israel. The most rigorous theoretical arguments are in favour of free trade, but the protectionists have some potent, but unprovable, arguments too. The experience of the industrialized countries and the more successful LDCs can likewise be enrolled to support either standpoint. Two factors, however, point to the protectionist arguments having limited relevance to Israel. Firstly, Israel is already a semi-industrialized

⁵ A perfect example of this is Cuba, which adopted a Soviet-style autarchic industrialization policy in 1959. The policy succeeded while free (i. e. unemployed or expropriated) resources could be utilized, but as soon as these were exhausted it became clear that many industrial products could only be manufactured at prohibitive cost. The return to a more outward-looking policy of trading by comparative advantage was achieved by 1964 - a mere five years after the revolution.

country with developed administrative capacities and political system. If the sequential theory of trade policies has any validity, then Israel has almost certainly reached the free-trade stage. More importantly, the superior policy responses to domestic distortions are likely to be feasible in Israel, thus removing the principal theoretical argument in favour of tariffs. Secondly, Israel is a small resource-poor economy and should therefore be expected to require an outward-looking strategy very early in the industrialization process.

2. Customs Union Theory⁶

Although the customs union is not a new phenomenon in economic history, the theory behind it received little attention from economists before 1950. The reason for neglect was that the beneficial nature of CUs appeared clear to both protectionists and free-traders. The former position is illustrated by the attitude of List and his followers to the German Zollverein of 1834, which they saw as an ideal institutional framework within which the German states could develop their infant industries for an increased domestic market protected from English competition. Free-traders could see CUs as a movement towards free trade, hence leading to increased world welfare even if not to a welfare maximum. The great contribution of Viner was to show that this conclusion was false. Since 1950 CU theory has developed along two paths. The first reaction to Viner's work was to search for the conditions under which CUs could lead to welfare losses. In the 1960s there was a shift in interest towards the question of why the rational government should enter a CU at all. These two areas will be reviewed in turn.

⁶ Definitions of the various stages of economic integration are imperfectly agreed upon. A customs union is generally considered to involve abolition of trade barriers between members and implementation of a common tariff rate on imports from non-members, whereas a free trade area involves the former but not the latter. Thus, the present study is dealing with a free trade area in manufactured goods. The theoretical issues reviewed in the present section apply equally to a CU and a FTA, but the field of study is invariably referred to as customs union theory.

The welfare gains and losses from CUs may arise from a number of sources (Lipsey (1960), p. 496):

- (1) specialization of production according to comparative advantage,
- (2) economies of scale,
- (3) changes in the terms of trade,
- (4) forced changes in efficiency due to increased foreign competition,
- (5) a change in the rate of economic growth.

CU theory has concentrated on (1), with some discussion of (2). Source (3) has also received some attention, but is ignored here because the present study employs the "small country" assumption throughout. The remaining sources have scarcely been dealt with at all - (4) is ruled out in traditional economic theory by the assumption that production always occurs on the boundary of the production possibility set. In addition to the five sources listed above welfare may be indirectly affected through government attempts to deal with other consequences of the CU, e.g. balance of payments disequilibrium.

Viner showed that the specialization of production following the formation of a CU is not necessarily welfare-increasing (Viner (1950), ch. 4). If country A imports good x from a third country before forming a CU with country B but after forming the CU imports x from B, then trade diversion has occurred. If B's production costs are higher than those of the third-country, then there is clearly a possibility of welfare losses for country A and the world. Much of the literature on CUs has been devoted to establishing conditions under which a trade-diverting CU can lead to welfare gains.⁷ The problem is avoided in the present study by assuming that the EEC can supply all manufactured goods at the "world price", i. e. any trade diversion which occurs is welfare neutral for Israel because her import price is unaffected.

⁷ The literature is surveyed by Krauss ((1972), pp. 413-7), who considers the issue a non-problem because all real world CUs are likely to contain both production and consumption effects (the former negative, the latter positive) and to categorize them as trade-diverting or trade creating (the former bad, the latter good) is unhelpful (and was not Viner's intention).

The possibility of realizing scale economies within a CU has long been considered a major argument in favour of CUs. Economists' opinions of the argument have been varied, largely because empirical evidence of the practical importance of scale economies is inconclusive. Corden argued that incorporation of scale economies into CU theory means that the concepts of trade creation and trade diversion must be supplemented by the additional concepts of a cost reduction effect and trade suppression.⁸ Since he believes that "the cost-reduction effect is likely to be the more important of the two" (Corden (1972), p. 469), Corden's analysis implies that the presence of scale economies tilts the welfare balance in favour of a net gain⁹, but the theoretical possibility of a net welfare loss remains.

Theoretical generalizations about the particular circumstances under which CUs are most likely to raise welfare rest heavily on the resource allocation effects (sources (1) and (2)). Viner's conclusion was that a CU is more likely to bring gain the more similar is the class of commodities produced under tariff protection in the partners (Viner (1950), p. 51). The gains will be larger if the difference in costs of production in the partner countries is large (Makower and Morton (1953)). These conclusions imply that a free trade area with a bloc of developed countries is more likely to be beneficial for a semi-industrialized country than for an LDC. It can also be shown that forming a CU with B is more likely to raise A's welfare if her trade with B

⁸ Corden ((1972), pp. 467-8) justifies the new terminology by arguing that the cost reduction effect is the result of the cheapening of an existing source of supply (rather than of movement to a cheaper source) and trade suppression is due to third country imports being replaced by more expensive domestic production (rather than by higher cost imports from the partner country). Krauss ((1972), pp. 420-1) argues that the two additional effects are no more than integral parts of trade creation and trade diversion, suitably defined to allow for non-constant cost curves.

⁹ In an independent, but similar, analysis Wonnacott and Wonnacott (1967) reach the same conclusion. Their approach is examined more closely in chapter 7.

is high relative to her trade with other countries and if her total foreign trade is low relative to her domestic purchases (Lipsey (1960), p. 508). Finally, the theory of the second-best shows that a preferential tariff reduction is more likely to raise welfare than a preferential tariff elimination (Lipsey and Lancaster (1956), section 5). It may be noted, however, that most of these generalizations are based on the negative consideration of reducing trade diversion. If trade diversion does not take place because the partner exports at world prices, then the last two generalizations no longer hold and indeed the welfare gain will be higher if foreign trade is high relative to domestic purchases and if tariffs are eliminated. Furthermore, a country interested in industrialization may rank improved resource allocation below economic growth and the circumstances under which CUs can increase economic growth may be quite different from those discussed here.

The possibility of trade diversion means that a non-preferential tariff elimination policy is necessarily superior to joining a CU as a means of reaping the benefits of free trade. The fact that CUs cannot be justified on resource allocation grounds raises the question of why countries ever form CUs. This question focussed attention on the sources of welfare gain not analyzed by CU theory, (4) and (5) above, but these turn out to be arguments for non-preferential tariff reductions as much as for a CU (Krauss (1972), pp. 419-21). The only valid economic rationale for a CU is the possibility of a terms of trade effect benefitting members of the CU (or groups within the member countries) at the expense of outsiders, but this consideration is far from general and does not apply at all to a "small country". Johnson (1965) and Cooper and Massell (1965) have developed a semi-economic rationale by introducing a public good (which may be nationalism or industry conceptualized as a collective good) into the social welfare function. In this case a CU may be superior to non-preferential tariff reduction because some of the trade diversion represents a reduction in loss of the public good, but the first-best solution would involve direct production subsidies and the CU can only be justified if such subsidies are not feasible. The conclusion that CUs are non-economic institutions does not reduce the need to estimate the costs

and benefits of a given CU. Although the non-economic benefits from a CU may be difficult to calculate, it is useful to know the economic costs or benefits compared to the pre-CU situation and the economic costs of the CU compared to a unilateral free-trade regime.

3. Conclusions

For a small resource-poor semi-industrialized country free trade appears to be the optimum tariff policy. The free trade area with the EEC represents a means for Israel to move closer to such a policy, assuming that no trade diversion occurs. The sources of welfare gain are analyzed in Part Two within the framework outlined in the second section of the present chapter. Since no adjustment mechanism for external balance is specified, it is also necessary to estimate the effects of the FTA on Israel's balance of trade. An argument for the rationality of the FTA from Israel's point of view is presented in the final chapter.

Chapter 3: The Historical Background: Israel's Economic Development, Trade Policy and Trade History

The effects of free trade with the EEC will be greatly influenced by the present structure and historical evolution of the Israeli economy. The present chapter surveys the course of Israel's economic development since the founding of the state in 1948. The sources of her phenomenal growth rate are analyzed and prospects for future growth are considered. The government's trade policy during the development process is described in the second section. Finally, the historical development of Israel's exports and imports is described, with particular emphasis on the importance of manufactured goods, the distribution of trading partners and the determinants of Israel's manufactured export growth.

1. Israel's Economic Development

The most striking feature of Israeli economic history is her rapid economic growth. Israel's annual growth rate of real GDP was 10.4 % in the 1950s and 8.8 % in the 1960s. Thus, although Israel's 1950 per capita income of \$ 300 in 1950 placed her much closer to the wealthier LDCs than to the developed countries, by 1975 her per capita income was well above all the non-oil LDCs' and similar to some developed countries'¹. At the same time, the structure of production in Israel has approached that of the developed countries as an earlier emphasis on agriculture has been replaced by recognition that Israel's best prospects for growth lie in the industrial sector. In the 1970s about 25 % of Israeli GDP originates in industry, which is less than in most developed countries, but the Israeli figure is depressed by the high proportion of government services in GDP. The major distinction between Israel and the developed countries is her continued reliance on capital inflows to cover a trade deficit which amounted to 33 % of GNP in 1973.

¹ The 1950 figure is from Bruno (1972), p. 94. Calculation of 1975 per capita income in US dollars is complicated by the varying exchange rate.

Productivity studies have shown growth in the capital input to have been the major source of Israel's GNP growth². This reflects the high investment/output ratios since 1950 (with the temporary exception of the 1965-7 recession) with 20 - 25 % of GDP going to capital formation, which is greater than the ratio in today's LDCs or in the industrialized countries during their early stages of economic development. Israel's capital accumulation has required no sacrifice of domestic consumption (net domestic savings have been almost zero), since it has been financed by a massive capital inflow³. A second source of GNP growth has been the human input. From a base of some 800,000 people in 1948-9 (of which 650,000 were Jewish) the population had increased to 3.4 million by the end of 1974. Furthermore the quality of the labour force, especially the "initial endowment" in 1948-9, was extremely high⁴. A final distinguishing feature of Israel's performance is the relatively high residual found in sources of growth studies⁵, which is most likely explained in terms of national identity and enthusiasm among the population to work towards national economic development.

Israel is often thought to be a "special case" in that her problems and advantages are so unique as to render comparisons and lessons for other

² cf. Bruno (1972), pp. 95-6, and Gaathon (1969).

³ Capital imports since 1949 have exceeded \$ 10,000 m. (on a per capita basis \$ 150-200 p.a. - more than the per capita income of many LDCs!), mainly from World Jewry, German reparations and restitution payments and U.S. aid.

⁴ R. Easterlin concluded that "It is no exaggeration to say that in 1948 the educational level of the Jewish population in Israel was close to the highest in the world" (Easterlin (1961), p. 71).

⁵ The "residual" in sources of growth studies is that part of economic growth which is not accounted for by growth in the variables included in the analysis. Since the Israeli studies only include labour and capital inputs and use a Cobb-Douglas production function, it may reflect misspecification of the aggregation production function or omission of important variables. It is, however, usually assumed to reflect the importance of non-economic variables (e.g. see Pack (1971)).

developing countries invalid. The preceding paragraph made it clear that Israel did possess special advantages from her position as the Jewish state, especially the inflow of human and financial capital, which are not available to other LDCs. Nevertheless, the sources of Israel's economic growth are precisely those factors which are recognized by economists as the necessary ingredients in a natural-resource-poor economy; i. e. the Israeli case is not qualitatively unique in the factors explaining her growth, although she has been fortunate in the speed with which these factors have accrued.

Some reduction in Israel's growth rate may be expected as the rate of factor growth slows down. Despite the high proportion of children in the Israeli population and the current low participation rate of women, the labour force is expected to grow more slowly than in the past because of reduced immigration⁶. This conclusion could be altered by increased emigration of Russian Jews, but the numbers that this would involve are uncertain. The major source of capital, transfers from abroad, may also be reduced as German restitution and pension payments are phased out. These adverse trends will be, at least in part, offset by increased productivity as human capital per capita increases. Gains in allocative efficiency may also be reaped as production shifts towards the more skill-intensive industrial branches. Finally, a lower economy-wide capital-output ratio than in the past may permit the same rate of production, because new housing needs are falling. On balance, it appears that Israel's economy will continue to grow but at a slightly slower rate than in the 1960s.

The actual performance of the Israeli economy will be closely related to the security position in the Middle East. Constant military preparedness involves a drain on the civilian economy insofar as the military sector makes priority claims on scarce resources, i. e. labour and capital are directed from production for home civilian demand and for export, and the share of defence

⁶ In 1975 emigration exceeded immigration for the first time in a decade. This is, however, clearly a short-term response to the depressed state of the Israeli economy, rather than an indication of long-term trends.

expenditure in Israel's GNP is one of the highest in the world. The high personal tax levels required to finance the expenditure may have the further effect of undermining incentives. There are some compensatory "spin-off" effects of the near-war economy, but it is most unlikely that they outweigh the costs. Peace in the Middle East would reduce these costs, as well as opening up new export markets for Israel and providing a more attractive environment for private foreign investment. Renewed open hostilities would, on the other hand, disrupt production and trade. If the experience of 1967 and 1973 can be relied upon, the short-run disruption can soon be made good⁷, but the longer-term consequences, in particular the new arms races which are set in motion and the psychological effects of victory or defeat, are very important. Although the post-1967 boom was partly a recovery from the 1965-7 recession, it can also be attributed in part to a tremendous upsurge in confidence in Israel. This was most concretely reflected in the increased inflow of private capital, which is known to be favourably affected by the prospect of political stability. In contrast, direct foreign private investment in Israel was reduced after October 1973. At the same time more cases of foreign companies complying with the Arab boycott were reported, presumably reflecting a feeling in the international business communities that Israel was no longer the side to put one's money on.

The worldwide recession coupled with the adverse effects of the 1973 war made the years 1974-6 difficult for the Israeli economy. According to preliminary estimates, GNP declined in 1975 by some 2 %, the first decrease since 1953 and in stark contrast to the high pre-1973 growth rates. Investment fell in 1974 and 1975, and is expected to fall again in 1976. Stagnant

⁷ Industrial production reached a new peak in the fourth quarter of 1967 and similarly the immediate disruption of the October 1973 war had been overcome by the first quarter of 1974. The lack of major disruption followed primarily from the nature of the wars, which were not long lasting and which did not touch upon Israeli centres of population (and production). It may be expected that the great powers will prevent the next war from lasting long, but the possibility of attacks on population centres must be considered more likely as the missile stocks of the combatants increase.

production has been accompanied by rapid inflation as the consumer price index rose by 46 % in 1974 and 24 % in 1975, both of which have combined to increase labour unrest⁸. The only relieving feature in the picture is that unemployment has remained low, totalling 3 % of the labour force at the end of 1975, but this is changing in 1976 and the rate is expected to double by the end of the year.

In sum, Israel's economic development has been characterized by rapid growth, fuelled by large capital inflows, a fast-growing and well-educated labour force and high motivation. The underlying factors are likely to continue to favour economic growth but at a slower rate than previously. The actual time path of growth will be largely dependent on her security position. The aftermath of the psychologically damaging 1973 war, in conjunction with the worldwide recession, has clearly illustrated the vulnerability of the Israeli economy. The speed with which the economy can move out of its present trough will depend on world market conditions, the defence needs imposed by her changing security position and the factor inflow (especially aid from the USA), all of which are at least partly beyond her control.

2. Israeli Trade Policy

Although Israel's rapid development has been primarily conditioned by her favourable factor endowments and has been strongly affected by exogenous events, this is not to deny a role to Israeli government policy. One fifth of GNP originates in the public sector, but this figure understates the pervasive government influence on the economy. Government activity partly reflects the ideology of the governing Labour party, oriented towards creating a "welfare state" and promoting economic development along specific lines, but is also due to the concrete conditions of mass immigration and capital inflows which required government assistance to be absorbed into the economy. Trade policy has been an area in which government intervention has been especially strong.

⁸ In 1975 160,000 workdays were lost in 124 strikes, compared with 50,000 workdays in 71 strikes in 1974.

The development strategy initially adopted by Israel was aimed at maximizing self-sufficiency. An import substitution strategy had some specifically Israeli motivations, e.g. the Zionist emphasis on a return to the land and Israel's tenuous military position, but it was also in tune with prevailing world opinion on development strategy. The nascent manufacturing sector was heavily protected by quantitative restrictions on imports. Although financial incentives were offered to exporters in the 1950s, the overvalued exchange rate and high protection walls made production for the domestic market more attractive to Israeli entrepreneurs. Protection may have been necessary in the 1950s because Israeli industry could not compete on the world market, partly because government policy was aimed at provision of jobs, especially in development areas, rather than at maximizing productive efficiency. Nevertheless, it was becoming clear by the late 1950s that import substitution was proving unsuccessful at achieving one of its goals, i. e.

reduction of the trade deficit, and the government started to move towards a more outward-oriented development strategy. Elements of this policy shift were liberalization of some imports, increased financial incentives to exporters, establishment of institutions to overcome the non-price obstacles to exporting and, most important, an increased emphasis on the criterion of export potential in allocating investment funds.

The policy debate between proponents of import substitution and of outward-oriented development culminated in the 1962 New Economic Policy. The major items in the NEP package were devaluation of the pound, from £ 1.8 / \$ to £ 3 / \$, and the replacement of quotas by tariffs. The NEP reflected an appreciation of the desirability of extending the outward-orientation adopted in the late 1950s, which had had a positive effect on exports, but more fundamentally it reflected the realization that autarchy had little to offer Israel once full employment of domestic factors of production had been achieved around 1960. Increased per capita output required further division of labour, but for a small country opportunities for specialization are limited by the size of the market. Thus the only prospect for further economic development in the 1960s was to shift from autarchic policies to increased integration in the world economy.

Somewhat ironically the period 1962-5 saw a reduction in the incentives offered for production for export vis-à-vis production for the home market. This was partly because the government ended export subsidies in the (mistaken) belief that the devaluation would provide sufficient financial incentive to exporters and partly because import liberalization was a slow process. Between 1965 and 1967 the Israeli economy experienced a recession as the government cut back domestic demand, with a principal aim of encouraging exports. In 1966 export premia were reintroduced and indirect subsidies to exports increased rapidly after 1966. A further incentive to entrepreneurs to look to export markets was provided in 1968 when the replacement of quotas by tariffs was completed and a programme of regular tariff reductions was initiated. Between January 1968 and the end of 1971 the nominal tariff on manufactured goods fell from 78 % to 21 % (Pomfret (1976), Table VII).

Despite some pressures for protection, government policy has been increasingly outward-oriented in the 1970s. The increasing trade deficit, started by a rapid increase in imports during the 1968-72 boom and then fuelled by rising import prices and defence imports in 1973-4, led to some protective measures; a defence levy on imports of 20 % (imposed in 1970 and raised to 25 % in November 1973), an import deposit scheme (abolished early in 1974) and a six month freeze on imports of some consumer goods (starting November 1974). Import-substitute producers also benefitted from the frequent devaluations. Nevertheless, government policy was biased against producers for the domestic market (vis-à-vis exporters) in that tariff reductions continued to occur at fairly regular intervals. Meanwhile financial incentives to exporters were increased. Although the government remained unconverted to a floating exchange rate, it attempted to bring the Israeli pound into a less overvalued position by devaluing from £ 4.2 / US \$ to £ 6 / US \$ in November 1974 and by a 10 % devaluation in September 1975. In June 1975 a system of creeping devaluation was introduced whereby the Israeli pound can be devalued by up to 2 % each month.

The trend in Israeli government policy has thus been to move from an initial attempt at autarchy towards integration into the world economy. Although

the trend was always in the same direction, the speed with which government policy moved towards outward-orientation varied. In the 1950s entrepreneurs were encouraged to produce for the home market because quantitative restrictions on imports gave them considerable protection. In the late 1950s export promotion became a more significant policy goal. After the 1962 devaluation there was a slackening of government activity in this field, but the active promotion of exports was resumed in the later 1960s and has continued in the 1970s.

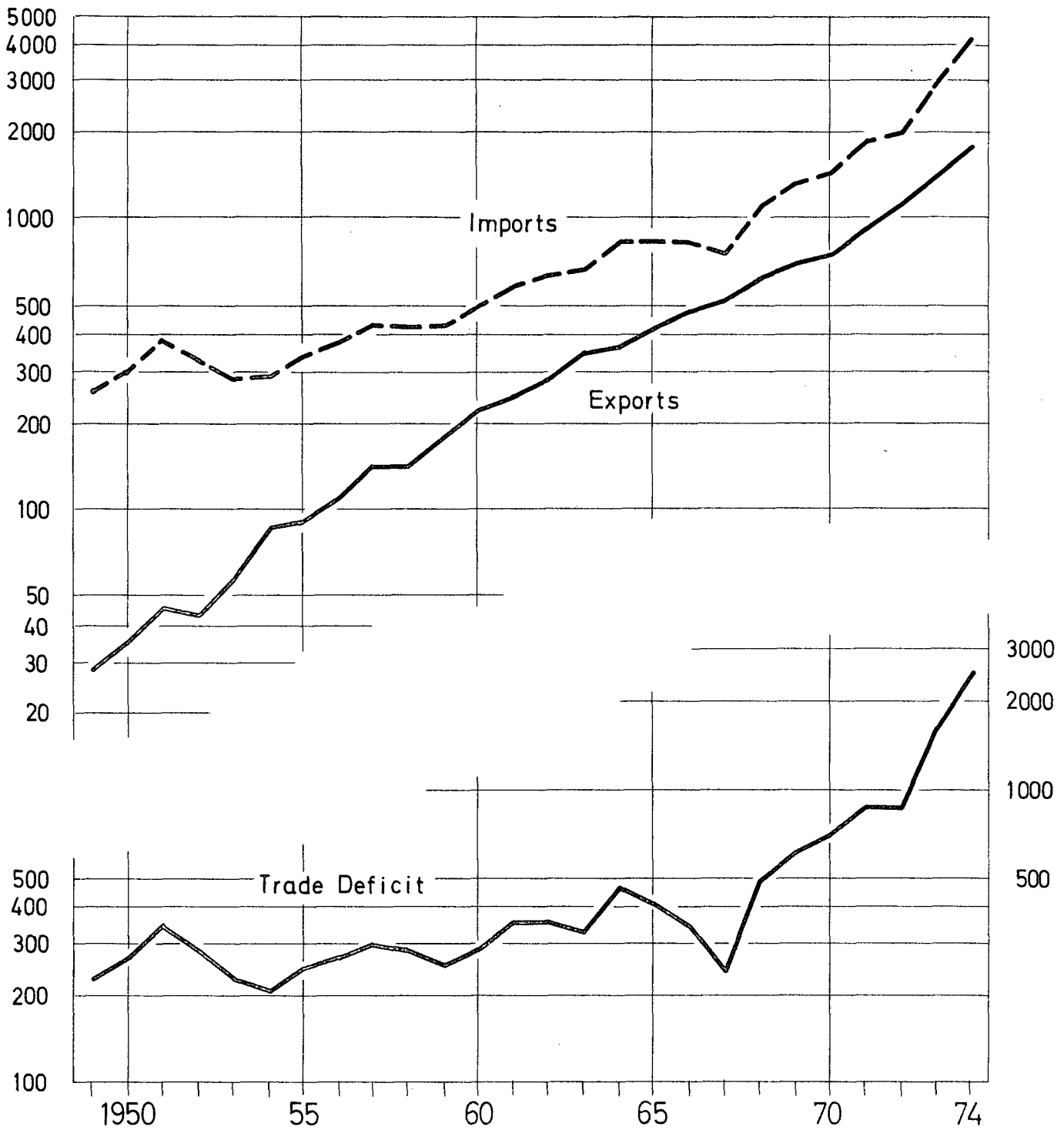
3. Israel's Trade History

Israel has had a large trade deficit in every year of its existence. The size of the deficit, although fluctuating greatly, showed only a slight upward trend before the 1967 war, but since then it has increased rapidly, especially since 1973 (cf. Chart 1). The deficit has been covered by capital imports and, until 1973, Israel was actually able to increase her foreign reserves. Nevertheless, a major policy goal has been reduction of the trade deficit in order to reduce dependence on external sources of funds. This has become especially urgent as the explosion of the deficit in the last few years has occurred at a time when German reparations and restitution payments are diminishing. In view of the increased absolute amounts involved, personal donations from world Jewry will be unable to fill the gap and a continuing increase in the trade deficit will only be possible if US aid increases.

Measures of the importance of foreign trade to the economy vary according to whether import/GNP or export/GNP ratios are used. The ratio of total imports of goods and services, valued at the formal exchange rate, to GNP has fluctuated around a level of 40 %, the export/GNP ratio has been correspondingly lower.

The structure of imports by economic destination has changed considerably during Israel's history. In the early 1950s, consumer and investment goods each accounted for around 25 %, raw materials 40 - 45 % and fuel 10 % of the total value of imports of goods. By 1974 consumer goods had fallen to 8 % and producer goods to 17 %, while fuel accounted for 15 % and raw

Chart 1 - ISRAEL'S FOREIGN TRADE
(million US-\$, current prices)



Data Source: Statistical Abstract of Israel 1975, p 188-9

materials the remainder. Despite their changing economic destination, the structure of imports by branch of origin has not changed much, at least at a highly aggregated level, and industrial goods have continued to account for around three fifths of the total⁹. A further noteworthy trend is the rapid relative increase of military imports since 1968.

The geographical distribution of imports by country of origin has shifted towards an increased share of purchases from the EEC, primarily at the expense of the USA. In 1949, 32 % of Israel's imports came from the USA, 9 % from the U.K. and 32 % from the rest of Europe. By 1974 the U.S. share had fallen to 18 % and Europe's increased to 56 %, the EEC accounting for 47 %.

Between 1950 and 1970 Israel's exports, measured in current dollar prices, increased by an annual average of 16.4 %. Although this rapid expansion was insufficient to close Israel's trade deficit, it represents a remarkable performance¹⁰. The time path of Israel's export growth is illustrated in Chart 1. The early years of Israel's existence saw rapid growth from a low base, followed by a period of relatively slow growth between 1954 and 1958. Between 1958 and 1963 an export boom took place which was especially prominent in the industrial sector, where the main contributors to export growth were metal manufactures, textiles and chemicals. Manufactured exports continued to grow steadily after 1963, and a new boom took place between 1968 and 1972. The leading products in this boom were skill-intensive goods like electrical equipment and aircraft¹¹. The export boom came to an end in 1973, but at the time of writing it is unclear whether this signifies a downward shift in Israel's export growth trend or merely a temporary break.

⁹In 1950 "articles wholly or mainly manufactured" accounted for 62 % of commodity imports, whereas such articles (SITC 5-8, minus 667) accounted for 56 % in 1974.

¹⁰The comparable figures for the other export-oriented Asian semi-developed economies are Hong Kong 7.7 %, South Korea 21.2 %, and Taiwan 14.1 %. The average rate for LDCs was 4.7 % and for developed market economies 8.0 % (United Nations, Handbook of International Trade and Development Statistics 1972, pp. 22-5).

¹¹Export of aircraft increased from \$ 6.1 million in 1969 to \$ 35 million in 1974.

The export structure inherited by Israel upon becoming independent was a typical example of monoculture. In 1949 citrus fruits and juices accounted for 67 % of Israel's exports. In the industrial sector, polished diamonds accounted for 19 % and other manufactured goods for 3 % of total exports. Since 1949 citrus and diamonds have remained the major export earners, but their relative importance has declined as exports of other industrial goods has increased. In 1974 the latter accounted for slightly over 50 % of Israeli exports.

The destination of Israeli exports has not changed in the same way as the geographical distribution of her imports. The share of Europe has declined at the expense of Asian and African countries, a trend closely related to the changing commodity structure of Israeli exports, reflecting the U.K.'s predominance as a market for "Jaffa" fruit and the LDCs' suitability as a market for Israeli manufactured goods. In 1949 the share of Israeli exports going to the U.K. was 54 % and to the rest of Europe 27 %, whereas in 1974 Europe took 53 % (the EEC 38 %); the U.S.A.'s share rose from 16 % to 17 %.

The above description of Israel's manufactured export performance suggests a close chronological parallel with the government's policy towards exports. The two boom periods of 1958-63 and 1968-72 coincided with the granting of increased incentives to exporters, while the relatively slow export expansion of the mid-1950s and 1963-5 occurred in times of little government encouragement to exporters. In an attempt to test this hypothesis several authors have attempted to estimate export supply functions for Israel. The exercise is complicated by the need to use annual data and by the many methodological problems, but the unanimous conclusion is that manufactured exports are price responsive and have therefore been favourably influenced by government policies which increase the financial incentive to export. A more important variable in determining Israel's manufactured export performance was her industrial growth, which may also be positively related to government policy or indeed to previous export expansion (Pomfret (1976), chapter 3.5).

4. Summary and conclusions

Israel has experienced rapid economic growth and industrial development since the founding of the state. She nevertheless has retained some characteristics of developing countries in particular her reliance on aid and vulnerability to external events, and can fairly be characterized as a semi-industrialized country. The rapid economic growth has largely resulted from growth of factor inputs, and government policy, although active, cannot be considered a major determinant of that growth.

In the area of trade, the government started with a highly protectionist policy and has continuously moved away from that position, first by removing quantitative restrictions on imports and then by reducing tariffs. This policy shift follows the dictates of trade policy for a small country and has helped export growth. It may be conjectured that failure to follow outward-looking policies would have hindered economic development. The agreement with the EEC is clearly consistent with the desire for greater integration into the world economy, but raises the question of whether Israel would be better advised to continue making non-preferential tariff reductions.

Reduction of the trade deficit has always been a major policy objective in Israel, and section 3 indicates that this issue is becoming even more acute. The solution to this problem lies outside the scope of the present study, depending primarily on the government's demand management and exchange rate policies as well as on the security situation. The existence of the problem has, however, strong implications for this study, because any adverse effects of the EEC agreement on Israel's balance of trade will be hard felt in the absence of an adequate balance of payments adjustment mechanism.

Chapter 4: The Institutional Background: The "Global Mediterranean Policy" and Israel-EEC Relations

The 1975 agreement between Israel and the EEC is part of the latter's "Global Mediterranean Policy". The major economic goal of this policy is the establishment of a free trade area covering the Mediterranean area and the EEC. This will be first achieved with respect to manufactured goods and the EEC-Israel agreement is the first step towards this goal. The present chapter surveys first the historical development of the EEC's Mediterranean policy, including its effects on factor flows and on third countries, and then the specific relations between the EEC and Israel.

1. The Mediterranean Policy of the EEC

Since its inception the EEC has established a network of preferential trading and financial arrangements with developing countries. An intended consequence of this policy was to mitigate and compensate for the adverse effects on these countries' economies of the trade diversion resulting from the establishment of the EEC¹. Especially hard hit among the developing countries were those along the Mediterranean littoral whose trade was dominated by the EEC and who relied heavily on exports of goods protected under the common agricultural policy. Further reasons for special relationships between the EEC and Mediterranean countries were the desire of some of the latter for eventual EEC membership and the significant geo-political position of the Mediterranean for European security.

¹ For a discussion of the aims of the EEC's trade policies towards developing countries see Donges (1974). Analysis of the effects of this policy is contained in Kreinin (1975).

Agreements with Mediterranean Countries 1962-72

The first Mediterranean country to reach an agreement with the EEC was Greece. The Treaty of Association signed in July 1962 provided for (a) the establishment of a customs union during a transition period of between twelve and twenty-two years, (b) financial assistance from the EEC, (c) harmonization of economic policies, (d) the establishment of common institutions, (e) the possibility of Greek membership of the EEC if and when Greek economic conditions made this feasible. After the Greek coup d'état of 1967 the EEC unilaterally froze the Treaty of Association.

In September 1963 a similar Treaty of Association was signed with Turkey. This differed from the Greek agreement in two significant ways. Full membership received much less emphasis and the institutional links established between the EEC and Turkey were fewer than with Greece. The phases through which EEC-Turkish relations must go before full association was achieved were more clearly spelt out than in the Greek case. Both of these differences stemmed from Turkey's more backward economy, as did the higher level of financial assistance granted to Turkey. In 1972 adjustments to the Treaty of Association were negotiated and a new agreement was signed in June 1973, which made no reference to future full membership. In January 1973 the final twelve year transition phase to full association was begun.

Morocco and Tunisia signed partial association agreements in 1969, which were to run for five years. Both agreements concerned mutual tariff concessions with immediate effect on EEC tariffs and deferred for the two associated countries. In December 1970 an association agreement was signed with Malta, under which full association was to be reached over two five-year stages. A similar agreement was signed with Cyprus in December 1972. None of these association agreements envisaged accession to the EEC.

In addition to association agreements based on Article 238 of the Treaty of Rome, the EEC has concluded a number of preferential trade agreements

(PTAs) with Mediterranean countries based on Article 113. The first of these were signed in June 1970 with Spain and Israel, with Spain receiving more advantageous terms. They contained preferences concerning the exchange of both agricultural and industrial products, but the emphasis was on the latter. The PTAs could have been expected to have a favourable effect on Spanish and Israeli exports, but their value was reduced by the Generalized System of Preferences for developing countries (GSP), which was introduced by the EEC in July 1971, and the enlargement of the EEC in January 1973. Further PTAs were signed in December 1972 with Lebanon and Egypt.

A non-preferential agreement granting most favoured nation status was signed with Yugoslavia in March 1970. Closer ties between the EEC and Yugoslavia are expected in a new agreement covering financial aid and migrant labour as well as granting preferential trade treatment. The EEC's relations with Yugoslavia are of exceptional interest in view of that country's socio-economic system, and many other socialist countries are studying the case carefully with an eye on their own future relations with the EEC. For the purposes of the present study, however, Yugoslavia's economic structure makes her something of a special case and she will be omitted from consideration.

The Genesis of a Global Mediterranean Policy

By 1972 the EEC had agreements with almost all of the Mediterranean countries. Although Algeria and Syria had no formal agreements, it was agreed by both parties that agreements should be concluded. Only Albania and Libya showed no interest in a special relationship.

The plethora of agreements established a complex system of relationships rather than a consistent policy on the part of the EEC. The complexity led to net discrimination against some of the Mediterranean countries whose closest competitors received more favourable treatment. The desire for a more unified policy reflected not only the anomalies of the existing patchwork

of agreements, but also the feeling that the Mediterranean Basin constituted a distinct geo-political and economic entity (despite the Greek-Turkish and Arab-Israeli tensions) which should be treated as a whole.

In 1970/1 the first demands for a global Mediterranean policy (GMP) came from the European Parliament. Discussion of the concept was confused at first, but since autumn 1972 the Commission and the Council of the EEC have been engaged in a substantive dialogue over the GMP. The political and security aspects of the GMP are still uncertain, indeed it is debated whether the GMP should have any political components or whether it should consist solely of economic measures.

The economic component of the GMP is relatively clearly conceived. The goal is a free trade area covering the whole Mediterranean littoral and the EEC. So far as EEC imports are concerned this can be rapidly achieved for industrial goods, but several members are unwilling to permit large-scale imports of goods covered by the Common Agricultural Policy and implementation of a free trade area in these products will be a slower process. This reduces the attractiveness of the GMP for most of the Mediterranean countries, since their exports are dominated by agricultural goods. Furthermore, they are at an early stage of industrialization and are therefore unwilling to grant reverse preferences on manufactured goods. The EEC countries recognize this problem and are prepared to grant financial and technical aid to the Mediterranean countries in order to accelerate the industrialization process and make the prospect of an industrial free trade area more realistic.

The first application of a GMP was the negotiations with the Maghreb countries which started in 1972. Since the early 1960s Algeria had enjoyed a privileged position vis-à-vis the EEC, but it was becoming increasingly felt that the situation should be based on a formal agreement rather than on a regime of semi-legality. Negotiations towards such an agreement were started in July 1972. Since the association agreements with the other Maghreb countries, Morocco and Tunisia, were due for renewal in 1974, it appeared opportune to approach the Maghreb problems in a comprehensive fashion. It was hoped to

sign agreements simultaneously with the Maghreb countries and Israel and then to move on to negotiations with the Mashraq countries (Egypt, Jordan, Lebanon and Syria), thus concluding a systematic pattern of relationships with all the southern Mediterranean countries. Progress with the Maghreb countries was, however, slow, primarily because of the need to make specific arrangements for agricultural products.

In 1974 and 1975 the GMP was pushed along by events in Greece, Portugal and Spain which forced the EEC to reconsider its relations with these countries. After the fall of the military regime in 1974, the Greek government quickly tried to improve relationships with the EEC and in June 1975 lodged a formal application for full membership. The response of the EEC Commission was long delayed and represented only a cautious approval of the request, but it is clear that closer relationships can be expected. In Spain and Portugal too political change has removed a major obstacle to closer links with the EEC. Negotiations over Spain's PTA were broken off in October 1975 after executions of Basque separatists. Since Franco's death, however, the way is open not only for a revival of negotiations, but also for proper association and eventual full membership. Portugal, as an EFTA member, has had a free trade agreement with the EEC since January 1973, and she hoped to improve its terms after the April 1974 revolution. This hope has as yet remained unfulfilled because of Italian and French opposition to easier EEC access for Portuguese agricultural goods. Despite some reservations over political trends in Portugal, the EEC has expressed its desire for closer ties and showed its goodwill by granting financial aid in October 1975.

In July 1975 a far-reaching trade agreement was signed with Israel. The terms had been agreed by the end of 1974 but formal signing was delayed in anticipation of a Maghreb agreement. In some ways autumn 1975 was the low point of the GMP; after three years the only concrete achievement was the agreement with Israel. In December 1975 a further small piece of the GMP fell in place as a new association agreement, including substantial financial aid, was signed with Malta.

The real breakthrough came in January 1976 when the Maghreb negotiations were brought to a successful conclusion. The trade clauses of Morocco and Tunisia's PTAs were improved and Algeria received a formal PTA, with special provisions for wine and petroleum products. Financial aid of 339 million units of account (almost \$ 350 m.) was granted to the three countries and improved social security was guaranteed to migrant Maghreb labour in the EEC. A compromise was reached regarding the Arab boycott of companies trading with Israel, according to which the Maghreb countries' undertaking not to discriminate between EEC countries, companies or citizens was subject to national security imperatives.

After the conclusion of the Maghreb agreement the EEC moved quickly into the next stage of the GMP. Negotiations with Egypt were opened in January 1976 and Jordan, Lebanon and Syria were to follow in February. For the first time the GMP had become truly global.

A Taxonomy of EEC - Mediterranean Agreements

The long-term economic goal of the GMP is the establishment of a free trade area, but it is recognized that this cannot be achieved immediately. The speed with which the various Mediterranean countries will move towards a free-trade relationship with the EEC depends critically on their relative level of economic development. Since per capita income varies greatly between these countries, it is not surprising that the existing agreements differ widely in the extent to which they approach a free-trade situation.

Two aspects of the EEC - Mediterranean agreements can be identified: (1) non-trade-related articles and (2) preferential trade arrangements. The former consist of institutional arrangements and of financial and technical assistance to hasten the economic development of the Mediterranean country. The latter consist of direct preferences granted by the EEC and reverse preferences for EEC exports. The various agreements can thus be characterized by the extent to which they contain the following:

- 1 a Institutional arrangements
- b Financial and technical assistance
- 2 a Direct preferences: (i) on industrial goods
(ii) on agricultural goods
- b Reverse preferences: (i) on industrial goods
(ii) on agricultural goods.

Substantial institutional arrangements are only included in the agreements with those European countries which have shown an interest in eventual membership.

For the less developed Mediterranean countries 1b and 2a (ii) are most important. They have few manufactured exports and are not interested in granting reverse preferences². Since the EEC is reticent in offering concessions regarding agricultural goods (especially those competing with Italian and French products) and since the offer of financial and technical assistance seldom matches the LDC's expectations, negotiations with these countries entail hard bargaining and yield idiosyncratic conclusions. The Malta negotiations, for example, were frustrated for several months because the Maltese rejected the EEC offer of 21 million units of account (u.a.) in financial aid as inadequate while the EEC considered Malta's request for 31 m. u.a. unreasonable. There was no jointly accepted principle by which a "fair" decision could be reached. A compromise sum of 26 m. u.a. was finally agreed upon. The Maghreb negotiations were also stymied by the need to agree on figures in cases where the parties' interests were directly opposed. With Tunisia the stumbling block was olive oil - a major export which competes directly with Italian olive oil. In Algeria's case the problem was wine. The clauses concerning Algerian wine in the final agreement illustrate the horsetrading which takes place over goods covered by the CAP: Algerian wine is to be admitted to the EEC at 80 % of the common wine

² Evidence from countries covered by the Yaoundé Convention of 1961 suggests that reverse preferences offered by LDCs to the EEC lead only to trade diversion and a welfare loss for the LDC (Kreinin (1973)). Thus the attitude of the least developed Mediterranean countries towards reverse preferences is completely rational.

tariff, providing minimum import price provisions are respected and subject to a quota limit on quality wines (252,000 hectolitres in the first year, rising to 450,000 hectolitres in the fifth year). Similar hard bargaining over figures can be expected in the Mashraq negotiations, and it makes these agreements very difficult to analyze for general conclusions.

The semi-industrial countries are more interested in obtaining direct preferences on manufactured exports (2ai), because their growing industrial sector can benefit from such concessions³. They are also interested in 1b and 2aⁱⁱ because the agricultural sector is still important, but these components of an agreement are not as critical as they are for the LDCs. The EEC countries expect reverse preferences to be granted by the semi-industrial countries, who are reluctant to expose their domestic producers to EEC competition immediately but recognize the desirability of ultimate exposure. Negotiations with semi-industrial countries tend therefore to go more smoothly than with LDCs. This has been obscured in the cases of Greece and Spain by political considerations and more recently by the complication of agreeing on a timetable for full membership. The Israel negotiations, however, went relatively smoothly. The EEC has granted free access to almost all Israeli industrial products by 1977, while the Israel market will be opened by stages to EEC industrial exports with complete free trade by 1989 at the latest. Although the scheduling of the dismantling of Israeli tariffs required bargaining, the degree of conflict was reduced because the goal of achieving free trade in industrial goods in the foreseeable future was shared. The hard bargaining was reserved for agricultural products and the precise concessions to be granted to imports from Israel.

³ The experience of the 1960s supports the contention that countries' responses to preferences on manufactured goods offered by developed countries is directly related to their level of industrialization. While the Yaoundé countries benefitted little from EEC preferences, Portuguese exports responded vigorously to EFTA preferences. Of the two associate members of the EEC total exports and the share of exports going to the EEC increased in Greece, the more highly industrialized and rapidly developing associate, and decreased in Turkey (cf. chapter 5.1 below).

The clarity of the goal and the proximity of its realization with respect to some countries make the industrial free trade area the most interesting aspect of the GMP for economic analysis. Although the industrial free trade area is only of immediate interest to a minority of the Mediterranean countries, it is of potential importance to all. The technical and financial aid and agricultural concessions which are currently so crucial to the Mediterranean LDCs are primarily means to an end, and when the end of industrial development is achieved the transition to free trade in industrial goods will be an important step. The experience of today's semi-industrialized countries will reveal the potential benefits and costs of this step.

2. Factor Movements between the EEC and the Mediterranean

The GMP has concentrated primarily on trade relations. Various agreements have contained provisions for aid and regarding social security for migrant labour, but otherwise the GMP has not dealt with factor flows. In the past labour movements between the Mediterranean countries and the EEC have been important, while capital flows have been limited. These patterns may change in future as both labour and capital mobility increases and some labour movements are replaced by capital flows. An important question is the extent to which future factor movements will be affected by the GMP.

Large scale labour migration from the Mediterranean to the EEC began in 1960. In the late 1950s labour movements primarily took place within the EEC, with unskilled labour reserves coming from southern Italy, but after 1960 the EEC countries began to attract labour from almost the whole Mediterranean area. According to official statistics there were over 5 million migrant workers living in the EEC member countries in 1973. These figures underestimate the magnitude of the phenomenon, however, because they omit illegal flows which are undoubtedly large.

Direct foreign investment in the region, by non-EEC as well as EEC companies, was extremely limited until the late 1960s and was concentrated in the petroleum sector. Direct investments from the eight leading home countries (USA, UK, W. Germany, France, Switzerland, Italy, Netherlands and Belgium) totalled \$ 5.6 billion at the end of 1967; \$ 1.9 billion was in the

manufacturing sector, of which \$ 1.2 billion took place in Spain and \$ 0.3 billion in Greece. In sum, foreign investment in industry in the 1960s primarily concerned Spain and to a much smaller extent Greece, with little impact on the other Mediterranean countries. By the end of 1973 the aggregate figure had increased from \$ 5.6 billion to \$ 7.2 billion and, although a sectoral breakdown is unavailable, Spain and the petroleum producing countries retained a dominant position as recipients. The insignificance of the Mediterranean area in the global plans of multinational corporations (MUCOs) operating in the manufacturing sector is revealed by the fact that only 3.5 % of the total book value of US corporations' overseas investments in 1973 was in this region, although these corporations are the biggest investors in the area.

There are some signs that the pattern of factor movements began to change during the economic crisis of 1973-5. In the EEC industrial heartland there has been an increased resistance to continuing large-scale inflows of labour from the Mediterranean region. This is primarily a social and political issue, but it has an economic aspect too insofar as obsolete industries can prolong their existence by using immigrant labour, with possibly detrimental effect on international competitiveness. It can be expected that the reduced labour flow from the Mediterranean area to the EEC will be accompanied by an increased capital flow in the reverse direction, especially in industries with low skill requirements. Capital within the EEC, both indigenous firms and non-EEC MUCOs, is also coming under additional pressures to relocate its activities, e.g., stricter environmental control, decreasing willingness of indigenous labour to undertake monotonous work, increases trade union militancy, etc.. At the same time, it is gradually becoming easier to export from LDCs to the EEC, although there are pressure groups within the EEC continually trying to restrict imports from LDCs. Whether MUCOs will decide to invest in the Mediterranean area rather than in other low wage countries will depend on many factors, mostly internal to the individual countries. Of critical importance are government attitudes to foreign investment and the degree of political stability. In general, the non-Arab countries have followed an open-door policy towards MUCOs while the Arab countries have been hostile. There is evidence

that some of the Arab countries are changing their stand - most dramatically in Tunisia's radical policy change in 1972 and in Sadat's move towards the West since 1973.

The significance of the GMP in this context is that EEC tariff concessions tilt the balance further in favour of locating export-oriented direct foreign investment in the Mediterranean area. Studies of direct foreign investment in other parts of the world show that it is responsive to variations in factor prices. If the investment is export-oriented then it should respond to inter-country variations in export prices just as much as to variations in input prices. The important question is whether the price advantage given to the producer located in a Mediterranean country by the GMP is sufficient to affect the investment location decision of MUCOs.

3. The Attitude of Third Countries

The agreements between the EEC and the Mediterranean countries are almost all in violation of the General Agreement on Tariffs and Trade (GATT) Most Favoured Nation Principle and all discriminate against third countries' exports. The discrimination against non-participating LDCs was partially alleviated by the introduction of the EEC's Generalized System of Preferences in 1971, but these countries still enjoy less favourable access to EEC markets than the Mediterranean countries with EEC agreements. The industrialized countries enjoy no offsetting preferences and undoubtedly the largest sufferer from the trade diversion caused by the EEC's formation, enlargement and preferential trading agreements has been the USA. Unlike other third countries the USA has considerable power to influence the EEC and Mediterranean countries, and also to retaliate against their commercial policies if it so desires. This section will consider the US attitude and possible reaction to the GMP, in particular as it affects Israel.

The US attitude was favourable towards the founding of the EEC. Although it was clear that the EEC would harm outsiders' exports (and ex post empirical studies have borne this out), the USA was prepared to pay this price in order to see a politically strong western Europe. The American government limited itself on the economic side to encouraging a liberal policy from the EEC; it

criticized the Common Agricultural Policy, pressured for a lower Common External Tariff and argued against special association agreements. The last feature was, however, not greatly stressed in the 1960s and indeed the US attitude to Greek association was distinctly favourable, because of the perceived political advantages of assisting an exposed NATO member.

The US government was lukewarm towards the enlargement of the EEC. The increase from six to nine members reduced the political cohesiveness of the Community. Furthermore, the trade diversion resulting from enlargement and the free trade area with the non-acceding EFTA countries was expected to be large; the loss in US industrial exports was estimated at \$ 2000 million⁴. Finally, the number of preferential trading relations with the EEC was increased by the special arrangements made for British Commonwealth countries. There were, however, no grounds for protesting against either enlargement or the free trade area, because these arrangements are not in contravention to GATT's MEN rule. Thus US policy was directed towards encouraging a more liberal EEC policy towards outsiders and disputing those special arrangements which do not conform to GATT.

Although the USA objects to all preferential agreements with the EEC, it is especially opposed to the granting of reverse preferences to the EEC⁵. In the 1970s the USA has taken steps to retaliate against countries which do offer reverse preferences, and the 1973 Trade Reform Act denied American GSP treatment to LDCs discriminating against US exports. The EEC has responded by weakening its demands for reverse preferences from African

⁴ Kreinin (1973b), but the methodology of this study has been criticized for leading to upward-biased estimates (Clague (1976)).

⁵ The reasons for this are threefold: (i) direct preferences can be claimed to support economic development and would thus be likely to qualify for GATT waivers, (ii) the EEC and USA are close competitors in manufactured goods, whereas the recipients of direct preferences are generally not directly competitive with the USA, (iii) the level of protection in LDCs is generally higher than in the EEC and the benefits from preferential access is correspondingly greater (Kreinin (1976), p.40).

countries, e.g. in the Lomé Convention of 1975, and now insists on them only from the more advanced Mediterranean countries. Thus, in contrast to its favourable attitude to Greek association, the USA became increasingly hostile to the EEC's Mediterranean policy during the 1970s.

The economic bases of the changing US attitude towards the EEC's Mediterranean policy are easy to define. In both the Greek and Turkish markets the US share declined in the 1960s - in Greece from 11.7 % (1959-61) to 7.4 % (1969-71) and in Turkey from 22 % (1959) to 12 % (1971) - and this can, at least in part, be attributed to the association agreements (in both cases the EEC market share increased). In the Greek case, this was offset by increased total trade due to the industrial expansion following the association (Kalamatousakis (1976)). The major reason for US equanimity towards this trade diversion was the relatively small size of US exports to Greece and Turkey. The major share of US Mediterranean exports goes to Spain and Israel, \$ 972 million and \$558 million respectively in 1972, compared to \$ 250 million to Greece and \$ 300 million to Turkey (Kreinin (1976), p.47), and it was the 1970 preferential trading agreements with these two countries, both involving reverse preferences, which increased US hostility to the GMP.

Israel is particularly vulnerable to retaliatory action by the USA. Although the EEC as a whole is a more important market for Israel than the USA is, the latter receives almost a fifth of Israel's industrial exports. Negotiations are currently taking place between Israel and the USA concerning easier access for Israeli exports to US markets. If the USA continues to follow a hard line vis-à-vis trading partners who have offered preferential access to exports from other developed countries, then, in spite of the special US-Israeli relationship, Israel's EEC agreement may have a harmful effect on her exports to the USA.

4. Israel and the EEC

Israel's major trading partner, ever since the formation of the state, has been western Europe. In many ways western Europe is her "natural" export market: (a) since the Arab world is closed to Israeli goods, Europe is Israel's

closest market geographically, (b) climatic differences ensure that Israel's agricultural products are either not produced or can only be produced at a different time of the year in most of Europe, (c) the high standards of living in western Europe lead to demand for the type of high quality manufactured goods in which Israel has a comparative advantage. In 1957 Israel's exports to the six signatories of the Rome Treaty amounted to \$ 30 m. (of which industrial goods other than diamonds accounted for \$ 6 m.) and to the UK \$ 28 m. (\$ 8 m.) out of a total of \$ 141 m. (\$ 50 m.). In 1973 exports to the Six were \$ 410 m. (industrial goods excluding diamonds, \$ 150 m.) and to the three new members of the EEC \$ 149 m. (\$ 92 m.) out of a total of \$ 1449 m. (\$ 659 m.).

Israel recognized the importance of the Rome Treaty and was one of the first countries to open diplomatic relations with the EEC⁶. Israel requested a trade agreement in 1960 and negotiations were opened in 1962, but they only led to a commercial agreement of a non-preferential nature (i.e. all concessions were automatically granted to Israel's competitors). The agreement, signed in 1964, reduced the CET on some industrial goods of interest to Israel, but only by 20 %⁷. Israel was dissatisfied with the 1964 agreement and pressed for a new agreement, but progress was slow, in particular because of French opposition. When the agreement expired in 1967 Israel did not even make a request for renewal. The EEC, still unwilling to negotiate a new agreement, continued to apply the 1964 concessions, but they were now worth even less than before⁸. Finally, a political compromise was reached among the Six

⁶ For a description of the relationship between Israel and the EEC in the 1960s see Minerbi (1970).

⁷ The 1964 agreement has been caustically described as consisting "of a series of technical manipulations, some of only temporary effect, in Community tariffs with only one really substantive concession - on grapefruit". (Henig (1976), p.313).

⁸ Concessions based on national accelerations towards CET were meaningless now that the CET was about to come into force and the grapefruit concession had been consolidated in the Kennedy Round.

after the French government announced in 1969 that it was in favour of a preferential trade agreement (PTA) with Israel on condition that a PTA would be granted to any Arab country which requested it. The PTA with Israel was signed in June 1970.

In the situation of the 1960s when Israel had no PTA with the EEC, the existence of the EEC had a negative effect on Israeli exports. Although the CET was generally lower than the national tariffs which it replaced, it gave EEC producers an advantage over third parties in the other member countries as well as their own. Furthermore the various association agreements signed in the 1960s gave several non-member countries better access to the EEC markets than Israel enjoyed. It has been estimated that the foreign exchange cost for Israel of this tariff discrimination on industrial goods was equivalent to about 5 % of her manufactured exports excluding diamonds (Kreinin (1968), p. 308). A further cost of tariff discrimination and the uncertainty associated with the continuing Israel-EEC negotiations was the adverse effect on foreign investment in Israel. Dynamic effects resulting from the reduced exports and investment are less calculable, but would include reduced realization of scale economies.

The preferential trade agreement between Israel and the EEC took effect in October 1970 and was to run for five years. The major provision concerning Israel's manufactured exports was a 50 % cut in the CET of which 30 % was immediate and thereafter 5 % on each January 1st. On certain "sensitive" products the reduction was less than 50 %, e.g. aluminium goods (34 %) and automobiles (28 %). A negative list specified exceptions on which there would be no reduction in the CET⁹. Israel's 1968 exports to the EEC of reduced industrial goods were \$ 38 m., compared to \$ 5 m. of goods on the negative list. Some industrial goods were excluded from the agreement because they clashed with the Community's agricultural policy (especially products of the

⁹ The most important items on the negative list were bromine, phosphoric acid, phosphates, superphosphates, citric acid, PVC, plywood, cotton yarn not ready for retail sales, stockings, knitwear, window glass, iron and steel pipes.

food industry) and some goods were not affected because their CET was zero. Although the concessions granted to Israel were inferior to those granted in bilateral agreements to Greece, Morocco, Tunisia and Turkey and also in the PTA signed with Spain, it could be expected that they would provide a significant stimulus to Israel's industrial exports.

The major problem in evaluating the effect of the 1970 PTA is that Israeli exporters faced an uncertain world trade situation in the early 1970s. The decline of the dollar, and hence of the Israeli pound, vis-à-vis the major European economies provided a further reason for Israeli exporters to look to Europe, but this was partly offset by the presence of commercial negotiations between Israel and the USA which made Israeli entrepreneurs unwilling to burn their American bridges. Furthermore, the shift in the EEC tariff structure in Israel's favour in 1970 was offset by two events in the early 1970s which harmed Israel's position. In July 1971 the EEC implemented a unilateral Generalized System of Preferences for developing countries. Under this system industrial exports of 91 LDCs and 47 so-called "dependent territories" enjoy zero tariff, subject only to an upper quota limit. Since Israel is not included in the GSP, her competitive position vis-à-vis producers of industrial goods who are included in the GSP (e.g. Hong Kong, Singapore, Yugoslavia, Mexico) has worsened. The enlargement of the EEC in January 1973 by the accession of Denmark, Eire and the UK harmed non-EEC members, because the newcomers' tariffs were on average lower than the CET. This was especially hard for Israel since the UK was her second largest export market (behind the USA). Increased UK tariffs on industrial goods would only affect a few commodities (the increase would be most felt by agricultural exports and by the food industry) but some of these industrial goods are important for Israel, e.g. plywood, bromine, phosphoric acid, bromides and superphosphates¹⁰.

¹⁰ Plywood was an especially important case for Israel as this had been one of her leading manufactured exports since the 1950s and the main market was the UK. In 1972 Israel's plywood exports amounted to \$ 6.4 m., of which \$ 5.1 m. went to the UK. The UK's entry to the EEC meant that the tariff had to go up from 5 % to 13 %, while at the same time Gabon, one of Israel's competitors in the plywood market, would enjoy duty free access as an associate member of the EEC.

When the 1970 PTA was signed, the Israeli government saw it as the first stage in a process of trade liberalization between Israel and the EEC. The unfavourable events of 1971-2 made the renegotiation of the PTA an immediate Israeli policy goal. The framework within which this renegotiation would take place was set by the EEC's adoption in 1972 of a "Mediterranean Policy", which aimed at the creation of a free trade area in manufactured goods in the whole Mediterranean area. An Israel-EEC protocol was signed in January 1973 to the effect that a new agreement would be signed and come into force by 1st January 1974. This timetable was not respected, but the UK prevented any adverse effects on Israel by refusing to implement her first adjustment to the CET until agreement was reached. Despite much haggling over the time permitted for Israel to remove her tariffs on industrial goods and over the provisions regarding Israeli access to finance and regarding agricultural and food industry products, an agreement was finally reached in December 1974 and signed in May 1975. The Agreement came into force on 1st July 1975.

Under the 1975 agreement Israeli manufactured exports, including processed agricultural products, will enjoy duty free access to the EEC by 1st July 1977. EEC tariffs were reduced by 60 % on 1st July 1975 and 20 % on 1st January 1976, and the final 20 % reduction will come into force on 1st July 1977. Certain "sensitive" imports from Israel will be subject to quotas or other restrictions for some time, but all these must terminate by the end of 1979. Tariffs will be retained on Israel's agricultural exports, although 85 % of these exports will enjoy tariff reductions, mostly of not less than 50 %. There are also controls (minimum prices, quotas or voluntary restraint) on some agricultural products.

The reverse preferences granted by Israel will also lead to free trade in manufactured goods, but Israel's tariff dismantlement will be slower than that of the EEC and specific provision was made for infant industry protection. For some 60 % of EEC exports to Israel tariff reduction began on 1st July 1975 and tariff-free entry will be achieved by 1st January 1980. For other products the first tariff reduction will take place on 1st July 1977 and tariff dismantlement will in principle be completed by 1st January 1985, but this timetable

may be modified. Israel also has the option of increasing customs duties by up to 20 % to protect infant industries; these duties may not cover more than 10 % of manufactured imports and must all be abolished by 1st January 1989 at the latest. Quantitative restrictions on imports are to be abolished; 95 % of Israel's imports from EEC are already quota free and the remaining 5 % are to be freed between 1980 and 1985.

The 1975 agreement, unlike earlier EEC - Israel agreements, covers technical cooperation. This includes provisions for the exchange of know-how and possible participation by Israel in scientific and technological activities between the EEC and other non-member states. The agreement makes no provision for financial cooperation, although an exchange of letters allowed for the possibility of future Israeli access to EEC financial institutions.

The present study focusses on one aspect of the 1975 agreement: the proposed free trade area in manufactured goods. The effects of the free trade area will be compared to the effects of continuing the present trade regime, and the implications of the implementation procedure will receive only subordinate attention. Since Israel is a minor supplier of manufactured products to the EEC, the effects on the EEC economies will be small and can be disregarded for most industrial branches. The "small country" assumption does not apply to Israel's agricultural exports, most of which have a significant market share in the EEC and compete directly with EEC producers. For this reason and because the terms of the 1975 agreement are less clearcut for non-industrial products, these goods will not be dealt with.

PART TWO

THE EFFECTS ON ISRAEL OF FREE TRADE
IN MANUFACTURED GOODS
WITH THE EEC

Chapter 5: The Direct Trade Effects

The direct effects of a free trade area with the EEC on Israel's trade in manufactured goods are estimated in this chapter. The general analytical framework is that laid down in chapters 1 and 2. In particular, it should be recalled that Israel is assumed to face infinitely elastic external demand and supply curves at the world price and her import demand can be fully satisfied by the EEC at this price. Tertiary effects, i.e. changes in trade flows resulting from measures to restore balance of payments equilibrium, are ignored. The estimates in this chapter are short-run in nature, ignoring changes in factor endowments which result from the agreement, and are limited to a comparison of the full preference and no preference situations. The analysis is undertaken at a macro-economic level and yields orders of magnitude which must not be considered precise estimates.

A survey of ex post studies of agreements similar to that between Israel and the EEC is presented in the first section. These studies are not very satisfactory, but their conclusions offer some points for comparison with our estimates. The theory of preference-induced trade effects has advanced tremendously in the last decade and a summary of the methodological issues is given in the second section. This is followed by the ex ante estimates of the trade effects on Israel of free trade in manufactured goods with the EEC. The final section summarizes the results and presents some conclusions.

1. Evidence on the Trade Effects of Preferences offered by European Trading Blocs to Other Countries

The estimates of the trade effects of the 1975 Israel-EEC agreement are of an ex ante nature. There is no possibility to use extrapolations of the consequences of previous EEC-Israel agreements. It would, however, be useful to examine how similar agreements have worked out in practice, although clearly the quantitative results will depend on the specific preferences granted and characteristics of the country involved.

Overall evaluations of the benefits of association and preference agreements are mixed. A comprehensive study of such agreements with the EEC concluded that:

"Die Beurteilung der Assoziierungs- und Präferenzpolitik der Europäischen Gemeinschaft hat zusammenfassend für die Begünstigten Staaten kaum erkennbare präferenzbedingte Verbesserungen ihrer Exportposition ergeben" (Loch and Hasenpflug (1974), p. 132).¹

Kreinin, however, has reached the conflicting conclusion that the Yaounde countries made some small gains, and that Greece and Portugal made more considerable gains from preferences offered by the EEC and EFTA (Kreinin (1975), p. 363). The problem with these conclusions is that the primary research upon which they are based consists of comparing aggregate import and export growth rates from before and after the agreement of of comparing the performance of individual commodities from preferred and non-preferred sources, both of which are imperfect proxies for the relevant comparison between a country's trade balance with or without the preferences, ceteris paribus. In order to get behind the general conclusions it may be worthwhile to examine in greater detail some of the more relevant cases. Since we are here interested in a semi-developed country's trade in manufactured goods,

¹ "The assessment of the EEC's association and preference policy has indicated scarcely any discernible improvements in the favoured nations' exports due to preferences" (present author's translation).

we will not consider the experience of the non-European countries which are mainly concerned with preferences on agricultural goods and raw materials.

Portugal's position as the least developed member of EFTA placed her in a situation in the 1960s similar to that which Israel will occupy vis-à-vis the EEC in the forthcoming decade. Although EFTA countries had removed almost all duties on Portugal's manufactured exports by 1967, most of Portugal's import duties were subject to a slower timetable so that only a third of her imports from EFTA were duty free and the remainder still faced 60 % of the basic duties. The effects of EFTA membership on Portuguese exports are suggested by the fact that the share going to EFTA countries increased from 20.8 % in 1962 to 35.4 % in 1970 while the share destined for more rapidly growing areas, e.g. the EEC, declined. An attempt to quantify the trade effects of EFTA preferences for 1967 found that:

"the total import effects amounted to \$ 32 million and the total export effects to \$ 113 million, so that the Portuguese balance of trade benefitted by \$ 95 million" (EFTA (1972), p. 94).

Apart from the simple arithmetical error which has increased the net effect from \$ 81 m. to \$ 95 m., there are two reasons for believing this to be an overestimate. Due to data unavailability less than half of Portuguese manufactured output is covered by the analysis and the excluded sectors were considered to be more likely to have shown substantial import effects than export effects. Secondly, the size of the net trade effect was only \$ 31 m. in 1965 and \$ 34 m. in 1966. The methodology of the study is to ascribe any divergence from extrapolated pre-EFTA import and export trends to "EFTA effects", but such a large and sudden movement away from the trends so long after EFTA's inception suggests that other forces were at work in 1967. The heavy sectoral and geographical concentration of Portugal's 1967 "EFTA effects" reinforces the impression that specific factors, not directly related to preferences, were responsible.² The overall conclusion is that, while the

² Exports of textiles and clothing accounted for 80 % of the 1967 export effects and the "import effects were mainly concentrated on two commodity groups, textiles and passenger cars"; 62 % of the import effects and 42 % of the export effects related to trade with the UK (EFTA (1972), pp. 94-5). The only explanation of these phenomena as results of EFTA affiliation would be if investment with a gestation period of around seven years had been encouraged in the textile and clothing sectors.

trade effects of Portugal's EFTA connection appear to have been positive, their magnitude was smaller than the \$ 81 m. arrived at in the EFTA study.³

An ex post evaluation of the trade effects of Greece's 1962 association agreement with the EEC has been undertaken by Hitiris. From quarterly data for the years 1954-64 he estimated total import and export functions, neither of which included a tariff variable. He then applied the estimated functions to forecast trade values for the period 1963.I - 1971.I. During these 29 quarters the observed import figures exceeded the estimates in 21 quarters while in only 16 were the observed export figures greater than the estimates. On average, the actual imports exceeded the estimated figure by nearly 5 %, while the actual export values were not significantly different from the estimated ones (Hitiris (1972), pp. 156-7). When he estimated import and export functions for the period 1955.I to 1971.I a dummy variable for the period after association was significant in the import function, but not in the export function (Hitiris (1972), p. 157). In sum, the association agreement appeared to have a negative trade effect, equal to just less than 5 % of Greece's total imports.

The studies by Kreinin and Loch and Hasenpflug examine the export effects of Greece's association solely by means of export growth rates and market shares. Between 1962 and 1970 Greece's total exports increased two and a half times and the share going to the EEC rose from 35.7 % to 45.9 %. Kreinin sees evidence of a positive export effect in these figures. Loch and Hasenpflug play down the former figure by comparing the 370 % growth of total EEC imports between 1958 and 1972 with the 325 % increase in Greek exports to the EEC during this period.⁴ They attribute the post-1962 export

³ To give an idea of the magnitudes involved it may be noted that Portugal's 1967 trade deficit was \$ 329 m.

⁴ There is no ground whatsoever for making such a comparison, which is strongly influenced by the 21 % decrease in Greece's exports to the EEC between 1958 and 1960 - a phenomenon whose relevance to an evaluation of the 1962 agreement is difficult to comprehend.

boom to the rapid industrialization of Greece in the 1960s, which forced Greek producers to sell in the developed markets of the EEC. It is true that industrialization is often accompanied by export expansion and that this conclusion is consistent with the results of Hitiris, but the explanation of the increased share of Greek exports going to the EEC is unconvincing. Both of these studies assume that the import effects of the association agreement were negligible, in Kreinin's case because Greece had to apply only moderate reductions to her import duties and in Loch and Hasenpflug's case because the sale of imported manufactured goods in developing countries is not price elastic.⁵ The net trade effect of association is thus considered positive by Kreinin and negligible by Loch and Hasenpflug, but both of these conclusions rest on scanty foundations.

The trade effects of the 1963 association agreement between Turkey and the EEC are also considered by Kreinin and Loch and Hasenpflug. Here, however, their conclusions are unanimous. Turkey's exports increased sluggishly in the 1960s, by only 50 % in the 1962-70 period, with no change in the share going to the EEC. Both studies agree that the export effects of association must have been minimal and they again assume negligible import effects (for the same reasons as in the Greek case).

Although the conclusions of the various studies differ markedly,⁶ some synthesising threads may be drawn together. The disagreement between Kreinin and Loch and Hasenpflug is not over what happened, but in the interpretation

⁵ "Außerdem ist bereits aus der theoretischen Analyse bekannt, daß der Absatz von Industriegütern auf den Märkten der Entwicklungsländer in der Regel durch Faktoren wie Marktkennntnis, traditionelle Handelsbeziehungen, Zahlungsbedingungen und Entwicklungshilfeleistungen sehr viel stärker beeinflußt wird als durch die geringen, durch Zollpräferenzen bedingten Preisvorteile". (Loch and Hasenpflug (1974), p. 133). The word "theoretisch" is clearly misused here; their assertion can only be supported by empirical studies, to which they make no reference.

⁶ They, in fact, cover all four possible combinations of rising or constant imports and rising or constant exports!

of events. The former sees industrial expansion as a necessary condition for a positive response to preferences, whereas the latter see it as the direct cause of export expansion, tariff preferences being largely irrelevant. In view of their agreement on the primacy of industrial growth as an explanatory variable, these two hypotheses are difficult to test against one another in a world of limited observations. Considerable doubt is, however, cast on the EFTA study which made no reference to industrial progress in constructing counterfactual estimates of Portuguese trade. This deficiency is not present in Hitiris' analysis, since an index of industrial production is explicitly included in his import and export functions. With respect to the import effect of preferences, the significantly negative results of the EFTA and Hitiris studies are much more convincing than its assumed insignificance in the other two studies. For Israel, which has granted reverse preferences to the EEC, we may expect a significant import effect, but studies of other preference agreements give little indication of the expected size of the export effect.

2. Theoretical Issues in the ex ante Determination of the Trade Effects of Preferences

Early attempts to forecast the impact of preferences started from a simple microeconomic model of a preference offered on a single good. Assuming an infinitely elastic foreign supply from the preference recipients, the domestic price in the preference-granting country falls by the amount of the preferential tariff reduction. The increase in imports can be readily calculated from knowledge of supply and demand elasticities, production and consumption levels, and the reduction in the nominal tariff:

$$(1) \quad \Delta M_j = -e_{D_j} t_j (S_j + M_j) + e_{S_j} t_j S_j$$

where t = change in domestic price, M = imports, S = domestic production for the home market, e_D and e_S = elasticities of domestic demand and supply.

In the case where preferences are offered on more than one good, equation (1) is inappropriate because it takes no account of shifts in domestic supply and demand curves due to the input-output structure of the economy.⁷ The reduced prices of material inputs shift domestic supply curves downwards and the reduction of effective protection on goods using domestically-produced inputs shifts the domestic demand curve to the left. The effect of these shifts is illustrated in Figure 1, where OP is domestic price, DD and SS domestic demand and supply curves under the ante-preference regime. The primed labels OP', D'D', S'S' apply to the post-preference situation. Formula (1) would indicate an increase in imports from Q_1Q_2 to Q_3Q_4 , but this overstates the real change which is from Q_1Q_2 to Q_5Q_6 . The latter can be calculated for the jth good by the formula:

$$(2) \quad \Delta M_j = \sum_j (-e_{D_j} t_j (S_j + M_j) + \epsilon_j V_j \tau_j)$$

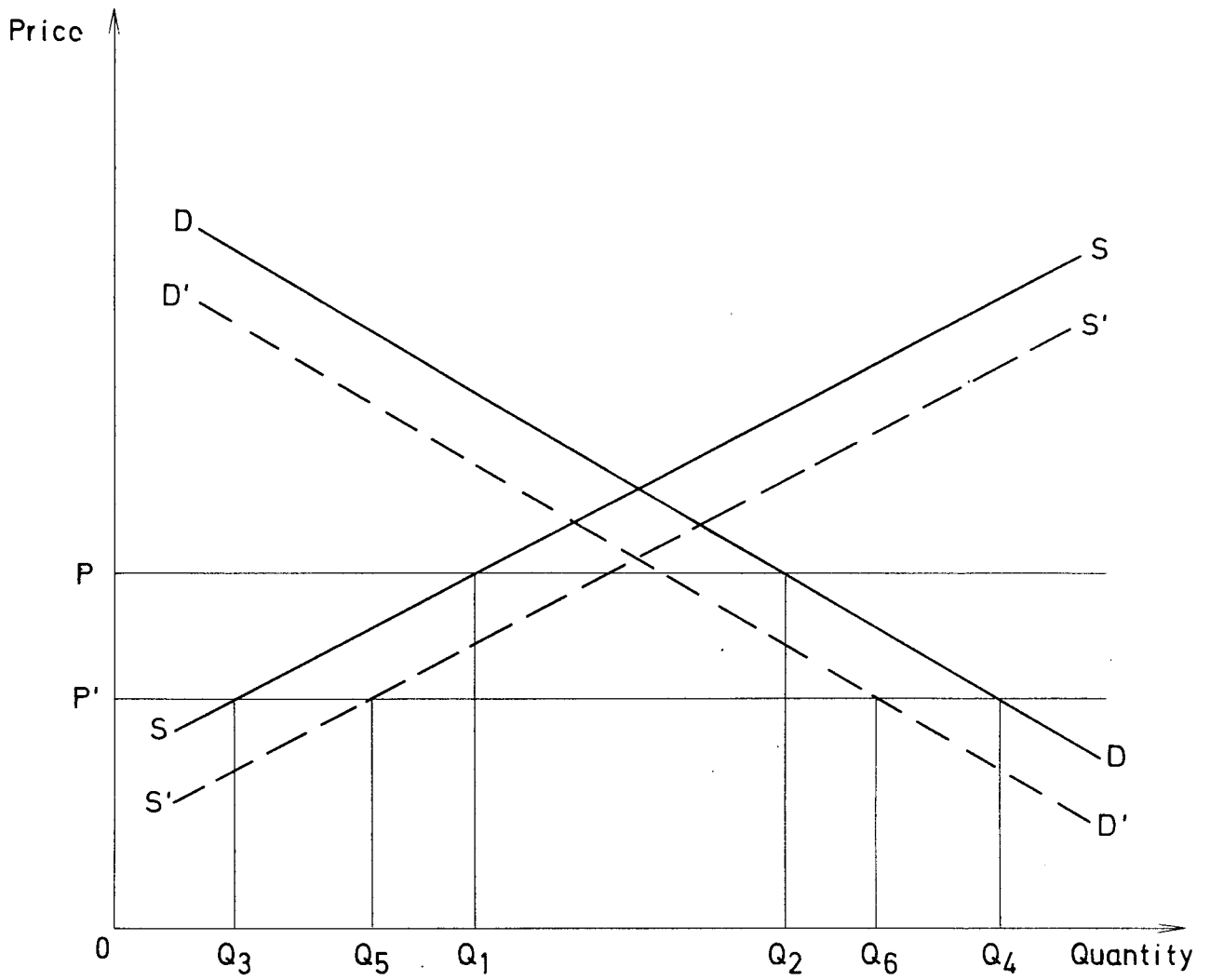
where τ_j = change in domestic price of value-added, ϵ_j = elasticity of supply of value-added ($= e_{S_j} \cdot V_j/S_j$), V_j = value-added in domestic production for the home market.⁸

The relevance of the above analysis to a specific case depends critically on the applicability of the assumption of infinitely elastic import supply. If the assumption holds, then imports will increase until the domestic price of value-added in the preference-granting country has fallen by the proportion $\tau = \frac{ERP}{1 + ERP}$, where ERP is the effective rate of protection. Since Israel accounts for a very small proportion of the EEC's manufactured exports (0.6 % in 1973), the assumption appears reasonable with respect to the effect on Israel's imports of the preferences offered to EEC producers. When the Israeli tariff is eliminated, the domestic price of traded goods will fall by the extent of the tariff and domestic demand and supply curves will shift towards D'D' and S'S'. The import effect will be slightly understated by (2) because prices of non-manufactured and non-traded material inputs will not

⁷ For a study using nominal tariffs see Reuber (1965). Use of the effective protection approach was first made in Balassa (1965). For the issues involved see Johnson (1969) and the debate between Balassa and Leith and Reuber in *Economica*, 1969 (pp. 130-8), 1970 (pp. 316-20) and 1971 (pp. 431-4).

⁸ Note that V_j and S_j should be valued at world prices. The assumptions underlying formula (2) are listed in Johnson (1969), p. 129.

Figure 1: IMPORT EFFECTS



DD = domestic demand curve, SS = domestic supply curve,
OP = domestic price. Primed values refer to the corresponding
concepts after the introduction of preferences.

change by the amount of the ad valorem tariff. Further inexactitudes are caused by the simplifying assumptions underlying (2), in particular the assumptions of fixed material input coefficients and zero cross-elasticities in demand between commodities. Since the EEC does not supply all Israel's manufactured imports, our assumption of Israeli prices falling by the extent of the tariff implicitly assumes infinite cross-elasticity of demand with respect to the source of imports.⁹ A more general (partial equilibrium) model of preferences would incorporate finite elasticities of substitution between imports from the preference recipient and from third countries, but empirical application of such a model would not be fruitful in view of the present state of knowledge of the relevant parameters.¹⁰ Our implicit assumption does not, however, appear too unreasonable with respect to manufactured goods.

The assumption of infinite supply elasticity is far less convincing with respect to Israel's manufactured exports to the EEC. Econometric estimates of Israel's supply function of manufactured exports have all yielded significantly positive price elasticities,¹¹ but the estimated elasticities have all been less than 2. In combination with the small share of EEC manufactured imports which originate in Israel, this implies that EEC domestic prices will be only minimally affected by the preferences granted to Israel. The increase in Israel's exports is illustrated in Figure 2. Assuming infinitely elastic EEC demand for imports from Israel at a price OC (equal to the "world price" OB plus the common external tariff CB), the quantity of Israel's exports will increase by DF and the value by CBGJ plus DFHJ. The sizes of these two rectangles are x_C and $(1+c) X c e_x$ respectively, i. e.

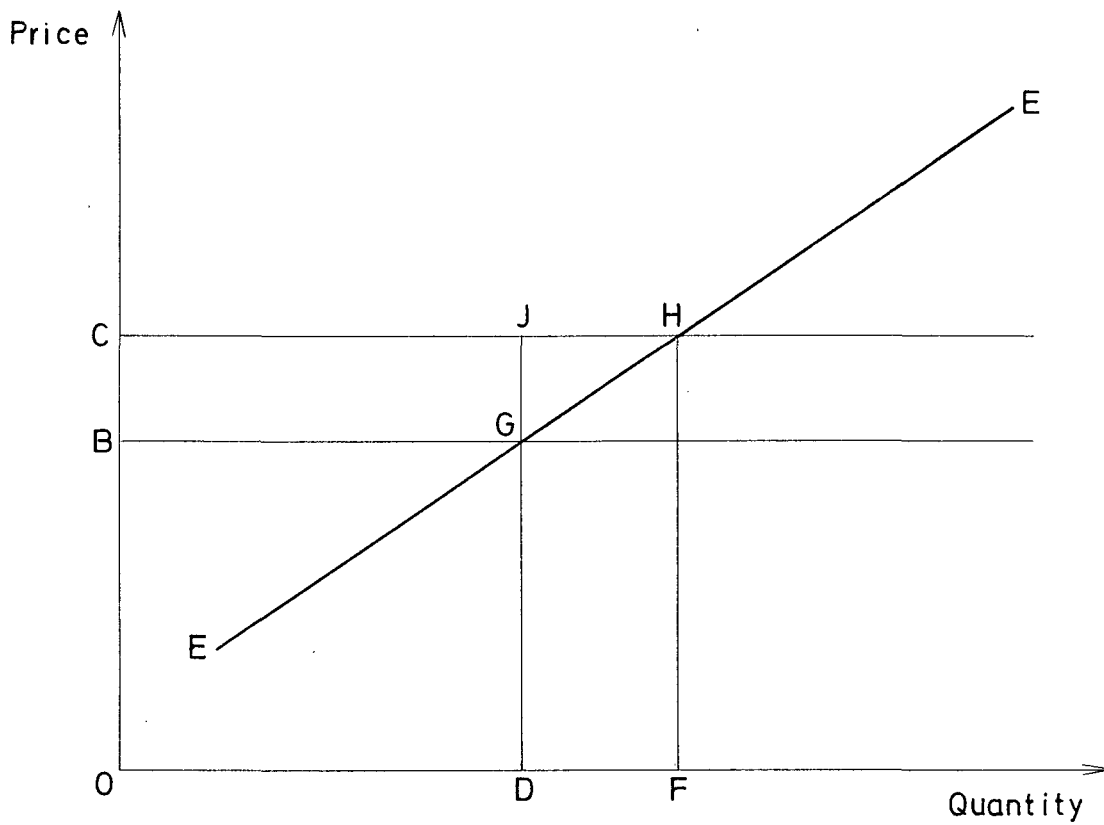
$$(3) \quad \Delta X = c X (1 + e_x (1 + c))$$

⁹ This does not mean that no imports from outside the EEC will survive the preferences, but any other exporter to Israel will have to reduce his (tariff-inclusive) export price to compete with EEC producers.

¹⁰ Clague (1972) had developed such a model, but the selection of parameters is, as he states, highly arbitrary, in particular with respect to the elasticity of substitution in demand for the *i*th good from alternative sources (and this is the parameter to which his results are most sensitive).

¹¹ See the following section.

Figure 2: EXPORT EFFECT



EE = Israeli export supply curve, OB = the "world price",
BC = the EEC tariff.

where c = the EEC tariff rate, e_x = Israeli elasticity of export supply, X = exports.¹² In the reciprocal preference situation which will exist between Israel and the EEC, (3) understates the increase in exports because preferences granted by Israel will reduce input prices, shifting the export supply curve, EE , downwards. Our estimates also ignore the increased imports or reduced exports of raw materials, which result from increased production for export.

3. Estimates of the Trade Effects on Israel

Although the 1975 EEC-Israel agreement provides for free-trade in manufactured goods, the movement towards free trade will not occur overnight but will last until 1977 for Israeli exports and until 1989 before all restrictions on imports from the EEC are removed. Our estimates will compare the full preference situation with the present and will ignore the transition period. Since Israeli tariffs are to be reduced at a slower pace than EEC tariffs, the net trade effects on Israel during the transition period will be more favourable than the estimated full preference effects.

The year 1971 was selected as the base year for the calculations. By 1971 most quantitative restrictions on manufactured imports to Israel had been removed and the proportion of domestic output facing non-liberalized imports was high only in the mining and food and tobacco branches (Toren (1973), p. 52). They are omitted from the estimates, as are the diamond and publishing branches, in both of which zero tariffs predominated before 1971. Trade and tariff data for the branches covered by the study are given in Table 1. The weakness of this base year is that some unilateral non-preferential reductions in the Israeli tariff took place between 1971 and 1975, and the

¹² It should be noted that X refers to total Israeli manufactured exports (just as M in (1) and (2) referred to total manufactured imports). Exports to the EEC may increase by more than DF because exporters shift sales from other markets, but total exports are determined by how much Israeli producers are willing to sell at a price OC .

Table 1: Imports, Exports and Tariff Rates for Manufactured Goods,
Israel 1971

B r a n c h	Imports (US \$ 000)	Exports (US \$ 000)	Nominal tariff rate (per cent)	Effective tariff rate (per cent)
Textiles	62, 276	49, 359	32.3	81
Clothing	4, 714	69, 789	63.0	86
Leather and Products	9, 951	4, 791	23.7	52
Wood and Carpentry	38, 139	9, 556	38.9	60
Paper and Products	43, 446	2, 549	30.3	81
Rubber and Plastics	19, 150	27, 376	26.3	126.
Chemicals and Fuel	119, 745	53, 886	13.8	74
Non-metallic Mineral Products	21, 559	3, 700	66.2	50
Basic Metals and Metal Products	201, 585	21, 742	14.1	77.5
Machinery	117, 822	40, 131	16.2	55
Electrical and Electronic Equipment	111, 584	25.312	23.8	74
Transport Equipment	306, 825	18, 406	13.9	121
Miscellaneous	93, 411	15, 189	27.9	69
T O T A L	1, 210, 207	341, 786		

Sources: Central Bureau of Statistics: Israel's Foreign Trade, General Summary 1973, pp. 33, 43-7; Pomfret (1976), Table AIX; Toren (1973), p. 56.

trade effects of these cuts will be attributed to the EEC agreement in our calculations. Use of the more recent years, 1973 and 1974, would have been unconvincing, however, because they are often considered to have been abnormal for the Israeli economy (due to the disruption of the October 1973 War). Although the absolute values of the estimates will clearly be out of data, the percentage increases in exports and imports attributable to preferences appear not to be greatly affected by the choice of base year (Clague (1972), p. 386).

Estimates of the effects of removing Israeli tariffs on manufactured imports from the EEC are given in Table 2. The major data problem in applying formula (2) is the assignment of values to e_D and e_S . Since estimates of demand and supply elasticities are not available for Israel, two assignment methods are adopted. In column (4) we follow Magee and assume (i) a short-run elasticity of demand for imports of -3 and (ii) $e_D = -0.5 e_S$. These assumptions imply values of $e_D = -0.25$ and $e_S = 0.5$ (Magee (1972), p. 665). Our second approach, column (5), is to use Glismann's estimates of e_D and e_S by industrial branch in West Germany (Fels and Glismann (1975), pp. 87-9). The unweighted averages of these elasticities are $e_D = -0.10$ and $e_S = 0.19$, i.e. less than 40 % of Magee's assumed values.¹³ Although both sets of elasticities are taken from studies of developed economics, their relevance to Israel is supported by estimated of Israel's import demand function. Weinblat, using annual data for 1952-67, found price elasticities of -3.07 for final consumer goods, -2.27 for investment goods, -0.39 for intermediate inputs and -1.358 for total imports. The last figure implies, in conjunction

¹³ Although Glismann's estimates of import demand elasticities are taken from regression analysis of actual German imports and thus have more scientific claim than Magee's assumed figures, they still have some weaknesses. The values of e_D and e_S required for (2) are point elasticities on linear curves, whereas Glismann's estimates mostly derive from import functions with non-linear specifications. The transition from import elasticities to e_D and e_S is made by assuming, like Magee, that $e_D = -0.5 e_S$. It may be added, however, that point elasticities at the existing import and price level cannot be determined in practice and Glismann's approach does take us a step closer towards an approximation of the incalculable.

Table 2: Import Effects (US \$ million)

B r a n c h	Change in domestic price	Change in domestic price of value- added	Value- added per unit of output	Imports (US\$ m.)	Import effects	
					$e_D = -0.25$ $e_S = 0.5$	variable e_D, e_S
Textiles	.244	.448	.404	62	19	5
Clothing	.387	.462	.362	5	19	5
Leather and Products	.192	.342	.393	10	4	3
Wood and Carpentry	.280	.375	.462	38	17	6
Paper and Products	.233	.448	.470	43	10	3
Rubber and Plastics	.208	.558	.500	19	12	4
Chemicals and Fuel	.121	.425	.503	120	27	13
Non-metallic Mineral Products	.398	.333	.588	22	23	5
Basic Metals and Metal Products	.124	.437	.456	202	38	20
Machinery	.139	.355	.519	178	12	4
Electrical and Electronic Equipment	.192	.425	.486	112	19	4
Transport Equipment	.122	.548	.556	307	29	13
Miscellaneous	.218	.408	.560	93	9	3
T O T A L				1,210	239	89

Source: value-added ratios were calculated from Statistical Abstract of Israel 1975, pp. 411-2; other columns were calculated from data in Table 1 by the methods described in the text. Calculations were made from data before rounding.

with the $e_D = -0.5 e_s$ assumption, that $e_D = -0.2$ and $e_s = 0.4$, i.e.

between the two sets of elasticities used in Table I.¹⁴ Since manufactured imports will primarily fall in the final consumer goods and investment goods categories we should perhaps place more emphasis on the figures in column (4), but since not all manufactured imports are consumer goods this is an overestimate.

A further difficulty in applying formula (2) to an economy with a heavy reliance on foreign exchange is the choice of the relevant exchange rate for calculating consumption levels. In Israel foreign exchange transactions are valued in US dollars and domestic transactions in Israeli pounds. Since the official exchange rate actually applies to few currency transactions, it is meaningless as far as the national accounts are concerned. The relevant rate is the effective exchange rate, which includes taxes in the case of imports and subsidies in the case of exports.¹⁵ For 1971 the effective rate on exports has been estimated at I£ 5.04 per US dollar and on imports at I£ 5.09 per US dollar (Michaely (1975), p. 122).

The alternative estimates of the import effects are \$ 239 million and \$ 89 million per annum, which represent increases over actual 1971 imports of 20 % and 7 % respectively. In the light of Weinblat's estimates we might expect the actual preference-induced increase in the import bill to be closer to, but less than, the former estimate - somewhere around 15 % per annum. The variable elasticity estimates are of interest because they are a more accurate guide to the sectoral distribution of the increased imports. Although the sectoral ranking differs little between the two estimates, the constant elasticity estimates appear to understate the share of the three most important sectors (metals and metal products, chemicals and fuel, and transport

¹⁴ Weinblat's results, originally published in Hebrew, are quoted in Michaely (1975), p. 141. The relationship between e_D , e_s and the import demand elasticity (e_m) is:

$$e_m = \frac{M + S}{M} (e_D - e_s) + e_s$$

which can be readily derived from Figure 1.

¹⁵ For discussion of the problem see Michaely (1971), especially pp. 61-6.

equipment) in the incremental imports, which is over 50 % in the variable elasticity estimates, and to overstate the share of textiles, clothing, non-metallic mineral products and electrical and electronic equipment.

The empirical problem in estimating the effect on Israel's manufactured exports of tariff-free access to EEC markets is, as with the import effects, our lack of knowledge of elasticities. Use of estimates from other countries is more dubious than in calculating import effects, because the structure of exports is likely to differ more between countries than the structure of aggregate demand or supply. Published export supply functions for Israel fall into two categories, those employing a distributed lag function and those using a simple non-lagged regression equation. Although it has been suggested that the former is a more appropriate specification (Halevi (1972), p. 298), we will adopt estimates from the latter category. From annual data for the period 1955-69 Halevi estimated a supply elasticity of industrial exports of 0.87 (Halevi (1972), p. 297) and for the period 1952-71 the present author obtained an elasticity of 0.52 (Pomfret (1976), chapter 3). The reasons for not using the distributed lag estimates are threefold: (a) such estimates imply an export supply elasticity which is more long-run in nature than the elasticities used in computing the import effects and would thus reduce the comparability of the estimated export and import effects, (b) neither of the published distributed lag estimates satisfactorily overcomes the econometric problems associated with that specification,¹⁶ (c) the simpler specifications yield quite satisfactory results by the usual statistical criteria and thus adoption of a more complex regression equation is unwarranted.

¹⁶ For justification of this statement cf. Pomfret (1976), chapter 3.5 (d). The major points are that the presence of serial correlation and the problem of discretization both bias OLS estimates of the adjustment coefficient downwards. The usual tests of significance applied to the other coefficients are unreliable. Finally, even if the true equation is not a distributed lag model, such a model will often yield reasonable and significant results if there is serial correlation in the "true" disturbances, e.g. because of omission of a relevant variable which is itself serially correlated.

The estimated export effects are \$ 49 million assuming $e_x = 0.52$ and \$ 63 million assuming $e_x = 0.87$, i. e. 14 % and 18 % increases over actual 1971 levels (Table 3). The breakdown of incremental exports by industrial branch is not of great interest in the absence of disaggregated export supply elasticities. The calculated export effects are most sensitive to base year export levels, with the result that the incremental exports have a similar distribution to actual 1971 exports.

The total trade effect of the preferences is that Israel's manufactured imports will increase by some 15 % per annum and her manufactured exports by a slightly larger percentage.¹⁷ In view of Israel's large trade deficit in manufactured goods, these figures imply a worsening of Israel's trade position. In 1971 figures, her manufactured imports would increase from \$ 1210 million to circa \$ 1390 million, while exports of these goods would increase from \$ 342 million to circa \$ 400 million. Thus the short-run effect of free trade in manufactures between Israel and EEC would be to increase Israel's trade deficit in these goods from \$ 868 million to approximately \$ 990 million. The increase in the trade deficit appears even more dramatic if the percentage changes are applied to Israel's record trade deficit of 1974. In that year manufactured imports were \$ 2375 million and manufactured exports \$ 773 million, and free Israel-EEC trade in these goods would have increased Israel's trade deficit by some \$ 233 million. It may be noted, however, that this represents a smaller proportion of the aggregate trade deficit than the 1971 figures,¹⁸ which reflects the increasing proportion of manufactured imports covered by manufactured exports.

¹⁷ Since the choice of base year leads to an overstatement of the import effects and the omission of reduced input prices leads to an understatement of the export effects, the percentage increase in exports may exceed that in imports by an even greater extent than our results suggest. In view of the importance of the unsatisfactory elasticity estimates, however, both the calculated import and export effects must be considered approximations whose overall bias is unknown.

¹⁸ The aggregate trade deficit was \$ 897 million in 1971 and \$ 2461 million in 1974.

Table 3: Export Effects

B r a n c h	Exports (US \$ m.)	EEC tariff rate	Export effects	
			$e_x = 0.87$	$e_x = 0.52$
Textiles	49.4	.103	10.0	8.0
Clothing	69.8	.140	19.5	15.6
Leather and Products	4.8	.075	0.7	0.6
Wood and Carpentry	9.6	.071	1.3	1.1
Paper and Products	2.5	.113	0.6	0.4
Rubber and Plastics	27.4	.110	5.9	4.8
Chemicals and Fuel	53.9	.075	7.8	6.3
Non-metallic Mineral Products	3.7	.074	0.5	0.4
Basic Metals and Metal Products	21.7	.066	4.0	2.2
Machinery	40.1	.062	4.8	3.9
Electrical and Electronic Equipment	25.3	.072	3.5	2.8
Transport Equipment	18.4	.041	1.4	1.2
Miscellaneous	15.2	.083	2.5	2.0
T O T A L	341.8		62.6	49.3

Sources: col. (1) Statistical Abstract of Israel 1975, p. 201; (2) Donges, Fels and Neu (1973), p. 26; cols. (3) and (4) calculated from formula (3) in text. Calculations were made from data before rounding.

The actual impact of the trade effects will be influenced by the timetable of tariff dismantlement. Since Israel's exports will enjoy free access to the EEC markets by 1977, we can expect the full fruits of the export effects to be gathered quickly. The import effects will, however, be felt much more slowly since Israel can retain some restrictions until as late as 1989 and will presumably seek to keep restrictions on goods with high import elasticities. During the transition period the net trade effects will, therefore, be less negative for Israel than our estimates suggest.

4. Summary and Conclusions

Free trade with the EEC will lead to a substantial increase in both Israel's imports and her exports. If the preferences were imposed immediately, the net trade effects would be negative, increasing Israel's aggregate trade deficit by circa 14 %. In fact, however, the preferences offered by Israel will be implemented much more slowly than those offered by the EEC, and the net trade effect during the transition period will be less negative.

These results contrast with the opinion of those who see tariff preferences as irrelevant for non-developed countries' trade. They are, on the other hand, consistent with the EFTA study on Portugal's trade relations within EFTA and with some of the views on Greece's EEC association. The implications for other Mediterranean countries are that free trade in manufactured goods with the EEC will be harmful to their balance of trade, especially if existing tariffs are higher and export supply elasticities lower than in Israel.

Finally, it must be emphasized that the direct trade effects are insufficient for full evaluation of a free trade agreement. They provide no guide to the welfare effects of the agreement. Knowledge of their magnitude is, however, necessary for estimation of the welfare changes resulting from the agreement and, if the foreign exchange constraint is binding, the net trade effects may have direct implications for economic growth.

Chapter 6: The Static Welfare Effects

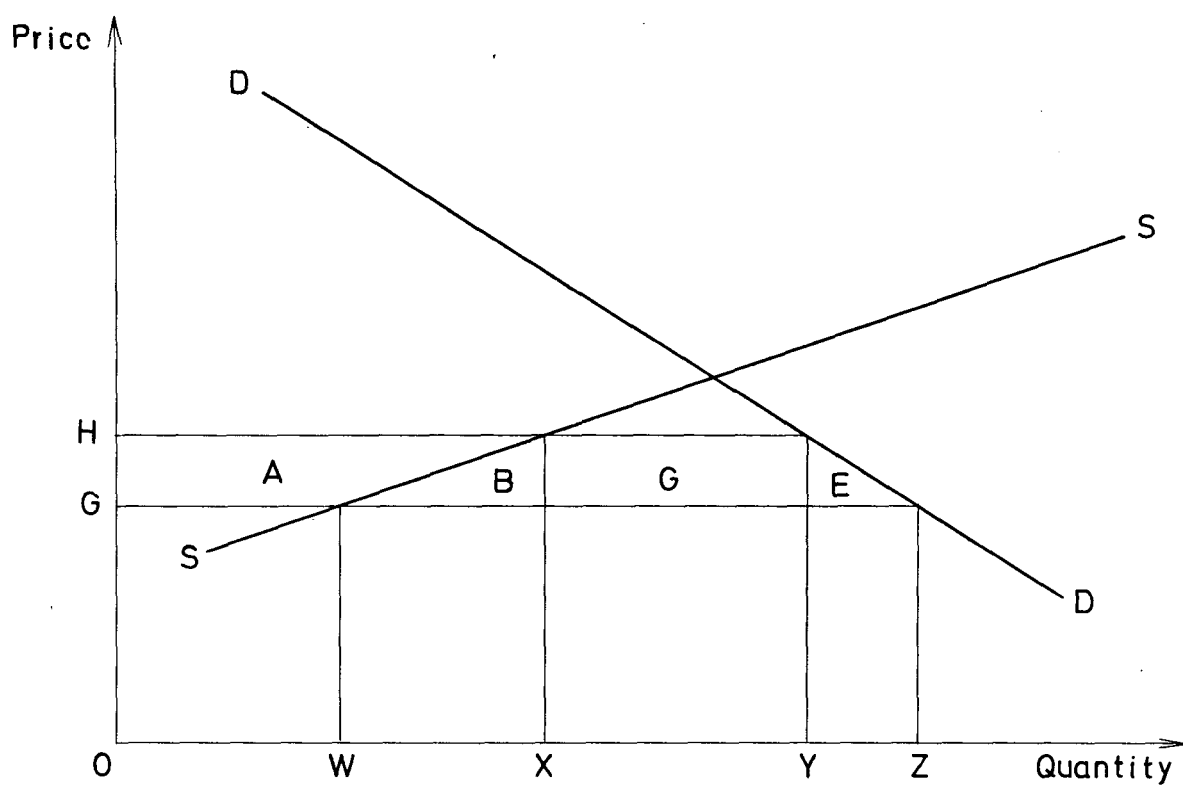
The aim of this chapter is to estimate the social welfare benefits of the changes in Israeli trade in manufactured goods resulting from free trade with the EEC. The base year, coverage and assumptions adopted in estimating the direct trade effects are retained, so that the analysis is a comparative static study of the full preference and no preference situations from Israel's point of view. The welfare effects are calculated in terms of surpluses accruing to buyers and sellers and tariff revenues accruing to the government. The first section presents the estimated welfare effects of the preference-induced increase in imports and the second section deals with the export side. The results are summarized in the final section.

1. The Welfare Effects of Preferences on Imports

The welfare benefits to Israel of removing a non-prohibitive tariff are illustrated in Figure 3. Assuming linear domestic demand and supply curves (DD and SS and perfectly elastic import supply at a cif price OG, abolition of the tariff GH leads to home production falling from OX to OW and imports increasing from XY to YZ. If DD coincides with the Hicksian compensated demand curve, then the area $A + B + G + E$ measures the increase in consumers' welfare resulting from abolition of the tariff¹. Unfortunately, compensated demand curves cannot be observed and they can only be constructed under strong

¹ The Hicksian compensated demand curve indicates the quantity demanded at each price, assuming that consumers' incomes are adjusted so that they remain on the initial indifference curves. Thus the area $A + B + G + E$ represents the amount of income which consumers, who are free to purchase any quantity of the good at the reduced price, would have to lose in order to leave them at their initial welfare position (Hicks (1956), p.99).

Figure 3: WELFARE EFFECTS OF A NON-PROHIBITIVE
TARIFF



DD = domestic demand curve, SS = domestic supply curve,
OG = the "world price", GH = the tariff.

assumptions². This problem will be evaded here by assuming that the assigned demand elasticities, which are themselves not based on observed Israeli data, are appropriate to a compensated demand curve.

Two components of the increase in consumers' welfare are transfers within the Israeli economy. The change in the area between the supply curve and the price line, area A in Figure 3, measures the loss in economic rent accruing to domestic factors of production³. Area G measures the reduction in government revenue due to abolition of the tariff. The remaining two portions of the increased consumer surplus have no offsetting welfare losses and are therefore known as the deadweight loss from the tariff⁴. Under the assumption that the supply elasticity of imports from the EEC at the world price is infinite, Israel will recoup the total deadweight loss by allowing tariff free access to EEC goods and area B + E measures her net welfare gain.

Extension of the above analysis to the multigood case leads to considerable theoretical complications. These are overcome by retaining the simplifying

² Compensated demand functions can be derived from certain aggregate utility functions (Currie, et al. (1971), p. 753). The more usual approach is to assume that compensated and ordinary demand curves coincide, for which the simplest condition is that each individual has a zero income elasticity of demand for the good. Although this sufficient, but not necessary, condition may be justifiable for a single good, it is more dubious when several commodities' prices are changing, in which case income effects are unlikely to be small and the area under the ordinary demand curve will overstate the consumers' welfare gain from the price reduction (Hicks (1956), p. 179).

³ If SS is compensated supply curve corresponding to the tariff situation, then area A is the amount of compensation which would have to be paid to all factor-owners in order to leave them in the initial welfare position, assuming that they are free to supply any quantity after compensation. For the problems involved in this analysis see Currie et al. (1971), pp. 753-64.

⁴ The above analysis was developed by Corden (1957) and Johnson (1960). For criticism of the assumed welfare neutrality of the transfers see Tullock (1967).

assumptions of fixed material input coefficients and zero cross-elasticities in demand between commodities. The "welfare triangles" B and E can now be simply calculated from our estimates of the increase in imports resulting from the preferences. The two components of the increases imports must be multiplied by half of the change in the relevant domestic price:

$$(4) \quad B = \frac{1}{2} \sum_j \tau_j \epsilon_j V_j \tau_j$$

$$(5) \quad E = \frac{1}{2} \sum_j t_j (-e_{D_j}) t_j (S_j + M_j)$$

where all symbols are defined as before. The areas G and (A + B) are equal to the nominal ad valorem tariff multiplied by imports and domestic production for the home market respectively.

The welfare effects of the preferences granted by Israel to EEC producers of manufactured goods are presented in Table 4. As with the trade effects, two sets of estimates are given based on alternative demand and supply elasticities. It is expected that the true elasticities for Israel lie between these, but somewhat closer to the higher values⁵. Using the constant elasticities ($e_D = -0.25$, $e_S = 0.5$) the net welfare gain from the preferences is If 190 million, or 1.21 % of total consumption of the goods covered⁶. Use

⁵ This expectation was supported in the trade effects analysis by reference to Weinblat's elasticity estimates. The situation is less clear in the present analysis, since the elasticities refer to compensated demand and supply curves which are not observed. The strong assumptions required for coincidence of compensated and ordinary curves (e.g. zero income elasticity of demand or parallel indifference curves for factor owners) are unlikely to obtain when the price change concerns a commodity bundle as large as manufactured importables. If the compensated and ordinary curves diverge, the compensated demand curve will normally be less elastic than the ordinary curves. In that case values of e_D and e_S based on ordinary curves will overstate the net-gain-of-consumers' -surplus triangle (area E) and understate the excess-production-cost triangle (area B), the net bias being unclear and hopefully small.

⁶ The gain from tariff elimination has been estimated, using the same elasticities, at 0.17 % of domestic consumption in the USA and 0.16 % in West Germany (Fels and Glismann (1975), p.71). The greater potential benefit in the Israeli case is a consequence of her higher tariffs and import/consumption ratios.

Table 4 : Welfare Effects on Israel of Duty-Free Access for Manufactured Imports from the EEC (If million, 1971 values)

	Total	Textiles	Clothing	Leather and Products	Wood and Carpentry	Paper and Products	Rubber & Plastics	Chemicals and Fuel	Non-metallic Mineral Products	Basic Metals and Metal Products	Machinery	Electrical & Electronic Equipment	Transport Equipment	Miscellaneous
(a) Constant e_D, e_S														
Gain in consumers' welfare	3,924	373	511	63	345	174	147	285	532	454	208	305	344	185
Loss of tariff revenue	1,231	102	15	12	76	67	26	84	73	145	147	135	217	133
Loss of rent to domestic factors of production	2,504	256	475	49	256	99	110	181	438	282	55	156	102	46
Net welfare gain	190	15	20	2	13	8	12	20	22	27	6	13	25	6
- triangle B	108	7	5	1	5	4	9	16	6	21	3	7	20	2
- triangle E	82	8	15	1	8	4	3	4	15	6	3	6	4	4
(b) Variable e_D, e_S														
Gain in consumers' welfare	3,868	367	499	63	339	171	145	283	521	451	206	300	341	182
Loss of tariff revenue	1,231	102	15	12	76	67	26	84	73	145	147	135	217	133
Loss of rent to domestic factors of production	2,568	261	479	49	259	102	115	189	443	292	57	162	113	48
Net welfare gain	69	4	5	2	5	3	4	10	5	15	2	3	11	2
- triangle B	42	2	1	1	2	1	3	8	1	12	1	1	9	1
- triangle E	26	2	4	1	3	1	1	2	4	3	1	1	2	1

Source: calculated from Tables 1 and 2 by the methods explained in the text. Calculations were made from the data before rounding.

of Glismann's variable elasticities produces the lower estimate of If 69 million, or 0.44 % of consumption. The net welfare gains are accompanied by large transfers, equal to a quarter of total consumption, from producers and the government to consumers. The scale of these transfers, relative to the size of the "welfare triangles", indicates how heavily interpretation of the latter as the net welfare gain rests on the assumed neutrality of the welfare transfers⁷.

The net social welfare gains occur primarily in three industrial branches: basic metals and metal products, transport equipment and chemicals. In the variable elasticity estimates these three branches account for over half of the net benefits. Using constant elasticities, the gains in non-metallic mineral products slightly exceed and in clothing equal those in chemicals. These results do no more than reflect the classification system, since the three branches have the largest domestic production for the home market and the biggest import bills. Of greater interest in evaluating the incidence of the net gains is their ratio to consumption. By this measure the most important sectors are non-metallic minerals, rubber and plastics, clothing, wood and paper, irrespective of the choice of elasticities⁸. Each of these five sectors is characterized by high nominal or effective protection, and none is particularly distinguished in absolute size of domestic consumption or imports. The implication is that tariff levels are of prime importance in determining the relative size of the net welfare gain.

⁷ The estimates of the net welfare gains are subject to an aggregation bias. Since tariffs vary within industrial branches and the estimates depend on the square of the tariff rate, the gains will be undervalued. Magee calculated that his US estimates had to be adjusted upwards by a correction factor of 2.87. It is impossible to derive a similar measure for Israel, because disaggregated effective tariff rates are unavailable. Even with a correction factor of 3, however, the net welfare gains only equal 5 % or 14 % of the total gain in consumers' welfare, depending on which elasticities are used.

⁸ Leather has a high net welfare gain/consumption ratio using the variable elasticities, but the second lowest ratio with the constant elasticities. This is the single anomaly between the two rankings, which are otherwise very close, and in view of the small size of the leather branch is not a serious problem.

The largest gains in consumers' welfare are recorded in the non-metallic minerals and clothing branches. In both cases this represents a transfer from factors of production, who suffer a corresponding loss in economic rent in these branches. The cause of the welfare transfers is the high nominal tariffs. The next largest consumer gains are in basic metals and metal products, textiles, wood and transport equipment. In the first and last of these the size of the gains reflects the absolute size of the branch. The textiles and wood branches are, however, considerably smaller in terms of both domestic production for the home market and import levels, and the consumer gains are due to the high nominal tariffs⁹.

The welfare losses are borne primarily by producers; over 60 % of the gain in consumers' welfare stems from reduced economic rent accruing to domestic factors of production. The incidence of the loss of economic rent is unsurprisingly in the branches of consumers' welfare gain: clothing, non-metallic minerals, basic metals and metal products, textiles and wood. The ranking of branches by producers' loss/output for the home market ratios is almost perfectly correlated with their ranking by nominal tariff rates¹⁰. The reason for this is that all losses of economic rent are attributed to the branch where the final product appears, and the price of the final product changes by the amount of nominal tariff.

Although less important than the loss in economic rent, the loss in tariff revenue accounts for over 30 % of the gain in consumers' welfare. In three branches, transport equipment, machinery and miscellaneous goods, the transfer of tariff revenue is the major source of consumers' welfare gain. These three branches are characterized by high import/consumption ratios - 64 %, 72 % and 73 % respectively, while no other branch has a ratio over

⁹ The estimated consumer gains are not very sensitive to the choice of elasticities because calculation of area A + B + G in Figure 3 is independent of demand and supply elasticities.

¹⁰ The only difference in the rankings is that the transport equipment and chemical branches, in the last and penultimate places, reverse positions.

50 % - and by moderate to low nominal tariffs. The other branches where the loss in tariff revenue is large, basic metals and metal products and electrical equipment, have moderate tariffs and large absolute import levels. The negative correlation between nominal tariff rates and tariff revenue is of course predictable from the import elasticities quoted above, which are negative with absolute values greater than unity.

In sum, the effect of removing Israeli tariffs on manufactured imports from the EEC is to increase Israeli consumers' surplus by almost I£ 4,000 million, which is equal to 25 % of domestic consumption of manufactured goods. Of this amount, between I£ 69 million and I£ 190 million represents a net welfare gain to society, while the remainder consists of transfers from domestic factors of production and the Israeli government. Total consumers' gains and net social welfare gains are greatest, relative to domestic consumption levels, in those branches with the highest tariff rates. These gains are primarily at the expense of economic rent accruing to producers. Transfers from the government to consumers' surplus occur in branches with moderate tariffs and high import/consumption ratios.

2. The Welfare Effects of Preferences on Exports

Estimation of the welfare benefits from the increase in Israeli exports is easier than the preceding import-side analysis because no intra-Israel welfare transfers are involved. The assumptions behind the estimates of the trade effects of EEC-granted preferences are retained, in particular that the export price is increased by the common external tariff and that the Israeli domestic price level is not affected. The welfare benefits to Israel consist entirely of increased economic rent accruing to factors of production, i. e. the area between the export supply curve and the price line, and the export supply curve should be interpreted as the compensated supply curve corresponding to the no-preference situation.

Not all of the increased export earnings resulting from tariff-free access to the EEC represent a welfare gain to Israel. The increase in export earnings, area CBGJ + DFHJ in Figure 2, can be decomposed into:

- (a) previous EEC tariff revenue now accruing to Israeli factors of production as economic rent = area CBGJ in Figure 2,
- (b) economic rent on the increased production for export = area GJH,
- (c) the exchange of additional domestic resources for foreign currency = area GDFH.

The Israeli welfare gain is measured by (a) + (b)¹², which are equal to cX and $\frac{1}{2} c^2 X e_x$ respectively.

The estimated welfare benefits are given in Table 5 using the alternative export supply elasticities, which are now assumed to apply to compensated supply curves. The value of the exchange of additional resources (equal to $(1 + \frac{1}{2} c) X c e_x$) is also provided¹³. Under the lower elasticity assumption 65 % of the increased export earnings takes the form of an increase in welfare, while the remaining 35 % is a simple exchange of additional resources. With the higher elasticity the proportions are 53 % and 47 %

¹²The welfare gain is understated (overstated) if there is a diversion of exports from third countries in whose markets Israeli exporters received a price less (greater) than OB. If production is diverted from the domestic market to the EEC there will be a welfare transfer from Israeli consumers to Israeli producers. Both situations are ruled out in the present analysis by the simplifying assumptions.

¹³The dollar values have been converted into Israeli pounds according to the aggregate effective exchange rate on exports (£ 5.04 / \$) for comparability with the welfare effects of the Israeli-offered preferences.

Table 5 : Welfare Effects on Israel of Duty-Free Entry to the EEC for Manufactured Exports (I£ million, 1971 values)

	Total	Textiles	Clothing	Leather and Products	Wood and Carpentry	Paper and Products	Rubber & Plastics	Chemicals and Fuel	Non-metallic Mineral Products	Basic Metals and Metal Products	Machinery	Electrical & Electronic Equipment	Transport Equipment	Miscellaneous
(i) $e_x = 0.52$														
(a) Transfer of EEC tariff revenue	158.5	25.6	50.1	1.8	3.4	1.5	15.2	20.4	1.4	7.2	12.5	9.2	3.8	6.4
(b) Economic rent on increased exports	4.2	0.7	1.8	0	0.1	0	0.4	0.4	0.1	0.1	0.2	0.2	0	0.1
Increased welfare = (a) + (b)	162.6	26.3	51.9	1.9	3.5	1.5	15.6	20.8	1.5	7.4	12.7	9.4	3.8	6.5
(c) Exchange of additional resources	87.8	14.0	27.9	1.0	1.8	0.8	8.3	11.0	2.0	3.9	6.7	5.0	2.0	3.4
(ii) $e_x = 0.87$														
(a) Transfer of EEC tariff revenue	158.5	25.6	50.1	1.8	3.4	1.5	15.2	20.4	1.4	7.2	12.5	9.2	3.8	6.4
(b) Economic rent on increased exports	7.0	1.2	3.1	0.1	0.1	0.1	0.7	0.7	0.1	0.2	0.3	0.3	0.1	0.2
Increased welfare = (a) + (b)	165.5	26.8	53.1	1.9	3.5	1.5	15.9	21.1	1.5	7.4	12.9	9.5	3.9	6.6
(c) Exchange of additional resources	146.9	23.4	46.6	1.7	3.1	1.3	13.9	18.4	3.3	6.5	11.2	8.3	3.4	5.8

Source: calculated from Table 1 by the methods explained in the text. Calculations were made from the data before rounding.

respectively¹⁴. The absolute value of the welfare increase is, however, rather insensitive to the choice of elasticity assumption, varying between £ 162.6 million and £ 165.5 million. The reason for the insensitivity is that the welfare gain consists overwhelmingly of the transfer from EEC governments of the tariff revenues on existing exports. Since the size of this transfer depends only on EEC tariff rates and the actual level of Israeli exports, the calculated welfare benefits should be much more accurate than the estimated benefits from preferences granted by Israel.

3. Conclusions

Free trade in manufactured goods with the EEC will yield a net short-run social welfare gain to Israel of some £ 150 million on the import side and £ 164 on the export side. The former sum is a pure gain from trade, while the latter is primarily a transfer from EEC governments¹⁵. The

¹⁴ The ratio of the increased welfare to the exchange of additional resources (α) is inversely related to the export elasticity of supply. The relationship can be derived from the formulae for the respective components of the incremental export earnings:

$$\alpha = \frac{cX + \frac{1}{2} C^2 X e_x}{(1 + \frac{1}{2} c) X c e_x} = \left(\frac{1}{e_x} + \frac{1}{2} c \right) \cdot (1 + \frac{1}{2} c)^{-1}$$

If a loglinear export supply curve is assumed, then the relationship is:

$$\tilde{\alpha} = e_x^{-1}$$

(for derivation cf. Blackhurst (1971)). Since $\frac{1}{2} c$ is small relative to unity and to e_x , the two expressions are very similar in the present case; $\alpha = 1.85$ when $e_x = 0.52$ and $\alpha = 1.13$ when $e_x = 0.87$, and $(0.52)^{-1} = 1.92$ and $(0.87)^{-1} = 1.15$.

¹⁵ Under the assumptions used here the preferences offered by Israel will yield a social welfare gain to the EEC (in the form of increased economic rent to factors of production), whereas the preferences granted by the EEC do not.

net gain is accompanied by substantial welfare transfers from the Israeli government and factors of production to consumers.

The structural changes in production and consumption resulting from the preferences are not frictionless and impose a short-run welfare loss. Adjustment costs are incurred by all factors of production, but the most serious are generally considered to be those borne by labour. There is no ideal measure of this cost and no estimates are made here. The order of magnitude of the labour adjustment problem can be calculated under the simple, but unrealistic, assumption that the marginal product of labour is equal to its average product. If this were the case, employment in import-competing production would fall by 4 - 10 % and in export production would increase by 4 - 5 %¹⁶. Since production for the home market was 450 % greater than production for exports and since marginal products normally exceed average products, the labour adjustment involved will clearly be great. The social cost is, however, reduced by the absence of structural unemployment in Israel.

A second adjustment cost may arise from the need to cover the preference-induced widening of the trade deficit. Lowering export prices (in dollar terms) will only reduce revenues if demand is highly elastic and increased

¹⁶ The change in employment in import-competing production is equal to the change in domestic price of value-added multiplied by the elasticity of domestic supply of value-added:

$$(i) \quad \tau e_s v = .440 \times .5 \times .438 = .096$$

$$(ii) \quad \tau e_s v = .440 \times .18 \times .438 = .035$$

The change in employment in export production is equal to the change in the export price multiplied by the elasticity of export supply:

$$(i) \quad c(1+c)^{-1} e_x = .073 \times (1.073)^{-1} \times 0.52 = .035$$

$$(ii) \quad c(1+c)^{-1} e_x = .073 \times (1.073)^{-1} \times 0.87 = .059$$

import restrictions are ruled out as an effective remedy. One answer is devaluation, but the analysis of exchange rate changes is explicitly omitted from the present study. If, however, the Israeli government is unwilling to devalue to the extent necessary to eliminate the increase in the deficit, then it must resort either to international borrowing or to running down its reserves¹⁷.

¹⁷ In such a situation the "simple exchange of additional resources" estimated in section 2 is not welfare neutral, since this method of transforming domestic resources into foreign resources has lower opportunity costs than the alternatives.

Chapter 7: Changes in Factor Productivity

In the preceding analysis the Free Trade Area was assumed to have no impact on Israeli supply curves via increased factor productivity. Customs union theory has, however, pointed to two sources of increased factor productivity which might result from the FTA: economies of scale (i. e. movements along a downward-sloping long-run average cost curve) and forced changes in efficiency (i. e. shifts in the domestic supply curve) due to foreign competition. The present chapter examines the possibility of these occurring in Israel and their implications for the analysis in chapters 5 and 6.

1. The Size Structure of Industry and the Evolution of Industrial Organization Policy in Israel

The size distribution of industrial establishments in Israel possesses two striking features. The majority of establishments are small; in 1971/2 70 % employed less than five people¹. On the other hand, over 50 % of the industrial labour force in 1971/2 worked in establishments employing 100 or more people. These phenomena have important consequences for technical efficiency and market structure and also for exports.

The causes of the existing size distribution of industrial establishments include sociological and technical factors. The atomized industrial structure directly reflects the prevalence of owner-operated businesses in Israel. In the 1965 industrial census 9,070 out of 24,528 establishments did not engage employees, and 7,073 of these 9,070 had only one employed person. The existence of the large enterprises at the other end of the spectrum reflects the presence of technical factors which make small-scale establishments uncompetitive in some lines of production. The large establishments are not uniformly distributed across industrial branches, but are concentrated in

¹ Employed persons are defined to include owners and unpaid family members as well as employees.

those branches where cross-country studies have shown scale economies to be greatest².

A further determinant of the industrial structure has been government policy. In the 1950s the government encouraged new firms in the hope that increased competition would raise efficiency and reduce prices. This hope was not fulfilled because the small size of the domestic market precluded effective competition in most industries. Although the Knesset passed a Restrictive Practices Act in 1959 making cartels subject to registration and approval, the government attitude was to favour cartelization in the hope of increasing exports by utilizing economies of scale in production and marketing and by subsidizing exports out of monopoly profits on domestic sales (via so-called "equilization funds"). The cartel policy came under criticism for being inequitable and inefficient, and it moreover failed to make the expected contribution to exports³. In the second half of the 1960s the government began to look more favourably on mergers rather than cartels and the current policy is to encourage mergers as long as they do not create monopolies⁴.

The consequences of government policy are reflected in the changing size distribution of industrial establishments (Table 6). Between the 1955 and 1965

² Teitel found that the ranking of two-digit industries by employee/establishment ratios did not differ significantly across a sample of 25 countries (Teitel (1975), p. 109). The Spearman rank correlation coefficient between Teitel's average ratios and the 14 industries for which comparable Israeli data were available (in the CBS Census of Industry and Crafts - 1965, No. 1, p. 14) was 0.85, which is significant at the 1 % level. These results suggest that the large firms found in basic metal and textile industries, for example, are a result of objective technical factors which are not affected by the institutional or policy arrangements in individual countries.

³ Out of 28 industrial cartels approved in the years 1962-4 on the grounds of encouraging exports only 14 increased their exports, while 6 did not change their exports and 8 reduced their exports (Shefer (1971), p. 419).

⁴ Although this is the stated policy, some Israeli economists believe that the formulation merely pays lipservice to the anti-monopoly cause and that the policy is in fact to encourage mergers even when they lead to monopoly. Evidence for this viewpoint is provided by the many mergers which have led to monopoly in recent years, e.g. tyres, electric bulbs, beer, chocolate, asbestos, cement and paints.

industrial censuses the proportion of smaller establishments increased and the average number employed per establishment fell from 13.3 to 9.1, but between 1965 and 1971/2 the percentage of the industrial labour force in establishments employing over 100 people increased from 35 % to 51 % and the average number employed per establishment increased to 12.7. Despite the increase in firm size in the last decade, however, no Israeli firm is large by international standards⁵.

An Israeli firm does not have to be large by international standards in order to have a large share of the domestic Israeli market and many product markets are characterized by high concentration of domestic production. In 1965 in 24 out of the 114 four-digit sub-branches of industry the largest three enterprises accounted for over 80 % of output, in 16 other sub-branches they accounted for over 60 % and in 27 further sub-branches for over 40 % of output (Merhav (1970), pp. 28-31). These are moreover underestimates of the extent of market concentration because within the four-digit categories there are clearly defined markets for individual products (especially in the n.e.s. categories, which usually appear as low-concentration industries). Even at the four-digit level of aggregation more up-to-date data are unavailable, but it may be surmised in the light of government policy that market concentration has increased since 1965.

Evidence on the extent of unrealized scale economies in Israel is sparse⁶. Israeli economists are overwhelmingly of the opinion that such economies are extensive and the scattered data support this view. More detailed industry studies from other countries indicate that the minimum optimal

⁵ No Israeli firm is included in the Fortune 300 largest industrial companies outside the US, despite the fact that 26 nations are represented on the list.

⁶ For fuller treatment see Pomfret (1976), chapter 7.1. The empirical question cannot satisfactorily be answered until detailed studies of the cost structure of Israeli industries are available. Some anecdotal evidence of unrealized scale economies in Israel is given in Kreinin (1968), especially pp. 298, 309, 311.

**Table 6: ESTABLISHMENTS AND EMPLOYED PERSONS BY SIZE GROUP,
1971/2**

(percentages)

Number of Employed Persons in Establish- ment	Percentage of Total					
	Employed Persons			Establishments		
	1955	1965	1971/2	1955	1965	1971/2
1 - 4	10.1	15.2	10.8	44.6	69.2	69.7
5 - 9	14.1	11.0	6.6	27.9	15.7	13.3
10 - 14	8.3	6.2	5.1	9.1	4.9	5.5
15 - 19	11.9	4.7	3.7	8.5	2.6	2.7
20 - 24		3.8	2.4		1.6	1.4
25 - 29	15.5	3.2	2.2	5.9	1.1	1.0
30 - 49		9.2	7.6		2.2	2.5
50 - 99	11.6	11.6	10.6	2.3	1.6	2.0
100 - 299	18.0	16.7	16.3	1.4	0.9	1.3
300 +	10.5	18.3	34.7	0.3	0.3	0.6
	100	100	100	100	100	100

Source: Statistical Abstract of Israel 1957/8, p. 176; Ibid., 1967, p. 374;
Ibid., 1974, p. 416.

scale in many industries is far larger than the size of Israel's domestic market.

The already high level of market concentration and the existence of further unrealized scale economies place the government in a policy dilemma between encouraging large firms and mergers in the name of increased technical efficiency and reducing market control in the name of static allocational efficiency. Israeli government policy has shifted increasingly in favour of promoting technical efficiency at the expense of a competitive industrial structure. The current policy stand is to encourage increased firm size to the point of duopoly and to leave the duty of providing competition to liberalized imports. The FTA fits in with this policy by providing increased incentives for realizing economies of scale and increased competition from liberalized imports.

2. Benefits of the Free Trade Area arising from Economies of Scale

Attempts at measuring the benefits from increased realization of economies of scale within a customs union or free trade area have been few and unconvincing⁷ - doubtless reflecting economists' general ignorance of the significance of scale economies. This situation has permitted widely conflicting claims to be made for the beneficial effects of forming a CU on the realization of scale economies. Politicians have been particularly eager to use the argument in order to justify an essentially political alignment (e.g. Macmillan à propos the UK and the EEC, quoted by Krauss (1972), p. 420). Economists have been more sceptical of this source of gain and it was not emphasised in the classic works on CU theory (Viner (1950),

⁷ An exception is Carnoy's study of the benefits from the minimum cost locating of industries within six product groups in a Latin American common market. The study goes beyond the scale economy benefits from a CU or FTA because fuller integration is assumed, but it reveals that minimum optimal scales of operation are pervasively large relative to semi-developed countries' domestic market size (Carnoy (1972)).

p. 46; Meade (1955), p. 94)⁸. The lack of emphasis in CU theory appears to reflect firstly the prejudgement that economies of scale are insignificant (e.g. Johnson (1962) and Pearce (1970), pp. 210-24) and secondly the conclusion that even if they exist they are theoretically uninteresting (e.g. Krauss (1972), pp. 420-1).

The last conclusion is based on the premise that if the minimum point on a firm's long-run average cost (ℓrac) curve lies below the world price then the firm should be an exporter sympathetic to free trade, whereas if the minimum point on the ℓrac curve is above the world price domestic production can only take place behind protective barriers. Free trade leads to the welfare optimum. Since a FTA possesses elements of both free trade and protection, it can lead to either a net welfare gain or a net welfare loss when decreasing costs exist (Corden (1972)). As Krauss points out, however, this finding is not very interesting and can be incorporated into the usual concepts of trade creation and trade diversion simply by extending the definitions of these concepts to cover decreasing cost curves.

The existence of economies of scale has an impact on the magnitude of trade creation and its welfare consequences. Abstracting from transport costs, the trade effects depend critically on whether the minimum point of the ℓrac curve, at the fixed exchange rate and post-FTA import prices, lies above or below the f.o.b. world price. In the former case, if domestic production exists, it will be eliminated in the FTA and all domestic consumption will be supplied by imported goods. It is possible in this case that the firm is an exporter, if the world price covers marginal cost before exporting (Basevi (1970); Pomfret (1975)), and the exports too will no longer take place in the FTA. In the latter case, the firm's exports depend on the price it actually

⁸ Greater emphasis was placed on scale economies by Scitovsky (1958), pp. 110-35, and Balassa (1962), pp. 101-62, but they have not had many followers among economists. Economists stressing scale economies have often emphasised their importance with respect to marketing and research and development, rather than just production. This can be incorporated into the following analysis by replacing the normal ℓrac (of producing more goods) curve, by a more general ℓrac of developing, producing and selling more goods curve (cf. Lipsey (1960), p. 511).

receives. Free access to EEC markets means that existing exporters will increase their foreign sales, firms whose minimum \pounds rac previously exceeded the world price or undercut it by less than the common external tariff will start to export to the EEC, and some new firms now able to operate at large enough scale to earn a reasonable return from replacing imports and exporting will be established. The estimates in chapter 5 of the trade effects of removing Israeli tariffs are incomplete, because they fail to take account of the ensuing reduction in exports and they ignore the positive trade effects of reduced imported input prices inducing new exports of decreasing-cost products. The estimates in chapter 5 also understate the positive trade effects of free access to the EEC markets.

The introduction of decreasing-cost curves into the analysis has no effect on the gains in consumers' surplus from Israeli tariff elimination, but it does affect the estimated changes in rent accruing to domestic factors of production, which were calculated in chapter 6. The area A in Figure 3 represents the change in rent in an increasing cost industry, but in decreasing-cost industries area A does not exist⁹. The critical consideration in such industries is the general equilibrium change in factor prices (Wonnacott and Wonnacott (1967), ch. 15). Elimination of the Israeli tariff leaves the factors involved in production by firms which go out of business unemployed, but creates new employment in those firms which expand their output. If the net effect is increased unemployment, (money) factor prices will fall until a new equilibrium is reached. Elimination of the EEC tariff increases the export opportunities for Israeli firms and reduces the extent by which money incomes must fall. The resulting welfare loss is less than that calculated under the assumption of increasing cost curves, and hence the net welfare gain is greater.

⁹ If demand pressure is put on specific factors suited to production of a good, their prices might rise (and include an element of economic rent) even though the firm's cost curve is falling. Therefore, changes in economic rent cannot be excluded when a decreasing cost firm goes out of business or expands its output.

In the previous section it was concluded that unrealized scale economies exist in many Israeli industries. Some of the firms operating on decreasing cost curves will be eliminated in the FTA, while others will expand. Lack of industry level data prevents any concrete analysis of the phenomena, but the existence of unrealized scale economies will almost certainly increase the benefits from the FTA. The trade effects are likely to be more favourable and the welfare gains will be greater than in increasing-cost industries. The adjustment costs may also be greater because production is eliminated entirely in some decreasing-cost industries, but in general the welfare losses to factors of production are more evenly spread (in the form of a general reduction in money wages) than in a world of increasing cost curves.

3. Gains from Forced Efficiency

Increased competition from foreign firms may be expected to have a salutary effect on the efficiency of firms in a country acceding to a customs union or free trade area (Lipsey (1960), p. 512). Production may not be carried out by technically efficient processes for a large number of reasons, e.g. close personal relations between businessmen, the quest for a quiet life and stable income, high profit margins (cf. Scitovsky (1958), pp. 26-8). Market concentration is not the cause of technical inefficiency, but may be a necessary condition for the above reasons to operate.

Economists have been sceptical of this source of gain. After all, traditional theory rules out the possibility by assuming that production always takes place on the production possibility frontier. The assumption was strongly criticized by Leibenstein (1966), who sought to show that the social costs from resource misallocation were small compared to the social costs from failing to attain the production frontier, which he labelled X-(in)efficiency. Leibenstein argued that X-efficiency is strongly correlated with the motivation of resource-owners. This argument has been criticized as purely semantic, because motivational changes lead to changes in the composition of output rather than to increased output, e.g. observed increases in material output

may have negative impact on health and leisure which also enter into resource-owners' utility functions (Stigler (1976), p. 213). For the present study it is not a semantic problem, because material output may consist of traded goods while health and leisure are non-tradables. Thus increased X-efficiency may make the trade effects of the FTA more favourable for Israel, although the increased material output does not necessarily involve a net welfare gain.

The degree of X-inefficiency in Israel is impossible to determine in the absence of detailed knowledge of cost curves. The general impression is that Israeli businessmen are aware of the range of available techniques and implement them efficiently. Business practice is not restricted by goodwill towards competitors, as can be seen from the tendencies towards concentration. High profit margins undoubtedly exist in monopolistic and oligopolistic industries, but they do not necessarily involve technical inefficiency other than a failure to realized economies of scale.

There is also considerable doubt as to whether the elimination of Israeli tariffs will reduce any X-inefficiency which does exist. The flow of trade is determined by comparative, not absolute advantage, and if Israel entered the FTA with an exchange rate which would yield a balanced external account there would be no effect on X-efficiency. Since Israel's exchange rate is overvalued and the short-run net trade effect of the FTA will be negative, it may be hoped that domestic producers will react by increasing efficiency to achieve an external balance at the existing exchange rate. There is little basis for this hope, and it is more likely that the short-run consequences will be increased unemployment and reduced national income, unless resources can be transferred in sufficient numbers to expanding decreasing-cost industries.

It has been argued that pressures to increase X-efficiency can arise from favoured access to export markets (Williamson (1971), pp. 39-42). If Israeli exporters strain to be competitive in the tough EEC markets, X-efficiency may be raised. This will most likely be at the expense of other

arguments in the utility function, possibly leading to net welfare losses, but improved trade effects. The argument is, however, not very convincing.

4. Conclusions

A major feature of Israel's industrial organization policy has been the belief that scale economies are substantial for many industries at output levels up to and exceeding domestic Israeli demand at any reasonable prices. Recent government policy has been to permit increased industrial concentration in order to realize greater economies of scale, while liberalizing imports in order to restrict the welfare losses from oligopoly and monopoly. The FTA is consistent with this policy and in chapter 6 the gains from reduced monopoly power, abstracting from scale economies, were estimated. In decreasing-cost industries the welfare gains will be greater because of the reduced resources needed to produce the existing, as well as the incremental, output. The trade effects are also more favourable in decreasing-cost industries, although adjustment costs may be greater. A second source of bias in the estimated welfare and net trade effects is the possibility of shifts in supply curves due to increases in technical efficiency induced by the competitive pressures within the FTA. The effects of such shifts are unlikely to be large, although they will improve Israel's balance of trade¹⁰.

¹⁰ The net welfare effects are unknown, as explained above. The reason for indeterminacy is that compensated supply curves may not have shifted downwards with the resource-owners' response to the new pressures.

Chapter 8: Changes in Factor Quantities

There are no provisions in the 1975 agreement for an increased flow of factors of production, e.g. in the form of financial aid, into Israel. Nevertheless, by changing the economic and political parameters affecting factor movements, the agreement may alter Israel's factor availability. Labour migration to Israel is primarily determined by non-economic motives, and, although net migration is responsive to economic conditions in Israel, the increased real wages resulting from the free trade area are unlikely to have a great effect, especially as the magnitude of net migration is now small relative to the total labour force. Similarly, unilateral transfers to Israel are determined by political and psychological motives, rather than on economic grounds. The free trade area will, however, affect the level of foreign investment in Israel, and it is on this ~~magn~~itude that the present ~~chapter~~ will focus.

1. Preferences and Foreign Investment in Theory and Practice

Portfolio investment in developing countries has long been a feature of the international economic scene, as has direct investment in sectors producing material inputs and in infrastructure. Direct foreign investment (DFI) in the manufacturing sector is a more recent phenomenon, which has assumed great significance in the postwar world. Initially the decision to locate industrial production abroad was viewed as an alternative to exporting and was determined by production and transport costs, political stability and market conditions (size, growth, access, etc.); in particular the protectionist trade policies of many LDCs in the 1950s made import-substituting DFI attractive to multinational enterprises. A more recent phenomenon has been the location in LDCs of multinational enterprises in "footloose" industries, which have been influenced by supply considerations and have produced for export rather than for the domestic market. Four determinants of the location of export-oriented DFI have been

identified: labour costs adjusted for productivity, distance costs, government policies and political stability and security (Helleiner (1973), p. 44). Empirical studies have indicated that cost and revenue variables are significant in explaining the time path of export-oriented DFI within a host country¹.

Although the literature has emphasised wage rate differentials, export price differentials are in principle equally of interest to export-oriented DFIs. In 1968 Johnson forecast that the aspect of the Generalized System of Preferences which might cause the most serious challenge zu U.S. business was a type of trade deflection, "in which the production facilities required to turn labor and raw materials into salable products are transplanted from developed to less-developed countries in order to obtain the dual advantages of tariff-free or preferential market access and lower labor cost" (Johnson (1968), p. 19). This possibility was also referred to in Clague's study of preferences for LDCs (Clague (1972), p. 288), but has otherwise been ignored in the empirical studies - perhaps reflecting the general conclusion that the preferences actually granted offer little incentive for increased exports from the LDCs.

Some ex post evidence of the influence of preferences on DFI has been gleaned from Greece and Portugal. Despite strong incentives and guarantees offered by the Greek government, DFI was negligible before the 1962 association agreement with the EEC, but since 1962 it has been substantial; 80 % of Greece's long-term capital inflow between 1953 and 1972 occurred after 1962 (Kalamatousakis (1976)). Such data, however, reveal little about causality because world-wide DFI was much larger in the 1960s than in the 1950s and the decision to invest in Greece may have been based on factors unconnected with association (e.g. the political situation,

¹ In a study of Taiwan between 1955 and 1971, when distance costs, political stability and security could be assumed constant, Riedel found that efficiency wage differentials significantly affected DFI from Hong Kong, Japan and the USA (the three major investing countries) and government policies (reducing costs and increasing export revenue to the firm) were significant in the cases of Hong Kong and Japanese DFI (Riedel (1975), p. 511).

non-association-induced economic growth). Kreinin has identified specific sectors in which DFI occurred in response to preferences:

"... large-scale investments have taken place in the textile, chemical, and metallurgical industries subsequent to, and as a result of, Greece's association with the Common Market. Much of the increased output of these industries was exported to the Community" (Kreinin (1975), p. 356).

In a very general manner, the EFTA Secretariat has suggested that Portugal's preferential access to EFTA markets encouraged direct investment by firms from other member countries (EFTA (1972), p. 102). In sum, there is some indication that preferential access to developed markets has induced DFI in semi-developed European countries, but there is no evidence on the quantitative significance of the induced investment.

2. Private Foreign Investment in Israel: Past Trends and Future Prospects

Private foreign investment in Israel has consisted overwhelmingly of portfolio investment and direct investment in manufacturing. Although the former increased rapidly in the early 1970s, its share of the total has been falling and in 1974 only 11 % of foreign investment was in securities listed on the Tel-Aviv Stock Exchange². The level of DFI is strongly affected by the security position. In the early and mid-1950s foreign investment was negligible, but it increased from \$ 13.8 million in 1958, when expectations of relative peace had begun to prevail, to \$ 169.4 million in 1964 (Michaely (1975), p. 152)³. Again, after the 1967 war

² Bank of Israel Annual Report 1974, p. 133. The increased absolute value of portfolio investment reflected a substantial Israel-foreign financial yield differential, which was primarily due to the prevalence of indexation in Israel. By the end of 1971 interest rates in the principal world money markets were less than half of their January 1970 levels, while the yield on financial assets in Israel rose considerably in those two years (Ibid. 1971, p. 72). The differential continued to exist through 1972 and most of 1973, but the Tel-Aviv Stock exchange entered a slump at the end of 1973 which led to a steep fall in portfolio investment (Ibid. 1974, p. 134).

³ Michaely's definition of foreign investment is that used in column 1 of Table 7.

Table 7: Private Foreign Investment in Israel 1965-74 (\$ millions)

		Foreign Investments	Investments repatriated	Reinvestment of profits	Total
Annual data	1965	114.9	27.9	4.8	91.8
	1966	104.3	27.0	5.2	82.5
	1967	51.6	31.1	4.3	24.8
	1968	41.9	32.7	4.0	13.2
	1969	56.2	33.7	5.2	17.7
	1970	44.4	27.8	5.2	21.8
	1971	92.5	23.4	5.6	74.7
	1972	183.1	47.5	7.4	143.0
	1973	247.4	78.5	16.3	185.2
	1974	138.1	84.4	18.4	72.1
Quarterly data	1973 I	63.8	21.5	4.1	46.4
	II	67.4	18.1	4.2	53.5
	III	78.3	17.4	4.1	65.0
	IV	37.9	21.5	3.9	20.3
	1974 I	29.8	29.4	4.6	5.0
	II	40.5	23.1	4.6	22.0
	III	32.9	14.2	4.6	23.3
	IV	34.9	17.7	4.6	21.8

Source: Bank of Israel, Annual Report 1972, p. 84; Ibid. 1974, p. 132.

and the uncertainties of the semi-war conditions of 1969/70, foreign investment picked up rapidly in the more peaceful situation of the early 1970s (Table 7). The level of economic activity in Israel has also influenced DFI, as can be seen from the fall in DFI during the 1965-7 recession⁴. This relationship lends support to the view that the DFI in the 1960s was primarily import-substituting, by firms trying to get inside Israel's protectionist barriers to trade. Even as late as 1969, DFI in Israel was not generally export-oriented, but Hirsch's survey of 194 firms indicated that firms with foreign associates were more export-oriented than purely domestic firms in the machinery, chemicals and electronics branches (Hirsch (1971), pp. 130-1), i. e. the most dynamic industrial branches in Israel. In view of the considerable tariff reductions which took place between 1968 and 1971, little incentive for import-substituting DFI remained in 1971 and it may be deduced that the 1971-3 foreign investment boom consisted primarily of export-oriented DFI.

Future prospects for DFI in Israel depend primarily on the security situation. Abstracting from that, the other influences on export-oriented DFI all point to Israel as a favourable location. Israel's skill endowments do not differ radically from those of the industrialized countries, although her wage rates are lower for both skilled and unskilled labour. Thus, products can be manufactured according to developed country specifications, but at lower efficiency wage rates. Israel is geographically well-situated for exporting to western Europe. Finally, government policy is favourable towards foreign investment and is unlikely to change in the near future. If the positive factors offset the disadvantageous security situation, then the higher export prices to the firm implied by preferential access to EEC markets may be sufficient to tilt the multinational enterprise's decision in favour of locating in Israel.

⁴ The Bank of Israel gives domestic conditions precedence in explaining the 1971 foreign investment boom, but presents no evidence in support of this (Annual Report 1971, p. 75, Ibid. 1972, p. 84). The Bank also ascribes a rôle to the devaluation of August 1971, but the relationship is unclear if the devaluation merely corrected for differential rates of inflation (cf. Dunning (1973), p. 316).

3. The FTA and Private Foreign Investment in Israel

Although economic theory, the experience of European semi-industrialized countries and past developments in Israel all indicate that the free trade area will have a positive effect on DFI in Israel, it is impossible to quantify this effect. It is nevertheless possible to say something about the consequences of the increased level of DFI. An important aspect of DFI is that multinational enterprises often serve as the means for transferring new technology, but alternative institutional arrangements for transferring patented or secret techniques (e.g. licencing, independent research) may not differ greatly in their cost to Israel. The remainder of this section will concentrate on another aspect of DFI, i. e. its effect on the capital stock.

All DFI, whether it takes the form of establishing new operations, extending existing operations, take-over of domestic-owned operations or equity purchase, adds to the stock of available resources, but there has been some dispute as to whether the DFI augments or supplants domestic investment, i. e. whether there is a net addition to the capital stock or not. A negative impact of DFI on domestic investment can result either from the limited size of the product market or from the inelastic supply of complementary domestic inputs; in both cases the arrival of the foreign investor may crowd out a potential domestic investor. The conditions for "crowding out" appear applicable to import-substituting DFI, which seeks to exploit the limited domestic market and produces goods not in accord with the host country's comparative advantage, thus placing greatest demand on the domestic inputs in least supply. Export-oriented DFI, on the other hand, produces for the world market, where demand is highly elastic for a small country, and employs the relatively abundant factors of production. By easing the balance of payments and increasing government revenue, both forms of DFI can potentially increase domestic

investment⁵. Thus, DFI may have no effect on the level of capital formation or may increase it, even by an amount greater than the DFI.

An interesting attempt to quantify the "crowding out" effect in four countries (Chile, Columbia, Israel and Taiwan) has recently been undertaken by Riedel. The model is taken from an earlier work on Canada (Caves and Reuber (1971)) and in its unrestricted form is:

$$(6) \quad I_t = a + b F_t + c Y_{t-1} + d D_t + e (D_t \cdot F_t) + f (D_t \cdot Y_{t-1})$$

In the Israeli case the variables were defined as follows: I = gross fixed capital formation in non-residential buildings and machinery, Y = gross national income, F = net DFI, D = a dummy variable with value 0 prior to 1967 and 1 otherwise, and the subscript t refers to the year (1958-74). A stepwise regression procedure was followed once F_t and Y_{t-1} were entered, allowing only those dummy variables to enter which proved statistically significant. A regression coefficient for DFI equal to unity would imply that capital formation was augmented by the DFI with no effect on domestic investment, a coefficient below unity would imply that crowding out took place and a coefficient above unity would imply that DFI stimulated domestic investment. For Israel Riedel obtained the following result (Riedel (1976), p. 37):

$$(7) \quad I_t = -867.3 + 0.213 F_t + 0.476 Y_t + 1.745 D_t \cdot F_t$$

$$(219.37) \quad (0.282) \quad (0.46) \quad (0.569)$$

$$R^2 = .969 \quad DW = 1.967$$

where the bracketed figures are standard errors. The coefficient for F_t is very low (and not significantly different from zero) implying that

⁵ There is also some evidence from Hong Kong and Taiwan that export-oriented DFI has a "demonstration effect" encouraging the emergence of domestic entrepreneurs in the same area of investment (Riedel (1976), p. 29).

in the period before 1967 DFI displaced domestic investment and had little net effect on fixed capital formation. For the period 1967-74, however, the relevant coefficient changed significantly and attained a value of 1.96, implying that DFI not only did not displace domestic investment but also induced new domestic investment almost equal to the value of the DFI. This conclusion fits in with the above suggestion that DFI in Israel was import-substituting before 1967 and increasingly export-oriented after 1967 and that the former may be expected to crowd out domestic investment while the latter might encourage new domestic investment. The regression coefficients in equation (7) imply that any DFI in Israel resulting from the FTA will increase domestic capital formation by an amount equal to almost double the value of the extra DFI.

Foreign investment is an emotional issue and undoubtedly has some deleterious consequences for the host country, in particular the loss of sovereignty entailed in extra-national ownership of productive factors and the potential foreign exchange drain in the form of repatriated profits. The loss of sovereignty is mitigated in Israel by the fact that multinational enterprises have mostly chosen to work in partnership with Israeli companies or part-Israel-owned subsidiaries⁶. The drawbacks of DFI are also directly related to the degree of "crowding out", which is now significantly negative in Israel. The direct benefits from the increased capital stock consist of increased earnings for domestic factors of production and increased government revenue. Industrial growth in Israel has in the past been strongly export-biased; the elasticity of manufactured net exports (i. e. gross exports minus import components) with respect to the fixed capital stock in industry has been estimated at close to two

⁶ Such arrangements are encouraged by the Israeli government and are attractive to foreign corporations wishing to maintain a low profile with respect to their Israeli connection in the hope of not provoking Arab reaction.

(Halevi (1972), p. 298). Thus, increased investment in manufacturing will ease the trade deficit. Finally, the DFI-induced changes in relative prices, will have indirect consequences whose direction is uncertain.

4. Conclusions

The Free Trade Area will increase factor availabilities in Israel by inducing new direct foreign investment. The direct effect of the DFI is to increase the capital stock by approximately twice the amount of DFI. The increased capital stock will raise domestic factor earnings and government revenue, and ease the foreign exchange constraint. These growth and welfare benefits appear likely to outweigh the disadvantages of reduced Israeli control over economic decisions within Israel and a future outflow of repatriated profits.

Chapter 9: Summary and Conclusions

The 1975 Israel-EEC agreement provided for the establishment of a free trade area in manufactured goods between the signatories. This study has attempted to evaluate the economic consequences for Israel of the FTA. The trade effects were calculated from aggregate demand and supply elasticities for manufactured goods. The various sources of welfare gains and losses suggested by customs union theory were then analyzed in the specific context of the Israeli economy. In this chapter the results are summarized and the optimality of the FTA as a trade policy for Israel is discussed.

1. The Economic Consequences of the FTA

Since the FTA specifically concerns only commodity trade, all economic consequences must stem from actual or potential changes in trade flows. The immediate impact of reciprocal tariff elimination by Israel and the EEC would be to increase Israel's manufactured imports by some 15 % and her manufactured exports by a similar or slightly larger percentage. Since Israel is a net importer of manufactured goods, these increases imply a worsening of her trade balance, her aggregate trade deficit increasing by some 14 %. The staggered timetable by which the FTA will be introduced should alleviate the negative trade effects to some extent. If Israel had an automatic adjustment mechanism for removing external imbalance, the trade effects would have no direct welfare implications, but in the absence of such a mechanism and in view of the increasing pressure on Israel's sources of foreign exchange removal of the increased trade deficit may have high social cost. Furthermore, if economic growth in Israel is limited by the foreign exchange constraint, then the negative trade effects of the FTA will have adverse consequences for future welfare.

Customs union theory has tended to emphasize the classical gains from trade, arising from specialization of production according to comparative advantage, as the major source of welfare gain from a FTA. The net welfare gain from

eliminating the Israeli tariff on manufactured goods is estimated to be around 1 % of domestic consumption of these goods. Since this gain accrues in perpetuity, it is quite substantial. The estimated net welfare gain from duty-free access to the EEC is slightly higher in total than the gain from duty-free imports, but accrues to specific factors of production rather than to consumers in general.

The FTA will involve two types of adjustment costs. Firstly, the structural changes ensuing from the changed trade patterns require a redeployment of factors of production. The worst social consequences will be felt by labour, which tends to be imperfectly mobile between productive activities. Secondly, there are the above-mentioned costs of balancing the external account. Both of these adjustment costs will be alleviated by the staggered implementation of the FTA, especially since the Israeli government will presumably retain protection longest on goods produced by immobile labour, but this approach also reduces the gains from free trade during the implementation period.

The trade effects of the FTA will stimulate changes in factor productivity which will in turn affect the magnitude of the trade and welfare effects. Increased factor productivity can result either from movements along decreasing cost curves or from downward shifts in cost curves. The former appear to be of great potential importance in Israel, while the latter are more conjectural. The consequences of induced increases in factor productivity will be to improve the balance of trade and increase the welfare gains from the FTA. If decreasing-cost industries are pervasive, however, the adjustment costs may be higher since domestic production of uncompetitive goods will be eliminated rather than reduced.

The growth consequences of the FTA are impossible to quantify, although it is possible to identify preference-induced foreign investment as a positive force. The actual path of foreign investment is heavily dependent on the Middle East security situation but, abstracting from that imponderable, the FTA will provide an additional incentive for foreign investors. The attendant increase in capital stock would have a positive influence on growth and on the balance of trade.

Previous empirical studies of tariff elimination have distinguished between long-run and short-run effects, the former being much the larger because long-run elasticities exceed short-run ones. Magee, for example, assumes that long-run domestic demand and supply elasticities are three times larger than their short-run equivalents, and he believes that this is an understatement (Magee (1972), p. 665). Such an approach is avoided here, because the long-run elasticities are far less meaningful than the short ones. The magnitude of the long-run effects will depend on the extent of structural change and characteristics of the growing and declining industries, the realization of scale economies (including dynamic scale economies from learning by doing) and finally the induced growth of the capital stock. All of these have been analyzed here and found to be potentially important, but their quantitative aspects can only be guessed at after a more detailed investigation. All that can be said with confidence is that the long-run benefits from the FTA will be greater than the short-run gains estimated in chapter 6.

A final caveat to the results summarized here involves the possibility of retaliation by third countries. As was mentioned in chapter 4.3, this is most likely to involve the USA, which is Israel's major trading partner outside the EEC and which is opposed to preferential trading arrangements. The USA will undoubtedly suffer some loss in export sales to Israel as a result of the FTA, but these may be offset by increased future sales in an Israeli market growing faster than it would have done in the absence of the FTA. The American decision is, however, likely to be taken on political grounds, rather than based on calculations of economic gain and loss.

2. The Optimality of the FTA as a Trade Policy for Israel

Israel had strong political motivations for seeking an agreement with the EEC. Her isolated position among her immediate neighbours and her dependence on the USA make favourable relations with the EEC an important goal. It is nevertheless of interest to ask whether the economic aspects of the 1975 agreement, specifically the free trade area in manufactured goods, represent an optimal trade policy for Israel or whether the politically motivated agreement had an economic cost.

For a small, resource-poor, semi-industrialized country free trade appears to be the optimum tariff policy. When a legacy of protectionist barriers to trade exists, the policy problem centres on the best means of moving to free trade. The blunt policy of immediate tariff elimination would entail substantial adjustment costs resulting from the changes required in industry mix and exchange rate (because of the increased trade deficit). A more sophisticated policy consists of across-the-board tariff cuts at regular intervals, which lead to a welfare gain at every step (which is not necessarily true of non-uniform reductions) and ameliorate the adjustment costs. This was more or less the policy followed by Israel between 1968 and 1975. A third policy is to conclude a free trade agreement with a large developed trading bloc.

Customs union theory concludes that unilateral non-preferential tariff reduction is a superior policy to preferential trading arrangements. This is clearly true on a cosmopolitan welfare criterion and the optimum policy for world welfare would be ubiquitous tariff elimination. By emphasizing the possibility of trade diversion and concentrating on the static welfare effects of increased imports, customs union theorists have generally come to the conclusion that unilateral tariff cuts are superior even on nationalist welfare criteria. Acceptance of this argument implies that the government's decision lies between the first and second above-mentioned policy and should depend solely on whether the reduced adjustment costs entailed by staggered tariff cuts are greater or less than the welfare losses from the tariffs remaining during the transition period.¹

¹ cf. Wonnacott and Wonnacott (1967), pp. 308-18, for discussion of this question.

In his 1968 study of Israel and the EEC Kreinin accepted the principle of the CU theorists' argument, but contended that unilateral tariff elimination was not politically feasible:

"Clearly the dismantling of the tariff wall and the establishment of an equilibrium exchange rate are steps which can be taken unilaterally by Israel. But firmly entrenched economic and political interest have frozen the institutional set-up to a point where such a change is nearly impossible. Only a powerful outside stimulus, such as the EEC, can force it on the country... Although the government emphasizes the effect of the EEC on exports, it is from the freeing of imports that the main benefits would flow." (Kreinin (1968), pp. 310-1).

The view of tariff policy formulation being dominated by the interests of owners of factors specific to producing tradable goods is widely held and undoubtedly valid for some countries. The second strand of Kreinin's argument, i.e. increased export opportunities must be offered as a bribe to producers in order to gain their acquiescence to tariff cuts, is also popular, and, as the estimates in chapter 6 reveal, has a basis in the sectional distribution of welfare gains and losses. In the case of Israel, however, Kreinin's argument has not withstood the test of time. Almost simultaneously with the publication of his article, the Israeli government began to implement a programme of unilateral tariff reductions without any outside stimulus. It can always be argued that further unilateral tariff reductions will be blocked by more firmly entrenched vested interests, but the experience since 1968 strongly suggests that unilateral tariff elimination is a feasible policy alternative for Israel.

The economic consequences of unilateral tariff elimination on manufactured imports and of the proposed FTA are summarized in Table 8. Column (1) gives the consequences of the unilateral policy, while column (3) refers to the FTA. The differences between the consequences of the two policies are contained in column (2), which is almost entirely beneficial to Israel. The deleterious consequences of unilateral tariff cuts, i.e. an increased trade deficit and frictional unemployment, are considerably alleviated by the increased output and exports induced by the elimination of the EEC's common

Table 8: Benefits and costs to Israel of the free trade area

	(1) from elimination of Israeli tariffs		(2) from elimination of CET		Net Benefits and Costs from free trade area
	Benefits	Costs	Benefits	Costs	
Trade effects		Increased manufactured imports (by c. 15 %)	Increased manufactured exports (by 14-18 %)		Increased trade deficit (by c. 14 %)
Adjustment costs		(i) of moving factors of production (ii) of meeting increased balance of payments deficit			Adjustment costs of (i) moving factors of production from inefficient import-competing industries (ii) meeting increased balance of payments deficit
Static welfare effects	Gains from trade		Increased rent on production for export		Net welfare gain
Other effects	(i) Increased X-efficiency (improved trade deficit and increased welfare gain) (ii) In decreasing-cost industries: more negative trade effects and higher adjustment costs, but greater static welfare gains		(i) increased direct foreign investment (ii) realization of scale economies (reduced trade deficit and increased welfare gain)	Possible retaliation by third countries	(a) Increased welfare and economic growth as a result of increased factor quantities and productivity (b) Possible loss of third country markets

external tariff. In general, it can be noted that the welfare gains from free access to EEC markets are not marginal, but are greater than the benefits from the freeing of imports. The estimated static welfare gains were ca. I£ 150 million per annum from eliminating Israeli tariffs and ca. I£ 164 million per annum from elimination of the CET, while the scale and growth effects from free EEC market access are undoubtedly greater than from the freeing of imports.

In a world of perfect adjustment and independent trade policies, Israel's best policy would be unilateral tariff elimination, but under real world conditions a FTA with a large developed trading bloc may be superior. If the bloc is competitive in all goods at world prices, then this policy permits all the gains from trade, it allows negotiation of staggered tariff cuts (if this is desired) and furthermore yields the benefits of preferential access into a major export market. These conditions are met by the FTA with the EEC. The optimality of the FTA also holds vis-à-vis a customs union between Israel and the EEC. The advantage of a customs union is that the common tariff on third country imports removes the administrative complication of rules of origin, but its disadvantage is that reductions in the external tariff are not easily agreed upon. Israel's optimal future policy is to continue to reduce, and eventually to eliminate, tariffs on non-EEC trade.

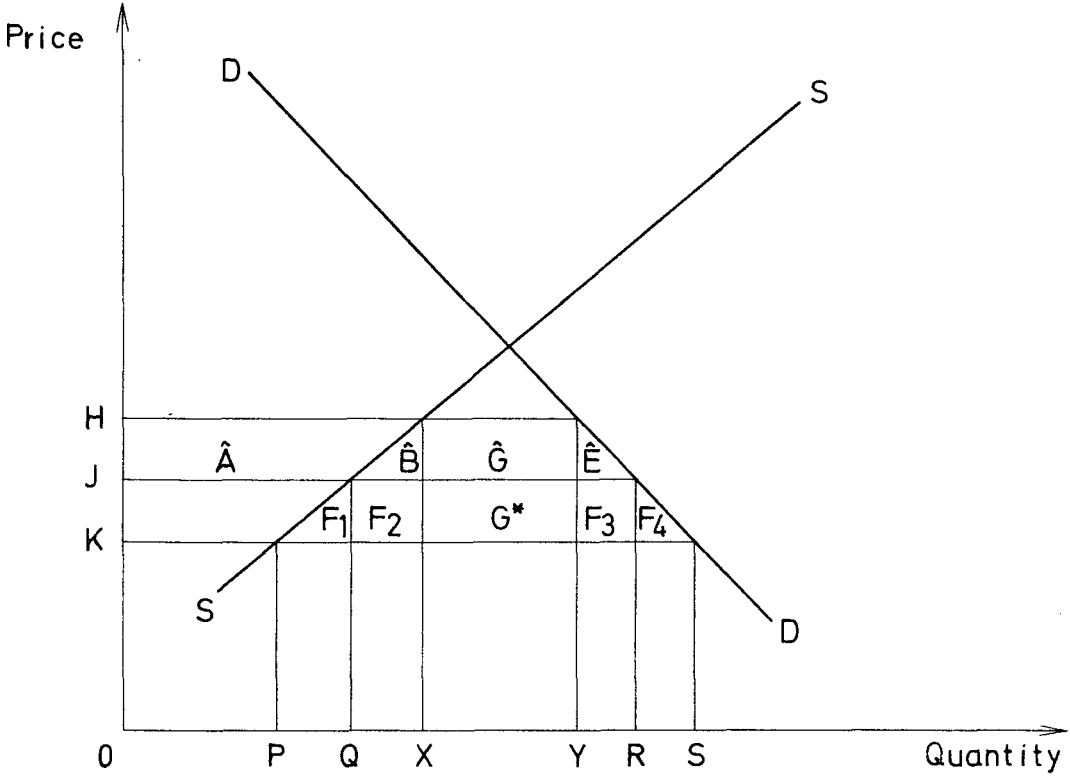
A p p e n d i x

A crucial assumption of the analysis in chapters 5 and 6 is that Israel faced a perfectly elastic supply of imports from the EEC at world prices. In this appendix the theoretical significance and the empirical plausibility of the assumption are considered. Although non-horizontal import supply curves would complicate the analysis, in a country as small as Israel they seem unlikely for the vast majority of importables. The discussion will therefore be limited to the price at which the EEC can or will supply Israel.

If the EEC export price of a good exceeds the world price, then the free trade area will have two effects on Israel's imports of the good. Firstly, there will be trade creation as imports from the EEC replace the sales of inefficient domestic producers. Secondly, there will be trade diversion as Israeli importers substitute purchases from relatively inefficient EEC producers for purchases from extra-EEC sources whose tariff-ridden prices exceed the tariff-free EEC producers' prices. The magnitude of these two effects is illustrated in Figure A1, which embodies the same assumption as Figure 3. If EEC producers can only supply imports at a Price OJ, rather than the world price, OK, then the welfare benefit to Israeli consumers is equal to $\hat{A} + \hat{B} + \hat{G} + \hat{E}$, offset by losses of producer surplus (\hat{A}) and government revenue ($\hat{G} + G^X$). Whether the net static welfare effect is positive or negative depends on the size of the triangles \hat{B} and \hat{E} relative to the dead-weight loss from trade diversion, G^X . Imports will increase, but by a smaller extent than indicated in Table 2.

In comparison to the non-discriminating zero-tariff situation the welfare effect of the preferences to the EEC can never be positive. The difference will be zero if $OJ = OK$, in which case the estimates in chapter 6 will be appropriate measures of the benefit from preferences offered to the EEC. As the differential between the price on imports from the EEC and the world price increases, so do the costs from not pursuing unilateral non-discriminatory tariff elimination. Furthermore this relationship is not

Figure A1: WELFARE EFFECTS OF A PREFERENTIAL
TARIFF REDUCTION



DD = domestic demand curve, SS = domestic supply curve,
OK = the world price, HK = the tariff, OJ = price of EEC
product.

proportional; the welfare loss from a 10 % difference between OJ and OK will be more than twice as great as that from a 5 % difference.¹ Thus, assessment of the probable relationship between the price of tariff-free imports from the EEC and the world price is crucial. Extension of the analysis to the multi-good situation intensifies the problem, because divergence of EEC prices from the world price of any good produces a second-best situation for which unambiguous welfare conclusions cannot be drawn.

The ability of EEC producers to sell in Israel at the world price can be judged from their exports to Israel before receiving preferential entry. In aggregate terms there can be little doubt of this ability since almost half of Israel's total imports originate in the EEC, \$ 2000 m. out of a total of \$ 4,237 m. in 1974. A breakdown of manufactured imports by BTN chapter indicates that the EEC covers the whole spectrum of such imports. The EEC failed to supply Israel in only one BTN chapter and that was the minor chapter "coin", for which Israel's 1971 imports were a mere \$ 2000. Although a finer commodity breakdown may reveal further areas in which no EEC producers can sell at the world price, the general capability of

¹ The welfare loss from preferential zero-tariffs on imports from the EEC rather than across-the-board tariff elimination is equal to the areas $F_1 + F_2 + F_3 + G^x$ in Figure A1. A formula for calculating this loss can readily be derived from formulae (1) and (2) in the text. The first two derivatives with respect to JK are:

$$f'(JK) = \frac{e_s OX}{OH^2} JK - \frac{e_D OY}{OH^2} JK + XY$$

and

$$f''(JK) = \frac{e_s OX - e_D OY}{OH^2}$$

Since both of these are positive, the two propositions advanced in the text concerning the relationship between the size of the welfare loss and JK are proven.

EEC exporters to offer goods to Israel at this price seems clear.²

Although EEC producers are able to sell in Israel at Price OK, there is an incentive for them to exploit a monopoly situation by selling at a higher price (between OK and OH). Such an action would cause a loss to Israel vis-à-vis the free trade situation, but would increase the producers' surplus of the EEC suppliers. It would also gain support from Israeli competitors who would be pleased to see the price sticking above OK, since some of their producers' surplus would then remain. Such a situation occurred in some countries offering reverse preferences to the EEC under the Yaoundé Convention because, as a consequence of their cultural ties to France, their import trade was dominated by French monopolists; the LDCs' governments lost tariff revenue and their consumers gained hardly anything, while there was a welfare transfer to the French monopolists (Kreinin (1973a)). This is unlikely to happen in Israel, because she has no special ties to any single EEC member and the forces of competition between EEC producers can be expected to keep prices down to the "world price". Table A1 indicates that in over 80 % of the BTN chapters covered by our analysis Israel's imports came from at least five EEC countries. Furthermore, the chapters supplied by few EEC countries were either tariff-free in 1971 or accounted for a minor share of Israel's total imports.³ Although the number of individual suppliers is unknown, the fact that they operate from so many different countries suggests that collusion between producers to fix export prices to Israel is unlikely to be feasible.

² The presence of non-EEC imports in 1971 implies the existence of some areas where no EEC producer is competitive, unless prices were equal and the indifferent Israeli purchaser happened to choose the non-EEC good. A more plausible defence of the conclusion in the text is that price differences in these areas were marginal. It may be noted that the conclusion does not imply that all Israel's manufactured imports will come from the EEC in 1989, but has the weaker implication that all import prices will be set by EEC goods or by competition from EEC goods.

³ Of the thirteen chapters with imports from less than five EEC countries Israel's imports exceeded \$ 1 m. in only two, paper making materials and railway equipment, and these goods were essentially tariff free. Total imports from the other eleven chapters amounted to \$ 2.0 m.

Table A1: Frequency Distribution of the Number of EEC Countries supplying Israel's Manufactured Imports by BTN Chapter (1971)

Number of EEC Countries (N)	0	1	2	3	4	5	6	7	8	9
f (N)	1	1	4	3	4	10	13	18	15	1

Note: f (N) = the number of BTN Chapters for which Israel's imports came from N EEC countries. Chapters 28-99, excluding 88 (aircraft) and 93 (weapons), are covered, i. e. $\sum f(N) = 70$.

Source: Israel Central Bureau of Statistics: Foreign Trade Statistics Quarterly IV, No. 4, Pt. 1.

In sum, EEC producers are capable of supplying Israel with manufactured imports at world prices and will not generally be able to hold their prices above this level for their own profit. Thus the estimates in Tables 2 and 4, which essentially measure the effects of unilateral tariff elimination, are valid indicators of the consequences of the EEC-Israel free trade area.

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