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EXPORT PROMOTION POLICIES IN ISRAEL

by

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1. Introduction: Main Features of the Israeli Economy 1/

Before submitting the description and analysis of Israel's export promotion policies, it may be worthwhile to provide a very brief background accounting of the most salient features and developments of the country's economy.

(i) Population and Immigration. Israel was established as an independent state in May 1948. At the end of 1948, the population in the area which eventually constituted the state of Israel was roughly 900,000, consisting of about 750,000 Jews and 150,000 Arabs and other minorities. By the end of 1972, the population had reached about 3.2 million, of which over 2.7 million were Jews and close to half a million Arabs. This is an increase of more than 250 per cent over this period of twenty-four years, or an average annual rate of increase population of about 5.5 per cent, undoubtedly one of the highest rates of increase of population to be found in the modern world.

However, the rate of increase of population was far from uniform. The increase in the Arab population was determined almost entirely by the rate of natural increase, which was rather stable over the years (being, incidentally, the highest recorded rate in the world during the last generation). By contrast, for the Jewish population, who are the majority, less than one-third of the increase in population over the period as a whole is the result of natural increase: over two-thirds is accounted for by (net) immigration, the size of which has varied widely over the period. A sharp distinction must be made between the period of 3 1/2 years from

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1/ This paper draws heavily on my NBER study Foreign Trade Regimes and Economic Development: Israel, New York: National Bureau of Economic Research, 1975. Paragraphs from the book are often incorporated in the paper verbatim. The book will be referred to in the paper as "Michaely (1975)".

Besides summarizing the main findings of the book on the subject of export policies, the present paper extends the study to the recent years 1972-1975.

/May 1948

May 1948 to the end of 1951 and the rest of the period. In the second half of 1948 immigration amounted to about 100,000; in 1949, to 240,000; in 1950, to 170,000; and in 1951, to 175,000. Over this period of about 3 1/2 years immigration thus amounted to roughly 700,000 people, more than the entire Jewish population in Israel in mid-1948. By the end of 1951, the total population of the country was almost double its size of three years earlier. Then an abrupt change took place, largely because the main sources of immigration were exhausted, but to some extent also due to establishment of a policy of selectivity in financing the transfer of immigrants. In 1952 immigration tumbled to less than 25,000; and in 1953 it was only 11,000. Since then, annual immigration has fluctuated mostly within a range of about 20,000 to 60,000 people. Consequently, the average annual rate of increase of population between 1951 and 1972 was less than 3 1/2 per cent, in contrast to an average rate of over 20 per cent during 1949-1951. Very roughly, the increase in Jewish population from 1952 on was provided for in equal shares by immigration and natural increase.

(ii) National Product. Gross national product in 1950, the earliest year for which estimates for the Israeli economy are available, was about IL 460 million (in 1950 prices). With an average population of 1.27 million in that year, the per capita annual product is about IL 370. At the formal rate of exchange of that year (IL 0.357 per dollar) this would be approximately $1,000. There is no doubt, however, but that use of the 1950 formal rate of exchange for international comparisons grossly exaggerates the size of Israel's product. Thus, although estimates of per capita national product at constant prices show a substantial increase from 1950 to 1954, the application of the 1954 formal rate (IL 1.80 per dollar) to the 1954 data on product and population would yield a per capita product of only about $570 per year. It appears that, for comparative purposes, per capita annual product in Israel around the time of its establishment was roughly $400 to $500. By this criterion

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Israel at that time would probably be classified as being in the border zone between developed and underdeveloped economies - in the same range, say, as the higher-income countries in Latin America.

From 1950 to 1970, the GNP increased (at constant prices) by 615 per cent - over sevenfold - an average annual rate of increase of about 10 1/2 per cent. This is a rate rarely equaled or surpassed by any other economy during the last generation, Japan being the only other case which comes to mind. Part of this spectacular increase in the national product is, of course, due to the unusually large increase of the population and labour force. But even per capita GNP tripled between 1950 and 1971, at an average annual rate of increase of about 5.8 per cent, which is again outstanding (although not a rare exception) by current international standards. For international comparisons, again, per capita annual product in 1970 could be roughly estimated as being $1,500; that is, about the middle of the range of countries that would be normally classified as "developed".

(iii) Foreign Trade and Capital Imports. Israel has always had a large import surplus. In the first few years after its establishment, the ratio of Israel's exports to its imports was extremely low: in 1949 and 1950 exports of goods and services were only about 15 per cent as large as imports. This ratio increased gradually, particularly during the 1950s, with many fluctuations along the upward trend. By the late 1950s or early 1960s the ratio of exports to imports was roughly 50 per cent; and by the end of the 1960s it was fluctuating around 60 per cent. The increase of this ratio kept pace, however, with the increase in total imports; and the absolute size of the import surplus thus kept rising, although not monotonically. The annual import surplus (of both goods and services) was about $300 million in the late 1940s and early 1950s and, with fluctuations, remained around this level until 1960. During the 1960s, on the other hand, the import surplus rose substantially, especially with the increase in imports of military goods following the Six-Day War of 1967: in the mid-1960s the import

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surplus fluctuated around $500 million, and in the early 1970s it was about $1,200 million. In the last few years the import surplus increased again very substantially, as a combined result of the increase in demand for military imports following the war of October 1973, the increase in world prices and the worsening of the country's terms of trade in the process (particularly owing to the increase in the price of oil). In 1975, the import surplus amounted to approximately $4 billion.

Over the period as a whole, autonomous capital inflow from abroad, including both unilateral transfers and long-term borrowing, was roughly equal to the import surplus. This does not mean, of course, that the two were equal in any given short period: year-to-year fluctuations in the (positive or negative) gap between the two were considerable. On this score, a few sub-periods may be clearly distinguished. From 1949 to 1951, foreign-exchange reserves were drawn upon extensively and virtually disappeared; they began to recover in 1954, and increased substantially between 1958 and 1967. Between the end of 1967 and early 1970 reserves declined sharply. The trend was reversed again in mid-1970, with a substantial accumulation of reserves in 1971 and 1972. Finally, reserves have declined sharply since the end of 1973 (although since the end of 1974 this decline has been partly disguised, showing itself not mainly as a reduction of gross reserves but as an increase in short-term indebtedness to foreigners).

The importance of the various sources of capital imports varied over the years. The most important, and most permanent, single source was contributions from abroad (primarily from the Jewish community in the United States) to Israeli institutions, mainly the Jewish Agency. Since 1951, the Jewish community abroad - again, primarily in the United States - has also provided capital by purchasing issues of a special governmental loan, termed first the "Independence Loan" and then the "Development Loan". In the early 1950s the United States government was a relatively important source through two Export-Import Bank loans. Since 1970 it has again become

/important through

important through large-scale lending primarily for military purchases. This has become particularly significant in most recent years, during which United States aid (by way of grants or long-term loans) has financed roughly a half of Israel's import surplus. The German government has been another major source. First came the reparations agreement, by which the German government paid the Israeli government about $800 million during the period 1953-1963; since 1954, Germany has also been making restitution payments to individuals in Israel, the annual amount of which has been rising continuously. Other important sources of capital imports have been private unilateral transfers, both gifts and transfers of capital by immigrants; and direct investment from abroad, which was substantial mainly in the first half of the 1960s and again in the early 1970s.

The ratio of value added in exports to the economy's total value added, its gross national product, is a rough indication of the share of the country's productive resources involved in production for exports. This ratio, valued in 1955 prices, was at first negligible: in the first half of the 1950s, it fluctuated around a level of 5 per cent. From then on, a rising trend is clearly visible: in the early 1960s the ratio was about 10 per cent, and by the early 1970s it approached 15 per cent. With time, then, a significant share of the national economy was accounted for by exports, although even in recent years that share has been less important than in other small economies.

The growth of exports was accompanied by a considerable change in their structure. In the early 1950s almost half of total exports of goods consisted of citrus fruits (mainly oranges). This category had a predominant share indeed of total exports when measured in terms of value added (the share of value added in total value of citrus fruits is particularly high - about 70 to 75 per cent). Of the rest, mostly industrial exports, about half were polished diamonds, in which the value added is only about 20 per cent of total value. Thus, all other industries accounted for only about one-quarter of

/total exports

total exports of goods (slightly less in terms of value added). Exports of services were at that time negligible. Since then, a few strong trends appear in the development of exports. The share of citrus fruits has fallen sharply, amounting in recent years to only about 12 per cent of the gross value of exports of goods or about one-fifth of value added. The share of polished diamonds has been roughly maintained, amounting to about a quarter of the gross value of exports of goods but less than 10 per cent of value added. In recent years, two-thirds of exports (in both gross and value-added terms), compared with a mere one-quarter in the early 1950s, have consisted of an assortment of industrial goods and some agricultural products other than citrus fruits, chief among the former being textile products, chemicals, and metal products.

(iv) The Inflationary Process. Inflation has been a permanent attribute of the Israeli economy, although the rate has varied substantially. The increase in the consumer price index between 1949 and 1975 was about 1,650 per cent, an average annual rate of close to 12 per cent. The implied GNP price deflator rose even slightly more.

The inflationary forces were strongest from 1949 to 1951, the first few years after the establishment of the state. But during this period inflation was severely suppressed. Consequently, inflationary pressure was only partially reflected in official prices. During the period 1952-1954 the process was reversed. The basic sources of inflation were eliminated. Had price movements not been repressed earlier, price increases in this period would have been very small. In fact, however, prices were freed during this period, with the result that movements of the official prices reflected the preceding inflationary pressure, and with the further result of a closing (from both ends) of almost the entire gap between official and black-market prices. The increase in the official consumer price index from the 1951 to the 1954 average was 127 per cent (in 1952 alone, it increased by 58 per cent!). Since 1954, prices have been relatively free, and recorded price changes have probably reflected, by and large, the extent of inflationary pressures.

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During the period 1955-1961, inflation was relatively modest. Consumer prices rose somewhat less than 5 per cent per year on the average (the record low being achieved in 1959, when prices increased by only about 2 per cent). From then on until 1965, inflation accelerated again: the average annual change in consumer prices between 1961 and 1965 was somewhat over 7 per cent.

By the fall of 1965, the inflationary trend was reversed, and Israel's only severe recession started. At first, prices kept increasing. Indeed, consumer prices increased by about 6 per cent during the first half of 1966, when all the phenomena of recession were already obvious. But from then on, prices stabilized: from mid-1966 to the end of 1968 the increase in the consumer price index was less than 4 per cent (it was nil during 1967, the only year with complete price stability in Israel's history).

While the turning point toward renewed expansion probably came in early 1967, prices started to increase again only in early 1969, when the recessionary slack was exhausted. At first, these prices increases were mild: the average annual change in the consumer price level from 1968 to 1970 was less than 4.5 per cent. But beginning in the fall of 1970, inflation assumed very substantial proportions. The inflationary pace has been particularly fast since the middle of 1972. From 1971 to 1975, consumer prices increased by about 165 per cent - an average annual increase of 27 per cent. The annual average price levels increased in 1974 and in 1975 by about 40 per cent in each year. During 1976, prices have also been rising at an annual rate of some 35 per cent.

(v) Controls and Liberalization. Except in the very early years, Israel's trade and payments policy has developed progressively from restriction to liberalization.

Palestine, Israel's predecessor, was expelled from the sterling area during Israel's War of Independence. Consequently the country's sterling assets became frozen. In addition, exports declined radically as the fighting spread: citrus plantations, the country's main export source, could not be cultivated for the most part, nor

/could the

could the fruit be exported. The demand for imports, on the other hand, was particularly heavy, due both to the requirements of the war and to the wave of mass immigration which started immediately. Foreign-exchange control thus became much more restrictive as soon as Israel was established.

During the period from the establishment of the state to the end of 1951 controls become rapidly more stringent. The foreign-exchange control system was the vital component and focal point of the system of repressed inflation. The foreign-exchange rate was kept fixed all this time (aside from a slight adjustment in September 1949, when the pound sterling was devalued). With the accumulation of inflationary pressures, the gap between the actual rate and its equilibrium level kept growing, and imports approved under the licensing system as a proportion of the demand for imports kept falling.

As the degree of disequilibrium in the system grew, and rationing became more severe and more inclusive, the system started to deteriorate. Black markets became widespread, and production of various goods was often stopped for lack of imported raw materials. Foreign-exchange reserves were completely exhausted. Discontent with the economic policy gradually became widespread. The faith of the leaders of economic policy in the potential of intervention by the state and in the feasibility of directing the economy by orders weakened, as did their mistrust of the price mechanism. In 1951, it became obvious that a change in policy was due. This change came first in the summer and fall of 1951, with a shift from an expansive to a restrictive monetary-fiscal policy. But the major part of the switch came in February 1952 with the declaration of the "New Economic Policy".

The most important element of this policy was a process of gradual but rapid devaluation. Within less than three years, the rate of exchange rose fivefold, compared with only about a doubling of domestic prices during the same period. This, together with the restrictive monetary and fiscal policy, resulted in a gradual reduction

/in the

in the degree of disequilibrium in the system. By the end of 1954 the rate of exchange was roughly in equilibrium. Likewise, as has been mentioned earlier, domestic prices were allowed to rise. Consequently, rationing became gradually less severe, black markets became less widespread, and black-market prices and official prices moved closer to each other. Although by the end of 1954 foreign-exchange reserves were still very small, the balance-of-payments position with the new rate of exchange ceased to be the major basis for trade and payments restrictions.

From then on, import restrictions have become consistently less severe. First, the control system changed from one intended to regulate the balance-of-payments position into one intended primarily to protect local production. There was a rapid de facto liberalization of imports of raw materials of which local production was not feasible, although licenses were still required. Such products made up the greater part of total imports, owing partly to the control system itself. Imports of final consumer goods, on the other hand, were practically prohibited in almost all instances in which domestic production either was actually taking place or was contemplated by a potential entrepreneur. Policy towards imports of investment goods sometimes had to face conflicts of interest arising when the encouragement of local production of a particular investment good handicapped another branch of local production which required the use of that good. In effect, imports of most investment goods were also liberalized, but not to the same extent as raw materials.

In February 1962 another "New Economic Policy" was announced. One of its major ingredients was a declaration of intention to liberalize the imports of consumer goods (and some investment goods) which until then were excluded by quantitative restrictions (QRs). Procedures were set up to carry out this process. Most of this liberalization took the form of replacing the QRs by tariffs, at different rates for each good, which were intended to be approximately prohibitive - though some (relative) increase of liberalized imports

/did take

did take place. The work of the liberalization machinery ended in 1968, and the process was supposed then to be completed.

By 1969, almost all imports were liberalized in the sense of not being subject to effective quantitative restrictions (although licenses were still required). The declared policy, since that time, has been gradually to lower the level of protection afforded by the tariff system by reducing all tariffs by a given (small) proportion at the beginning of each year. Such reductions have indeed been performed, and their cumulative effect has been a significant lowering of protective rates.

2. Formal Devaluations

As a means of changing the effective exchange rate for exports (as well as for imports), changes in the formal rate of exchange have always constituted a major element of the system. It would be thus appropriate to start with a brief survey of Israel's history of formal devaluations.

When the state of Israel was established, the Israeli pound (introduced as legal tender in August 1948) was on a par with the pound sterling. But a broken cross-rate with the United States dollar (as well as a few other "hard" currencies of that period) was created: while the sterling's exchange rate was about .250 pounds sterling per dollar (4 dollars per pound), the Israeli pound's rate was fixed at .333 per dollar (3 dollars per pound). With the British devaluation of September 1949 a minor devaluation of the Israeli pound straightened this out: the Israeli pound remained on par with sterling, and the rate of exchange with the dollar was made equal to that of sterling - IL .357 per dollar ($2.80 per pound). Since then, the rate of exchange of the Israeli pound was always determined and expressed as the price of the United States dollar - a practice that has been broken only most recently: since 19 July 1976, the rate is determined as the price of a "basket" of

/five major

five major currencies (the United States dollar, the British pound, the German mark, the French franc, and the Dutch guilder), rather than as the price of the dollar alone.

The first major devaluation was undertaken in February 1952. A multiple formal exchange-rate system was then introduced, with three rates. The rate of .357 IL per pound was still maintained as the official rate, but with only few transactions conducted at this rate; whereas most transactions were conducted at either twice the official rate - IL .714 per dollar; or at the rate of IL 1 per dollar. In April 1953 a still higher rate was added, of 1.800 per dollar. Transactions were gradually shifted from lower to higher rates, and by mid-1954 the rate of IL 1.800 per dollar applied to the large majority of transactions. It was declared as the official rate in July 1955. Thus, within a period of about 3 years a formal fivefold increase of the rate of exchange (from .357 to 1.8 pounds per dollar) took place.

The next devaluation was undertaken in February 1962, when the rate of exchange was increased from 1.80 to 3.00 pounds per dollar. That rate was maintained for close to 6 years - until November 1967, when the Israeli pound was devalued by the same proportion (close to 17 per cent) as the British pound: from 3.00 to 3.50 IL per dollar. In August 1971 the rate was increased further by 20 per cent - to IL 4.20 per dollar; and in November 1974 a formal devaluation of about 43 per cent was undertaken, increasing the rate of exchange from 4.20 to 6 pounds per dollar.

In June 1975 the system was changed from that of a fixed rate to a crawling-peg scheme. The rate became subject to monthly changes, not exceeding 2 per cent each. As a result of such increases, as well as of a 10 per cent increase undertaken in September 1975 beyond the crawling-peg scheme, the exchange rate has risen from 6 pounds per dollar in June 1975 to 8.12 pounds per dollar in mid-July 1976. Finally, as was mentioned before, a change introduced in July 1976 made the rate of exchange fixed not in terms of United States dollars but of a "basket" of several major currencies.

/Likewise, the

Likewise, the crawling-peg scheme has at that time been slightly modified, making the rate subject not necessarily to monthly changes but to a series of changes not exceeding 2 per cent each and totalling to no more than 8 per cent within periods of 4 months each.

3. Export-Promotion Schemes

Schemes of export promotion may be classified to, first, those which in one way or another are related to the size of exports and which may, in principle at least, be quantified by the exporter (as well as by others); and, second, to those which are related in a more vague way to export activity, and which may be expected to contribute to export expansion but to an indeterminate extent. I shall discuss here mainly the better-defined schemes of the first category, making only cursory remarks about the rest. The former category of export-expansion instruments may again be sub-divided into four groups: subsidies to output; subsidies to inputs; subsidies to exports through import-entitlement programmes; and "branch funds", which combine elements of the three other measures.

(i) Subsidies to Output. Such subsidies have traditionally been termed export "premiums" in Israel, and will be referred to here by this term. In one form or another, export premiums have existed in Israel almost throughout - with the exception, perhaps, of the years 1962-1965, when they were confined to a few individual cases.

Until 1956, export premiums were given in a largely haphazard and varying manner. Starting in December 1949, premiums were granted on many export goods, mostly at a rate of 10 to 12 per cent of the total value of exports. In May 1950, this was changed so that premiums were granted on value added in exports, rather than on the total value. With the formal devaluation of February 1952, these premiums were discontinued; some special premiums granted from then

/until 1955

until 1955 were usually intended to solve specific problems involved in the process of transition from lower to higher formal rates of exchange.2/

In the period 1956-1961 premium arrangements reached an apogee, and a nearly "classic" use of this device was demonstrated. This era started in February 1956, when a premium of IL 0.50 per dollar of value added in exports was introduced. The distinctive features of this arrangement were, first, its widespread application: it was presumably universal and uniform, although it excluded the two largest "traditional" export industries, citrus fruits and polished diamonds 3/ (as well as exports of services); and second, its determination on the basis of value added, rather than total value. Under this plan, an exporter would be granted a rate of IL 1.80 per dollar (the formal rate) plus the premium (that is, a total of IL 2.30 per dollar when the plan was introduced) for the net value added in the economy, whether it was value added by his own production or in other local firms. The import component, on the other hand - again, whether it was inputs imported directly for his own production (the direct component) or imports involved in inputs bought from other local firms (the indirect import component) - would be granted only the formal rate of IL 1.80 per dollar. This was the rate at which the exporter also bought imported inputs, after taking into account the "drawback" plan, which freed imports for exports from import duties (although the indirect import component introduced a few

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2/ For instance, the season for exports of citrus fruits runs from October to May. Most exporters were benefitted by the shift of the rate from IL 1.00 to IL 1.80 per dollar in May 1953. To compensate citrus exporters for the subsidy forgone after May, they were granted a special premium of IL 0.136 per dollar during the 1953-1954 season.

3/ Diamonds were, in fact, subject to the universal premium arrangement. But mainly because of the possibility of negative reactions of other countries involved in this industry, the premium was disguised by other schemes. Exports of citrus fruits were also granted a premium for value added, but at a much lower rate. Gradually this rate approached the general premium rate, until the two coincided on the eve of the 1962 devaluation.

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complications on this score). While in principle the value added under this plan was supposedly calculated for each individual exporter, it was, in effect, calculated only for export industries as a whole, and was recalculated for each industry, if at all, only at long intervals.

Besides the general premium plan outlined above, a few other premium arrangements existed during the period 1956-1961. Some of these were in effect confined to specific export industries and did not amount, in the aggregate, to any substantial sum. In addition, however, a general plan of specific premium rates for "marginal" exports went into effect in early 1959. The intent of the plan was to raise premiums without adding a rent element by paying higher premiums only for increases of exports. Generally, this meant an increase over the 1958 level of exports of a whole industry;4/ but the committee that determined premium rates for each industry interpreted this principle in a variety of other ways. Most often, the "marginal" premium rate was IL 1.20 per dollar of value added, instead of the general premium rate of IL 0.85 per dollar effective at that time; that is, there was an added premium of IL 0.35 per dollar above the general premium rate.

With the formal devaluation of February 1962, both the general premium arrangement and most of the specific ones were abolished. The most important exceptions were premiums for exports of the textile industry, a branch which had also enjoyed favourable treatment prior to the devaluation. In this industry, a substantial premium, partly carried out through a "branch fund", remained in effect. In a few other export industries, too, "branch funds" - which will be described later - provided subsidies, although on a smaller scale. But for the large majority of Israel's exports, premium elements after the

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4/ In all the cases involved in the actual application of the plan, no concern was expressed about distinctions between an industry and the individual firms included in it. This was because individual industries consisted either of a single firm - a fairly common phenomenon at that time - or were organized under some cartel agreement.

/devaluation became

devaluation became nil or insignificant. This remained true for over four years. Only in early 1966 was a premium plan reintroduced, in a manner which has remained in force ever since.

This plan, which was established in April 1966, has been disguised by the name "rebates of indirect taxes" but has nothing to do with those or any other taxes. Unlike in the premium plan of 1956-1961, premiums in the current one are specified for the total rather than the added value of exports. The premium rate varies, however, according to the ratio of value added in the industry, with all industries grouped into particular classes according to average value-added ratios: the lower the value-added ratio of the class, the lower the premium rate granted to exports of industries in that class. It will be recalled that under the premium-for-value-added plan of 1956-1961, ratios of value added were also ordinarily calculated for a whole industry, and usually not recalculated periodically. The difference between the two plans is thus not as radical as it may seem, and consists mainly in a reduction of the number of "classes" of industries from several hundred to just a few, thus discriminating in favour of the low-value-added industry and against the high-value-added industry within each class.

The premium rates involved in the plan were changed quite often. Most changes were upward; but formal devaluations (prior to the introduction of the crawling-peg scheme in mid-1975) were accompanied by downward changes in the premiums to make changes in the effective exchange rate for exports smaller than what they would be due to the formal devaluations alone. With the establishment of the crawling peg, premiums were first kept stable at their absolute level of pounds per dollar. With a gradually rising formal exchange rate this meant, of course, a gradually declining rate of subsidization of exports by the premium scheme. This was changed in early 1976, when the government decided to restore the rate of subsidization to what it had been before the crawling peg; and to keep the rate at that given level in the future, by raising the absolute level of export premiums in proportion with the continuous increases in the formal rate of exchange.

/The premium

The premium scheme has been used in recent years also as a partial substitute for a rebate, or drawback, of duty payments for the import component in exports. Throughout the years, imported inputs for export production have been free from tariff duties, by a drawback scheme. In August 1970, however, a general levy of 20 per cent was imposed on all imports: the rate of this levy has been changed on several occasions, fluctuating within the range of 15-35 per cent (it has been 15 per cent during 1976). Unlike other tariff duties, imported inputs for exports have not been exempted from this levy. But the rate of export premiums has been determined, since August 1970, at levels which take into account the need to offset the levy duty on the import component.

Table 1 presents the levels of subsidy granted by the export premium scheme since its re-introduction in 1966. It shows, in column (1), the "gross" premium rate for exports which are classified as having a value-added rate exceeding 55 per cent. These consist actually of two "value-added categories" - of 56-65 per cent and of 66 per cent and above; but the subsidy rates of the two groups are quite similar, and a simple average of the two is shown. Column (2) shows the rate of the import levy on the import component in exports - namely, the rate of the universal levy introduced in 1970. In column (3) the subsidy rate for value added in exports is shown. This is calculated by assuming an average value-added ratio of 60 per cent - obviously an arbitrary assumption (besides being applied to an average), but one which from circumstantial evidence seems to be not too misleading. Finally, column (5) shows the subsidy to value added as a relative size of the formal rate of exchange, which is presented in column (4).

(ii) Premiums on Inputs. Most premiums in this category were relatively unimportant. The only instance of a significant subsidy on a specific input was for fuel used in the cement industry, where it is an important cost element. Once in a while, transportation costs, either local (by train) or on international routes (by sea)

/were subsidized,

were subsidized, usually through low rate quotations by government-owned shipping companies. Another instance of a transportation subsidy is the exemption of export shipments from the major part of port dues: these shipments are charged only one-fourth of 1 per cent of the value of the shipment, whereas import shipments are charged 2 per cent, the actual cost of producing the services for which dues are levied lying probably somewhere between the two rates.

The only important widespread subsidy of an input was the plan for providing cheap short-term financing for exports; that is, providing a subsidy to help defray the cost of interest on short-term capital loans. Facilities of one kind or another existed during the 1950s; but a general, almost universal, plan was established in 1962, and with only minor modifications has remained in effect to this day. In this setup, short-term financing for industrial exports is provided (from funds to which both the Bank of Israel and the commercial banks contribute) under three headings: for value added; for the import component; and for the time lag between shipment and receipt of money (that is, short-term credits provided by the Israeli exporter to his customers). Financing for value added is quoted in Israeli currency; whereas financing for the other two purposes is quoted in foreign currency. The rate of interest charged on this credit has been mostly 6 per cent. For credit quoted in foreign exchange, this amounted on the average to only a small subsidy, since the borrower (i.e., the exporter) has to carry the risk of a devaluation. Indeed, the scheme has fluctuated widely in accordance with the state of expectations of devaluation. Financing of value added, on the other hand, which is denominated in local currency, has amounted to a very substantial subsidy on the use of capital. The charge of 6 per cent being constant, the rate of this subsidization varies, of course, with changes in the market rate of interest, which is closely associated with changes in the rate of price increases.

The amount of credit from this source to which an exporter is entitled depends not only, of course, on the size of his exports but

/also on

also on the length of the "production cycle", which is determined separately for each industry. It may well be the case that production cycles are generally longer in these calculations than is actually warranted by the production process. Moreover, financing is provided in a lump sum for the whole length of the cycle as calculated even though costs actually accumulate during the cycle rather than being all incurred at its inception. It may thus be assumed that short-term financing from the export funds covers more than the full extent of credit actually required and probably very often by a considerable margin; the excess credit is used, of course, in the exporter's other operations, namely, for production for the local market.

The combination of the ample size of this credit and the highly favourable interest rate on it makes the subsidy element involved in this scheme a significant factor. From 1962 to 1966, when no general premium arrangement was in force, this was actually the main subsidization element granted to exports, although its size was obviously much lower than that which was provided by the direct premium schemes for output. It has been estimated - albeit, by the use of arbitrary assumptions about interest rate differentials - that subsidies provided through credit from export funds amounted in 1966, for instance, to roughly 8 per cent of the effective rate of exchange for value added (that is, about IL 0.3 per dollar) in exports of diamonds, and 3 per cent in other industrial exports. In later years, these rates have risen, since (with accelerated price rises in the economy) non-subsidized interest rates increased. By way of illustration: during the first half of 1976, the average level of credit granted to the financing of value added in chiefly industrial exports (excluding diamonds) was approximately IL 1,600 millions (besides other financing provided for imported inputs and for the shipment of exports). The free-market rate of interest in bank loans was, at that time, roughly 35 per cent - exceeding by some 30 per cent the subsidized rate of interest of the export credits. This would imply a subsidy of roughly 450-500 IL millions per year.

/At the

At the same period, industrial exports ran at an annual level of about 1,150 million dollars, or some IL 9,000 millions at the formal rate of exchange. Assuming an average value added ratio of 50 per cent - probably a close approximation of reality - the annual size of value added in industrial exports was thus of the order of IL 4,500 millions. The subsidy implied in the export credit facility thus amounts to some 10 per cent of the value added. An even much more striking importance of the credit facility is found in the branch of polished diamonds, which has enjoyed a particularly ample finance out of a special fund: a similar calculation shows an implied subsidy of some 50 per cent on the value added in these exports. Such figures, it should be stressed, are only tentative illustrations; but they do point out that subsidization of exports through cheap credit facilities has been of some importance since the early 1960s, and has become particularly significant in recent years.

(iii) Import Entitlement. Subsidies through import entitlements were instituted in one form or another starting in the late 1940s. At first, however, they were sporadic, non uniform, and relatively unimportant. This may be explained, perhaps, by the predominance of exports of citrus fruit and polished diamonds, Israel's two traditional export items in those earlier years. Since almost all the arrangements of this nature confined import entitlements to inputs which were "in the line of production" of the export industry, these two branches did not stand to gain by such arrangements. Since these were strictly export industries, their inputs were never restricted.

With the growing importance of exports of assorted manufacturing industries, the retention-quota plans grew in significance. In May 1953, the Pamaz 5/ plan - the major form of the retention-quota

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5/ The term "Pamaz" is derived from the Hebrew initials for "foreign-currency deposits". This points to the origin of the arrangement, which at first (before 1953) was intended merely to provide the exporter with deposits of foreign exchange which were built up from his export proceeds and were meant to free him from the bureaucratic costs involved in requesting foreign-exchange allocations to finance his imported inputs.

system - was

system - was established in its full-fledged form. In this plan, all exporters (except those of citrus fruit and diamonds) were entitled to use all their export proceeds to buy imports of materials in their "line of production". Partly - in proportion to the import component in exports - these imports would be used for further production of another "cycle" of exports.6/ The other part, equivalent to the value added in exports, would thus be left for the purchase of imported inputs for production for the local market. Since at that time such imports were mostly restricted, whereas prices of the finished goods in the local market were already largely free, this import entitlement generated a quota profit. Since the imports of each exporter were confined to his "line of production" and Pamaz rights could not be transferred, the rates of extra profits differed, of course, from one industry to another.7/

The Pamaz arrangement reached its peak around 1956 and then declined until it disappeared in 1959. This decline was partly by design and partly due to changing circumstances. The first factor which contributed to diminish the importance of the system was the introduction, in 1956, of general premiums. An exporter wishing to avail himself of the premium payment had to sell his foreign-exchange proceeds to the Treasury, thus foregoing his Pamaz rights. Given this alternative, many exporters opted for the premium rather than

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6/ When exports were not stable but increasing, the exporter would get "credits" (in a book keeping sense) of foreign exchange, enabling him to finance the increased requirements for imported inputs.

7/ In fact, the exporter was not forced to buy materials according to their proportions in his export production, but could concentrate his purchases as he saw fit. He could thus buy inputs and resell them to other industries in which he could obtain high prices for them. For instance, exporters of chocolate and sweets at one time used most of their Pamaz rights to buy cellophane packaging paper, which was in large demand in the local market. If each industry uses many inputs, even in very small amounts, it is likely that each such input can be bought by many industries. This would, in turn, tend to lower the profit differentials among industries from what they would have been if inputs were bought by each industry according to the weight of the inputs in production.

/the Pamaz

the Pamaz right.8/ Another important influence in the same direction was the process of gradual liberalization of imports of raw materials: obviously, Pamaz rights are of no significance when the needed inputs can be freely imported. In addition, from 1956 on, the government took a number of measures limiting the extent of Pamaz rights.9/ At the end of 1959, the programme was abolished altogether.

Besides the general Pamaz plan, a few other import-entitlement arrangements existed, mainly during the late 1950s. These "linkage" rights were sporadic and confined to a few specific industries. Exporters in those industries would be granted an import right in a specified ratio to the size of their exports (a ratio of one-to-one was quite common). Besides their sporadic nature, linkage arrangements differed from the Pamaz plan in two important aspects. First, it will be recalled that the owner of a Pamaz right has to use part of this right to purchase imported inputs for his exports; the excess profits from sales on the local market would be derived, therefore, only from the value added in exports. The owner of a linkage right, on the other hand, would finance his imported inputs by buying foreign exchange from the Treasury, at the official rate, thus deriving excess profits from the total value of his exports. Second, the user of a Pamaz right had to forgo the government's direct export premium, whereas exporters who entered into a linkage

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8/ As the available data show, exporters rarely made on all-or-none decision between the alternatives. Presumably, in each industry, exporters used their Pamaz rights to the point where, at the margin, extra profits fell to the level of premium payments, selling all the remainder to the Treasury at the premium rate. Since the number of exporting firms in each industry was usually small, thus giving some monopolistic position to each, a considerable gap might have often existed between the marginal profit rate (equal to the premium) and the (higher) average rate.

9/ For instance, exporters were required to sell part of their foreign-exchange proceeds to the Treasury, at the formal rate, as a counterpart to the value of the indirect import component used in the production process (which otherwise could be used to provide extra profits through Pamaz purchases). Pamaz rights were also often lowered beyond this.

/agreement could

agreement could sell their export proceeds to the government at the premium rate, thus enjoying both the premium and the excess profits derived from imports.

(iv) Branch Funds. Starting in 1959, and mainly since the early 1960s, a number of so-called branch funds were established in a form designed primarily to encourage exports. The number of such funds was limited to about seven or eight, but they related to quantitatively significant export industries (mainly in textiles). During the first half of the 1960s, before the reintroduction of general premiums, branch funds were the main source of export subsidies, although they were applied to only certain segments of exports. Each branch fund had its own unique structure and method of operation. In general the method of export subsidization through the funds was a combination of governmental premium and compensation through sales of restricted imports in the local market. But to some extent, the funds were merely cartel arrangements, backed by the government, which allocated sales among the local and foreign-markets.

Other Promotion Measures. In the category of indirect export-promotion policies, the most important has undoubtedly been encouragement of investment in exports. Investment activity in Israel has all throughout been prompted to a large extent by government grants, cheap long-term credits, income-tax concessions, provision of cheap land, and a few other measures. Export activity has always been prominent among the criteria entitling potential investors to such facilities. It is very difficult to estimate the effectiveness of such investment provisions on exports, for several reasons: export activity is only one of the attributes required for favourable treatment - and is by no means a necessary condition; even when required, it is only some export activity which has to be promised - almost regardless of size: and, not least important, no checking of performance is conducted by the government once the investment project is under way. While some professed attributes of a project (such as the locality of a plant) cannot be easily

/circumvented, the

circumvented, the profession of the intention to engage in export activity becomes of a very limited significance where no follow-up is carried out or expected.

Other indirect export-promotion measures are of a lesser importance. These have included aid in market research, organization of trade fates and other facilities of dissemination of information, and various other measures of a similar nature.

4. Effective Exchange Rates in Exports

In principle, all forms of export-promotion schemes might be quantified; and would then be best expressed as components of the effective exchange rate of exports - one component of which would always be, of course, the formal exchange rate which applies to export transactions. This has been done here only for the major (and more amenable to measurement) scheme applied in the Israeli experience, namely, the premium scheme (in its varying nature over time). The premiums per value added (whether or not it was so granted explicitly) has been calculated; and adding it to the formal rate of exchange yields the effective rate of exchange for value added in exports. This rate is shown in table 2, for exports of goods (i.e., excluding exports of services).

It appears from table 2 that, by and large, major changes in the effective exchange rate for exports took place when formal devaluations occurred (in 1952-1954, 1962, end of 1967, 1971, 1974, and 1975). But the premium schemes have worked to make changes in the effective exchange rate much more gradual than they would have been without it. In between formal devaluations, the subsidy rate has tended to increase gradually; whereas with formal acts of devaluations the subsidy rate has usually been lowered, sometimes drastically, to make the change in the effective rate for exports considerably less than the change in the formal rate of exchange.

As a rule, the effective exchange rate for value added in exports has been lower than the equivalent rate in import substitution.

/Estimation of

Estimation of the latter is subject to many difficulties, and has therefore not been carried out in a systematic manner; but all the available evidence confirms the impression that the import rate has indeed been higher than the export rate. Thus, data for the years 1956-1960, for over 50 industrial branches, show the average import rate to be about 30 to 50 per cent higher than the average export rate.10/ Similarly, the effective rate of protection appears, in a study conducted by J. Baruch for 1965, to be 66 per cent for domestic sales and only 10 per cent for export sales 11/ (1965, it should be reminded, is one of the few years in which no general export premium scheme was in force). Studies of individual industries give similar indications. Also, the very existence of import restrictions implies protection for imports. Had quota profits in imports been estimated adequately, they could in principle be added to the effective exchange rate (or the effective protection rate) in import substitution. But in fact this procedure has not been usually followed in the estimation of effective rate, so that in the comparison of rates in exports and in import substitution the latter is underestimated - a fact which re-inforces the impression of the existence of lower effective rates in exports than in imports. In that sense, therefore, exports have usually been discriminated against, despite the apparent existence of export-promotion measures.

Within exports, the degree of discrimination in the system has not been considerable: the premium schemes have been applied, by and large, to most exports in a fairly universal manner. It is true that other export-promotion schemes (such as import entitlement) imply a much more diversified system of promotion. The absence of the impact of such schemes from the estimates of effective exchange rates of exports (which, it should be recalled, add only the subsidy rate in the premium scheme to the formal rate of exchange) thus

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10/ See Michaely (1975), table 4-5, p. 97.

2/ Joseph Baruch, The Structure of Protection in Israel, 1965 and 1968. Jerusalem, Bank of Israel, 1976 (in Hebrew).

/tends to

tends to lower the apparent degree of diversification in the system. But the bias involved is not too strong, due to the major role played by the premium scheme within the general system of export promotion.

So far as major export groupings are concerned, deviations - again, not very substantial - from the average effective exchange rates in exports may be seen mainly in the two traditional export categories, citrus fruits and polished diamonds, and in textiles. Effective exchange rates for value added for these major groups during the period up to 1970 are presented in table 3.

Until the mid-1950s, apparently, none of the three major export categories covered in the table was systematically discriminated against or treated with special favour. From that time until the 1962 devaluation, diamonds received the prevailing rate for industrial exports (IL 2.65 per dollar), exports of citrus fruits received a lower rate, and textiles, a higher one. From the time of the 1962 devaluation until 1965, when export premiums were as a rule non-existent, exports of textiles received a favourable treatment. From 1966 on, with the reintroduction of general export premiums, the favourable treatment of textiles was reinforced, but both diamonds and citrus fruits were discriminated against relative to other exports - the former more than the latter. These two traditional exports, it may be recalled, did not (and could not, by their nature) enjoy the benefits of the Pamaz (retention-quota) plan of the 1950s or other forms of compensation through the local market. It may thus be assumed that in comparison with other exports, these two have been discriminated against during most of the period since the mid-1950s.

The special favourable rate for textiles has been part of an overall effort to encourage the growth of that industry, which was judged by the government to be most suitable for the newly established towns in Israel, in the framework of a general policy meant to encourage the dispersion of population. The discrimination against citrus fruits and diamond exports was due, most probably, to both demand and supply considerations. In these two industries (and only

/in these

in these two, among export categories) Israel has a significant share of the world market. Consequently, foreign demand for Israel's exports of goods in these two categories is probably less elastic than in others. In the citrus industry, but not in diamonds, supply factors are also involved: since local consumption absorbs only a minor share of the country's production (some 20 to 25 per cent), and the gestation period of investment in plantations is quite long, the short-term supply of exports is rather inelastic. In the short run, then, high export premiums for citrus products would largely constitute a rent, while their impact on the government's budget - due to the size of these exports - would be significant. Short-term supply considerations - and it may be suspected that the government's considerations in this area were primarily of short-run nature - thus were an added argument against granting high exchange rates to the citrus industry. It may well be that the lack of discrimination against this industry until the mid-1950s was at least partly due to a higher supply elasticity in those years. During World War II and again during the War of Independence, a very large fraction of the citrus plantations was badly damaged. Some plantations could not be restored; but in others, yields could be increased fast by investment in restoration of the trees as well as by introduction of modern techniques. Profits could, therefore, at that time have a substantial impact even on short-term supply.12/

12/ The effective exchange rates for polished diamonds, as shown in table 3, are most probably biased downward in comparison with rates in other branches. For a variety of reasons, polished diamonds have most often been given encouragement by specific measures, other than the premiums scheme. These have usually been of a vague nature, and not subject to measurement. Examples are a lax treatment of diamond-polishing firms in income-tax calculations, or a benign form of foreign-exchange control, which has enabled firms to increase profits by either selling or buying, as the case may be, in the black market for foreign exchange.

/5. The

5. The Effectiveness of Export Policy

In the present discussion, "export policy" will be represented by the single index of the effective exchange rate for exports. The question to be discussed will be, hence: to what extent have changes in the effective rate been influential on export performance?

This question may be sub-divided into two. First, we may inquire to what extent have changes in the effective rate led to parallel changes in the relative price of exports. Only inasmuch as changes in the exchange rate lead to a relative increase in the price of exports, in comparison with domestic prices in the economy, could they be expected to promote exports at the expense of other sectors in the economy. Second, assuming that a change in the relative price of exports does take place, we may inquire to what extent such a change does indeed have an impact on export performance.

Column (3) in table 2 above is designed to deal with the first question: the Purchasing-Power-Parity (PPP) - adjusted effective rate is the indicator of the relative change in the price of exports. Beside the change in the effective exchange rate, it takes into account changes in the foreign-exchange price of exports; and changes in domestic prices. The relative price of exports increases with increases in the former two (the effective rate and the world price of exports); and decreases with an increase in the latter magnitude (the level of domestic prices).13/ It appears that during the period of major devaluation 1952-1954, the PPP-adjusted effective rate also increased considerably, although not quite as much as the unadjusted

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13/ Let $\dot{E}$ denote the change in the PPP-adjusted effective exchange rate (column (3) in table 2). Then:

$$\dot{E} = \frac{(1 + \dot{R})\ (1 + \dot{W})}{(1 + \dot{H})} - 1, \text{ where:}$$

$\dot{R}$ = change in the effective exchange rate;
$\dot{W}$ = change in world (foreign-exchange) price of exports; and
$\dot{H}$ = change in the level of domestic price.

/rate: substantial

rate: substantial rises of domestic prices during those years worked to offset only part of the increase in the exchange rate. The more modest increases of the effective rate during the following three years 1955-1957, which were carried out mainly by the use of the premium scheme, likewise led to almost equivalent increases in the PPP-adjusted rate. From 1958 onward, however, the co-movement of the two rates ceases. For nearly a decade, the trend of the adjusted rate was slightly downward while the unadjusted rate moved slightly upward. Even in 1962, when the unadjusted effective rate increased by 13 per cent (and the formal rate by 67 per cent!), the adjusted exchange rate increased by only less than 3 per cent. During the last decade, 1966-1975, the adjusted rate has moved again upward, but to a much smaller extent than the unadjusted rate: the average increase of the former during this period was about 3.5 per cent, in comparison with an average increase of 11.5 per cent of the unadjusted rate. Substantial increases in domestic prices, particularly in most recent years, which have far exceeded increases in world prices of Israel's exports, have worked to make the increase in the relative price of exports very modest despite the frequent use of formal devaluations and substantial increases in the subsidy granted by the premium scheme.

The second issue, of the impact of changes in the relative price of exports on export performance, may best be coined in terms of the elasticity of supply of exports. The main study of this aspect of the Israeli experience has been carried out by Nadav Halevi.14/ Halevi's study is concerned with both aggregate exports of goods, and, more particularly, with industrial exports (excluding diamonds), which since the late 1950s constitute the major category of exports, and are presumably more sensitive to price changes than any of the

14/ Nadav Halevi, "Devaluation, Relative Prices, and Exports in Israel", in Nadav Halevi and Michael Michaely, eds., Studies in Israel's Foreign Trade. Jerusalem: Falk Institute and Hebrew University, 1972 (in Hebrew).

/other export

other export categories of goods.15/ Value added in exports, at constante prices, is shown in this study as a function of the relative price of exports (that is, the adjusted effective exchange rate for value added in exports) and the size of capital, which is taken as an indicator of productive capacity. For total exports of goods, the PPP-adjusted exchange rate, like the earlier figures shown, is based on domestic prices of GNP; and the capital variable used is aggregate capital stock in the economy. For the period 1955-1969, the relative-price elasticity of the supply of exports as obtained from the function is 0.50 (with an R^2 of .970). For industrial exports alone, the capital variable used is the capital stock in industry; and in the PPP adjustment, two alternative domestic price levels are employed: GNP prices and the level of industrial prices. The former alternative yields a higher elasticity of supply than the latter, and both values are higher than the elasticity found for total exports of goods. When the price variable is the PPP-adjusted effective exchange rate for industrial exports, in which GNP prices are utilized, the elasticity of supply of industrial exports is found to be 1.19 (R^2 is .987) and when local

15/ The two other major categories are agricultural exports and polished diamonds. The production cycle of diamond polishing is quite short (probably not longer than five or six weeks), and the size of production could change quite rapidly, both because of technical facilities and because the proportion of permanent workers in the labour force is particularly low in this industry. The responsiveness of exports (which in this industry in Israel are practically identical with production) to price changes may therefore be expected to be relatively strong. But, unlike most of Israel's other industrial exports, its exports of polished diamonds constitute a large share of the world market; and demand in this market is very volatile. Exports of diamonds is thus heavily affected by fluctuations of foreign demand, only part of which is presumably reflected in changes in the foreign price of exports. Likewise, monopolistic restrictions in the market for raw diamonds are important in the determination of Israel's production of polished diamonds at any given time. If such factors could be accounted for, the price elasticity of supply of this export category would probably have been found to be (concl.)

/industrial prices

industrial prices are used, the supply elasticity is 0.87 (R^2 is .980). Halevi also attempts a distributed-lag model, to introduce the possibility of responsiveness to relative price changes which stretches beyond a single year. In the regression fitted, about two-thirds of the total adjustment is found to take place over the first year following the price change. The supply elasticity thus obtained using the industrial-prices variant in the PPP adjustment, is 1.34 - considerably higher than the figure of 0.87 reached in the simple, nonlagged regression.

From Halevi's estimates, it appears that the supply elasticity of exports is substantial, and probably even high. This impression is strengthened by the realization that these estimates must, for a number of reasons, be biased downward. It should be noted, first, that the estimates exclude the first half of the 1950s, when the exchange-rate changes were not only at their strongest but appear to have had relatively the strongest impact: slight variations in the exchange rate result in lower estimates of elasticities (of supply or demand) than major price changes, because of errors in measurement.

15/ (concl.) high; but this is only a presumption whose verification would require an elaborate study.

A somewhat similar problem is found in agricultural products: the random factor introduced by weather conditions complicates the identification of responses to price changes. But more important in this case is the effect of the long time lag involved in such response. Citrus fruits constitute the largest share of exports in this category; and the gestation period (from planting to first marketable yield) of investment in citrus fruit is at least six years. Thus, it would be unwarranted to expect that a change in the exchange rate in one year would be sufficient to induce a significantly large new planting. Even if it were, the result would not show up in the export figures until many years later. Also, price changes could only slightly affect the allocation of a current crop between the local and the foreign markets since almost all the fruit which is technically exportable (being free of deficiencies) is exported. Hence, annual observations of price and quantity of exports of citrus fruit could hardly be expected to reveal any positive supply elasticity.

/Likewise, the

Likewise, the use of annual averages, which inherently incorporate errors in measurement, tends to lower the estimates of the elasticities. No less important is the time lag involved in the response of quantity to price. The use of a distributed-lag model partly solves this difficulty, but does not eliminate it altogether. Thus, Halevi finds a very high elasticity of supply (roughly, 2) of industrial exports in relation to the change in capital stock. It may be assumed that the bias toward exports in the process of growth of capital stock, which is indicated by this elasticity, is itself at least partly a reaction to earlier changes in relative prices in favour of exports. If this is true, part of the quantity reaction to relative price changes would be disguised, even in a distributed-lag model, as a response to changes in capital stock.16/ The existence of all these biases would suggest that Halevi's estimates of supply elasticities of Israel's exports may be taken as the lower limit of the true size of these elasticities. It may thus be concluded that export responsiveness in Israel to export promotion policies, when these result in actual changes in the relative price of exports, has indeed been substantial.

16/ In a recent preliminary paper, Razin and Zuckeirman point out another downward bias, due to an identification problem resulting from the possibility that the effective rate itself is changed by the government in response to the country's balance-of-payments position. They argue that the removal of this bias would have increased substantially the elasticities of supply estimated by Halevi. Assaf Razin and Alex Zuckeirman, "On the Interdependence of Exchange-Rate Policy and Exports and Imports", Working Paper 76-39, Department of Economics, Tel-Aviv University, July 1976 (in Hebrew).

/6. Export

6. Export Growth and Import Substitution

It is interesting to investigate to what extent has the country's economic performance - at least partly due to export-promotion policies and the foreign-exchange régime in general - been biased towards exports versus import substitution. In Israel's case, where the economy started out with an extremely large import surplus, a most appropriate means of answering this question would be to determine how much of the reduction of the import surplus was achieved by reducing imports and how much by increasing exports. This would provide an indication of whether the country's growth process was biased towards or against foreign trade.

Table 4 contains estimates of value added in exports (column 3) and imports for domestic use (column 5), obtained by assuming that the amount of each will be in the same ratio to GNP in the current year as it actually was in the preceding year. The figures in columns 2 and 4 are the actually observed values of these aggregates. The excess of actual exports over their "expected" value is a contribution to the reduction of the ratio of the import surplus to GNP; and the opposite is, of course, true of imports. These contributions are presented in columns 6 and 7 in absolute amounts and in columns 8 and 9 as ratios to GNP.17/

It appears from these figures that the period can be divided into three subperiods: the 1950s up to and including 1959; the 1960s and early 1970s up to and including 1971; and the recent years 1972-1975. In the 1950s, most of the contribution to the relative reduction of the import surplus came from the import side; the contribution due to the rise of exports was also positive, but much less significant in size. The dominance of imports in their impact

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17/ In principle, the summation of the export and import figures of columns 8 and 9 for each year should yield the same result as the year-to-year changes which may be derived from column 1. The slight differences between the two are due to rounding.

/on the

on the development of the import surplus was, however, simply due to their overwhelming size in comparison with exports. In relation to their own size, as is shown by the data in columns 10 and 11, the contributions of exports and imports to the decline of the imports surplus were quite similar - even slightly higher in exports than in imports. In this period, then, both exports and imports were involved in the process of reducing the import surplus.

During the 1960s, the relative increase in exports continued as before. The contribution of exports to the relative reduction of the import surplus was, on average, in the same ratio to the national product as it was in the 1950s. However, since the relative size of exports was gradually increasing, this meant a lower ratio of exports themselves, as may be seen in column 10. Imports, on the other hand, exhibited a relative rise; that is, they contributed to an increase of the import surplus rather than to its reduction. This trend was not as substantial as the opposite trend of the 1950s, but its existence cannot be doubted: from 1959 to 1971, imports rose over the increase which would have maintained the ratio of imports to GNP constant from year to year by about 6 per cent of GNP; or, put in a different way, the relative annual increase of imports over this period (average of the 1960-1971 figures in column 11) was about 2 per cent of imports.

During the years 1972-1975, the relative size of the import surplus increased substantially. Most of this increase took place in 1973, and is undoubtedly related to the war of October 1973 (though, it should be noted, direct imports for military use are excluded from the import and import-surplus data of table 4). During this period exports did not contribute to a reduction of the import surplus - they maintained a roughly constant proportion of the GNP. But in view of the fact that an increase of imports contributed to a substantial deterioration of the import surplus, the constancy of the relative size of exports may still be termed a development which is biased in favour of exports versus import substitutes.

/The performance

The performance of exports during the 1950s was in line with the trend that would be expected in view of the movement of PLD-EERs for exports: an increase of exports accompanying a sharp rise of export rates. As with imports, the continued rise of exports in the late 1950s could possibly be explained by the rise of export rates a few years earlier: the latter rose sharply until 1954, and then mildly until 1957. The persistent rise of exports during the 1960s, however, can by no means be explained by price changes: just as with imports, the level of export rates was not rising during this period. It might be argued that the continued rise of exports in the 1960s was still a lagged effect of the rate increases of the 1950s. But this is most doubtful, on two grounds. First, it is unlikely that events of this kind would still be influential three to as long as fifteen (!) year later. And second, if the effect of the rate had persisted over this long period, it should have been reflected in imports as well as in exports, since there is no apparent reason for it to do otherwise.

It appears that a distinction should be made between levels of protection of exports and import substitutes and movements of these levels. There seems to be no doubt that, even in the late 1960s and early 1970s, the level of protection afforded by the exchange system was considerably higher for import substitutes than for exports. In this sense, the government's policy, as expressed in the exchange system, has been biased toward import substitution. When policy changes over the years are considered, on the other hand, it appears that exports and import substitutes were similarly encouraged during the 1950s. In the 1960s, the direction of policy change must have been biased toward exports: the growth process was biased toward trade.18/ This is probably explained, at least in part, by nonprice elements in the trade and exchange system. The

18/ A bias toward trade development is indicated also in Halevi, "Devaluation", op.cit.; and Jimmi Weinblat, "The Effect of the Effective Exchange Rate on Imports: 1950-1967", Studies in Israel's Foreign Trade, op.cit.

/slight relative

slight relative increase in imports during these years, with rather stable EERs (as they are actually estimated), may possibly be due to the gradual relaxation of quantitative restrictions on imports, which during the 1950s had provided an added motivation for import substitution, particularly of finished consumer goods. Similarly, measures taken by the government in its budgetary and long-term credit policies to direct investments toward export industries may provide an explanation of the growth of exports, during the 1960s, in addition to the encouragement resulting from relative changes in the exchange rate. Also, the relaxation of import restrictions, and the reduction of protection of import substitutes, must have had an impact on exports just as well as on imports - in opposite directions, of course: reduced protection of import substitutes discourages these branches; but, by the same token, it gives relative encouragement to export branches.

/Table 1

Table 1

SUBSIDY RATES IN THE PREMIUM SCHEME FOR EXPORTS, 1966-1975

Date of Introduction or Change	Rate of Export Premium (IL per dollar)	Rate of Levy on Imported Inputs (IL per dollar)	Rate of Subsidy to Value Added (IL per dollar of Value Added)	Formal Rate of Exchange (IL per dollar)	Ratio of Subsidy to Value Added [=(3)/(4)] in per cent
	(1)	(2)	(3)	(4)	(5)
April 1966	0.09	-	0.15	3.00	5.0
November 1966	0.22	-	0.33		11.0
March 1967	0.30	-	0.50		16.7
November 1967	0.27	-	0.45	3.50	12.9
February 1970	0.45	-	0.75		21.4
August 1970	0.98	0.70	1.17		33.4
January 1971	1.06		1.30		37.1
August 1971	0.89	0.84	0.91	4.20	21.7
January 1972	0.99		1.08		25.7
January 1973	1.13		1.32		31.4
August 1973	1.19		1.42		33.8
November 1973	1.40	1.05	1.63		38.8
July 1974	1.82	1.47	1.88		44.8
November 1974	1.28	0.90	1.53	6.00	25.5
January 1975	1.64		2.13		35.5
April 1975	1.74		2.30		38.3
May 1975	1.78		2.37		39.5
June 1975	1.80	0.92	2.38	6.12	38.9
August 1975	1.80	0.94	2.37	6.24	38.0
September 1975	1.80	0.96	2.35	6.36	37.0
September 1975	1.80	1.05	2.30	7.00	32.9
November 1975	1.80	1.07	2.28	7.10	32.1

Source: Data from Michaely (1975), table 4-2, p. 88; and from Bank of Israel, Annual Report 1975, table IV-17. For method see text.

/Table 2

Table 2

THE EFFECTIVE EXCHANGE RATE FOR VALUE ADDED IN EXPORTS, 1949-1975

(Annual Averages)

Year	Exchange Rate (IL per dollar) (1)	Percentage Change from Previous Year (2)	Percentage Change in PPP-Adjusted Rate (3)
1949	0.35		
1950	0.39	9.4	..
1951	0.41	5.7	3.0
1952	0.81	98.3	32.0
1953	1.28	58.1	16.9
1954	1.73	35.3	27.0
1955	1.83	5.8	5.0
1956	2.05	12.1	7.1
1957	2.21	7.8	7.0
1958	2.37	7.2	-3.3
1959	2.49	5.0	-1.7
1960	2.58	3.6	1.7
1961	2.66	3.1	-6.4
1962 a/	3.00	13.0	2.7
1963	3.04	0.7	-4.9
1964	3.06	0.7	-3.3
1965	3.08	0.7	-5.8
1966	3.27	6.1	1.0
1967	3.57	9.1	6.1
1968	4.04	13.1	9.5
1969	4.05	0.2	2.2
1970	4.49	10.7	2.2
1971 a/	5.04	12.2	0.4
	4.90		
1972	5.28	7.8	0.0
1973	5.58	5.7	3.3
1974	6.20	11.1	5.5
1975	8.60	38.7	3.9

Source: For 1949-1971 - Michaeli (1975), tables 5-1 and 5-6. For 1972-1975 - data in table 1 of the present paper. It should be noted that these data apply to one value-added category only, and rest on partly-arbitrary assumptions.

a/ Due to changes in sources and methods, two rates are shown in each of the years 1962 and 1971.

/Table 3

Table 3

SELECTED EFFECTIVE EXCHANGE RATES FOR EXPORTS, 1949-1970

(Israeli pounds per dollar of value added)

Year	Citrus Fruits	Polished Diamonds	Textiles	Total Exports of Goods
1949	0.34	0.39	0.35	0.35
1950	0.38	0.39	0.37	0.39
1951	0.41	0.42	0.37	0.41
1952	0.76	0.95	0.82	0.81
1953	1.22	1.20	1.26	1.28
1954	1.80	1.47	1.80	1.73
1955	1.80	1.87	1.80	1.83
1956	1.80	2.40	2.33	2.05
1957	1.80	2.65	2.65	2.21
1958	2.05	2.65	2.66	2.37
1959	2.16	2.65	2.83	2.49
1960	2.30	2.65	2.75	2.58
1961	2.49	2.65	2.92	2.66
1962 a/	3.00	3.00	3.18	3.05
1963 a/	3.00	3.00	3.18	3.05
1964 a/	3.00	3.00	3.18	3.05
1965 a/	3.00	3.00	3.18	3.05
1966	3.11	3.00	4.44	3.27
1967	3.23	3.08	5.76	3.57
1968	3.94	3.50	5.79	4.04
1969	3.95	3.50	5.84	4.05
1970	4.27	3.79	6.18	4.49

Source: Michaely (1975), table 4-10.

/Table 4

Table 4

NATIONAL PRODUCT AND THE IMPORT SURPLUS, 1950-1975

Year	Ratio of Import Surplus a/ to GNP (percentage)	Value Added in Exports b/		Imports for Domestic Use b/		Contribution to Import Surplus c/		Ratio of Contribution to GNP (percentage)		Ratio of Contribution to Expected Size (percentage)	
		Actual	Expected d/	Actual	Expected d/	Exports [(2) less (3)]	Imports [(5) less (4)]	Exports [(6)/GNP]	Imports [(7)/GNP]	Exports [(6)/(3)]	Imports [(7)/(5)]
		Israeli Pounds in Millions in 1955 Prices									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1950	42.5	38		504							
1951	43.8	48	50	677	660	-2	-17	-0.1	-1.2	-4.0	-2.6
1952	32.5	64	52	565	727	+12	+162	+0.8	+10.5	+23.1	+22.3
1953	25.9	80	65	484	571	+15	+87	+1.0	+5.6	+23.1	+15.2
1954	19.5	124	97	496	590	+27	+94	+1.4	+4.9	+27.8	+15.9
1955	20.6	117	139	557	556	-22	-1	-1.0	0.0	-15.8	-0.2
1956	21.1	154	127	642	605	+27	-37	+1.2	-1.6	+21.3	-6.1
1957	22.2	185	167	747	700	+18	-47	+0.7	-1.9	+10.8	-6.7
1958	19.3	200	202	733	816	-2	+83	-0.1	+3.0	-1.0	+10.2
1959	14.6	247	225	704	830	+22	+126	+0.7	+4.0	+9.8	+15.2
1960	13.8	320	267	788	761	+53	-27	+1.6	-1.8	+19.9	-3.5
1961	15.4	359	355	937	872	+4	-65	+0.1	-1.7	+1.1	-7.5
1962	13.4	477	405	1 043	1 058	+72	+15	+1.7	+0.4	+17.8	+1.4
1963	11.2	563	533	1 089	1 165	+30	+76	+0.6	+1.6	+5.6	+6.5
1964	16.1	560	619	1 396	1 202	-59	-194	-1.1	-3.7	-9.5	-16.1
1965	13.7	646	599	1 408	1 491	+47	+83	+0.8	+1.5	+7.8	+5.6
1966	11.5	708	659	1 360	1 437	+49	+77	+0.9	+1.4	+7.4	+5.4
1967	8.6	772	717	1 266	1 377	+55	+111	+1.0	+1.9	+7.7	+8.1
1968	11.4	936	876	1 682	1 439	+60	-243	+0.9	-3.7	+6.8	-16.9
1969	14.9	949	1 046	2 038	1 881	-97	-157	-1.3	-2.1	-9.3	-8.3

/Table 4 (concl.)

Table 4 (concl.)

Year	Ratio of Import Surplus a/ to GNP (percentage)	Value Added in Exports b/		Imports for Domestic Use b/		Contribution to Import Surplus c/		Ratio of Contribution to GNP (percentage)		Ratio of Contribution to Expected Size (percentage)	
		Actual	Expected d/	Actual	Expected d/	Exports [(2) less (3)]	Imports [(5) less (4)]	Exports [(6)/GNP]	Imports [(7)/GNP]	Exports [(6)/(3)]	Imports [(7)/(5)]
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
		Israeli Pounds in Millions in 1955 Prices									
1970	15.6	1 146	1 017	2 368	2 184	+129	-184	+1.6	-2.3	+12.7	-8.4
1971	9.4	1 615	1 247	2 415	2 575	+368	+160	+4.3	+1.9	+29.5	+6.2
1972	9.6	1 751	1 777	2 655	2 657	-26	+2	-0.3	+0.02	-1.5	+0.1
1973	14.5	1 805	1 848	3 241	2 806	-43	-435	-0.4	-4.4	-2.3	-15.5
1974	16.4	1 915	1 931	3 324	3 461	-16	+137	-0.2	+1.3	-0.8	+4.0
1975	14.5	1 980	1 928	3 186	3 337	+52	+151	+0.5	+1.4	+2.7	+4.5

Source: For 1950-1972 - Michaely, table 6-8. For 1972-1975 - Extrapolations based on data drawn from Bank of Israel, Annual Report, 1975. In these extrapolations, the 1972 ratio of value added to gross value of exports was applied arbitrarily to the following years.

Note: For details of construction and sources, see accompanying text.

a/ Excludes imports of military goods.

b/ Obtained by substracting the import component in exports from both exports and imports.

c/ Positive sign denotes contribution to relative improvement of the surplus; negative sign, deterioration.

d/ Assuming it was in the same ratio to GNP as in the previous year.