CHAPTER VI

THE PRINCIPAL ECONOMIC SECTORS

1. BUSINESS SECTOR PRODUCT, PRODUCTIVITY, AND STRUCTURAL CHANGES[1]

In 1981 the principal sectors of the economy expanded by 5 percent, after retreating 1 percent the year before. To some extent this year's better performance should be viewed as a compensatory response to the 1980 decline. Industry, transportation and communications, and services, where the product shrank significantly in real terms in 1980, moved up 5 percent in 1981. This points to a cautious emergence from the slump, which is apparently typical of economic activity under widespread uncertainty. This uncertainty has stemmed basically from shifts in relative prices caused by the severe inflation of the last few years, and has been aggravated by the frequent changes in economic policy measures.

The biggest gain in 1981 was scored by agriculture (8 percent), thanks to a bumper year in field crops and the arresting of the decline in the product of the livestock branches following an increase in subsidies. In industry and transportation and communications the growth of product (5 percent) is explained by the expansion of exports and domestic demands: exports accounted for two-thirds of the incremental industrial product, and private consumption for the remaining third. On the other hand, in the shipping industry, ports, and civil aviation output was affected by the weakness in the world markets. Construction was the only sector to experience a contraction of output this year; here the level sagged 3 percent, with the drop being

[1] There is a marked difference between the two estimates of the business sector product—a measurement from the uses side and one based on quantity indexes for the component sectors. The disparity stems from errors and omissions in each of the estimates (see also Chapter II, "The Product and Domestic Demands"). It was unusually large in 1980, when the estimate based on uses showed a growth of about 3 percent, while the measurement according to sectoral indicators showed a decline of 1 percent. In other years as well there were significant differences. During the last three years (1979–81) the product expanded by an average of 3.9 and 2.8 percent respectively. In a longer-range analysis part of the difference balances out: the average for 1973–81, for instance, came to 2.8 and 3.4 percent respectively. The analysis in this chapter is based, of course, on estimates for the component sectors, with the data for the business sector as a whole being the sum total of the series for the individual sectors.

Table VI-1

MAIN INDICATORS OF THE PRINCIPAL ECONOMIC SECTORS, 1965-81

(Percent average annual increase)

	Product[a] (1)	Labor input[b] (2)	Capital stock[c] (3)	Labor productivity[d] (4)	Capital intensity[e] (5)	Total productivity[f] (6)	Exports (7)	Output prices[g] (8)	Financing[h] (9)	Energy intensity coefficient[i] (10)
Total business sector										
1965-72	9.3	2.7	7.7	6.4	4.9	3.3	. .			
1973-78	3.7	0.1	6.8	3.6	6.7	1.0	7			30.1
1979	4.9	4.9	4.4	0.0	-0.5	0.2	4		6	29.0
1980	-1.4	-1.4	5.1	0.0	6.6	-2.5	6		-2	29.0
1981	4.8	2.9	3.0	1.8	0.1	1.9	5		1	28.0[j]
Agriculture										
1965-72	6.4	-2.0	3.4	8.6	5.5	6.3	. .	5		
1973-78	6.6	-1.6	4.8	8.3	6.5	5.4	8.2	35		20.7
1979	2.5	-2.4	4.3	5.0	6.9	2.2	8.2	65	39	16.5
1980	4.8	3.3	4.1	1.5	0.8	1.2	-1.3	130	-13	14.3
1981	8.0	0.3	2.8	7.7	2.5	6.6	8.3	122	3	
Industry										
1965-72	10.3	3.4	7.1	6.7	3.6	6.7	15.4	5		
1973-78	4.8	0.4	8.3	4.4	7.9	1.2	11.3	38		18.4
1979	4.5	8.2	6.2	-3.4	-1.8	-2.9	9.2	79	-1	15.6
1980	-3.0	-4.2	6.2	1.3	10.9	3.0	12.7	135	-32	13.8
1981	5.0	2.1	4.2	2.8	2.1	2.1	2.0	123	42	13.2[j]

Transportation and com.										
1965-72	10.8	3.6	12.2	6.9	8.3	3.8				
1973-78	4.8	-1.0	6.1	5.9	4.6	2.8				49.0
1979	5.4	4.6	2.4	0.8	-2.1	1.7		62		44.9
1980	-3.5	-0.7	3.8	-2.8	4.5	-4.6		139		43.5
1981	5.1	-0.9	0.3	6.3	5.2	5.5		113		
Construction										
1965-72	8.5	5.2	2.9	5.1	-1.8	3.9	—	7		
1973-78	-3.7	-2.6	5.0	-1.1	8.2	-3.1	—	36		1.7
1979	7.4	9.6	0.1	-2.0	-8.5	0.3	—	87	-5	1.4
1980	1.9	-4.3	10.0	6.5	14.6	2.5	—	128	-18	1.3
1981	-2.9	4.3	2.1	-6.5	-1.6	-6.6	—	132	26	

[a] Gross domestic product at factor cost.
[b] Actual manhours worked according to labor force surveys.
[c] Change in beginning-of-year levels.
[d] Product per manhour.
[e] Capital per manhour.
[f] Product per weighted unit of labor and capital, with labor weighted as follows: business sector—58 percent, agriculture—59 percent, industry—58 percent, transportation—60 percent, construction—72 percent. Actually, variable weights were used for each five-six year period.
[g] Excludes construction, for which input prices are presented.
[h] Medium- and long-term credit flows.
[i] Measured in ton oil equivalent per IS million gross domestic product. The data on the business sector relate to the entire economy.
[j] Provisional datum.

steepest in nonresidential construction. It should be noted, however, that investment in this sector was largely influenced by the reduction of starts in 1980.

Both the labor and capital input in the business sector rose this year by 3 percent. In the case of labor the increase was concentrated in services (especially financial) and construction. The growth of the labor input followed a 1.5 percent drop in 1980, which encompassed all sectors apart from financial services and agriculture. The expansion of the capital stock slackened this year, after a protracted fairly steep increase (an average of close to 7 percent in 1973-78). In 1981 discards did not fall far short of investment.

In line with the long-run trend evident since the beginning of the 1970s, the expansion of the principal sectors of the economy was led by exports. The growth of export production during the 1970s far surpassed that for the domestic market. The business sector product attributable to the export of goods and services expanded at an 8 percent average annual rate in the last decade, while the domestic market accounted for a 3 percent increase.[2] This long-term structural change in output destinations stands out in all sectors of the economy apart from transportation, where the growth rate was similar for both destinations. In agriculture the product attributable to exports expanded twice as fast (on an average for the decade) as that destined for the domestic market, in services three times as fast, and in industry five times as fast (see Table VI-4). These changes are reflected in the sectoral composition of the product, but are clearly discerned only in the various subbranches of agriculture, industry, and services. Among the major sectors of the economy the declining weight of construction—all of whose output is for the local market—stands out, in contrast to the moderately rising trend in the other sectors (see Table VI-2). It follows that the sharp increase in the share of exports took place within each of the sectors.

Along with the changes in output destinations, there was apparently a structural change in the economy's stock of fixed capital as well. The existence of productive capacity suitable for the manufacture of goods marketable abroad is an essential condition for the sustained advance of exports in numerous branches. For lack of complete data on the capital stock, we have to rely on partial estimates, and these show a much faster growth in the export branches.[3] An examination of 17 industrial branches and the service industry (hotels) corroborates this assessment, and it may reasonably be assumed that there was a similar pattern in agriculture. It should nevertheless

[2] The changes in recent years were sharper than in the 1960s, as reflected by the following estimates of the share of exports in the product (the figures are averages for the years cited): 1965-66—19 percent; 1971-72—26 percent; 1975-76—28 percent; 1980-81—39 percent.

[3] See the section on industry.

Table VI-2

GROWTH OF GROSS DOMESTIC PRODUCT AT FACTOR COST,[a] 1960-81

(Percentages)

	Agri-culture	Industry	Transpor-tation and com.	Construction	Trade and services[b]	Total business sector
			Sectoral distribution			
1960	10	22	11	13	44	100
1970	9	29	13	12	37	100
1981	10	30	14	8	38	100
			Increase in product by period			
1960-65	6.7	13.4	10.3	11.0	5.0	8.6
1966-67	8.6	-0.9	0.0	-16.3	2.0	-0.7
1968-72	5.6	15.1	15.5	20.3	12.0	13.6
1973-81	6.1	3.9	3.9	-1.8	3.7	3.4
1980-81	6.4	0.9	0.7	-0.5	1.9	1.6
1960-81	6.3	8.2	7.7	4.5	5.8	6.6
			Percent year-to-year increase			
1970	5.4	9.5	13.5	17.8	8.0	10.0
1971	10.3	10.5	14.7	14.9	12.3	12.2
1972	7.2	11.9	13.0	17.1	10.7	11.9
1973	-0.3	4.5	4.7	3.0	3.9	3.7
1974	10.1	5.1	4.3	2.3	3.6	4.5
1975	8.9	3.1	-1.6	2.7	0.7	2.0
1976	8.0	5.1	6.3	-13.3	4.2	2.8
1977	8.0	4.3	8.7	-14.7	1.7	2.2
1978	4.9	6.5	6.6	-0.8	10.7	7.3
1979	2.5	4.5	5.4	7.4	5.2	4.9
1980	4.8	-3.0	-3.5	1.9	-1.6	-1.4
1981	8.0	5.0	5.1	-2.9	5.5	4.8

[a] At constant 1970 prices.

[b] Includes water and electricity. Estimated as the change in the derived product, using input-output tables for 1975/76 and 1968/69.

be pointed out that some of the branches producing mainly for the overseas market are not capital-intensive: a fairly large percentage are relatively intensive in skilled labor and R&D know-how. Estimates of the highly educated manpower and R&D outlays in industry show a relatively high concentration in the export branches, such as electrical and electronic products, transport equipment, mining, and chemicals. During the last decade there was a conspicuous rise in the weight of highly educated manpower in the first two branches and in metal products. In 1966-77 expenditure on R&D in the ex-

port branches averaged more than 4 percent of total turnover, compared with less than 0.5 percent for the other branches.

During the years 1973–78 the product expanded by 4 percent, while the labor input held steady. The capital stock, on the other hand, continued to grow at a rapid 7 percent rate. Thus the increase in capital intensity also averaged 4 percent a year (see Table VI–1); in 1981 there was no change in the level.

The expansion of the capital stock was apparently influenced by the government's investment encouragement policy, which is designed to achieve the desired level of capital in the economy as a whole and to contribute to both the dispersion of population to the border development areas and to the growth of exports. Part of the capital subsidy was directly related to the rate of inflation, and did not reflect any deliberate policy measures. With the escalation of inflation during the 1970s the unanticipated subsidy component of development credit swelled. This led to an overexpansion and underutilization of the capital stock. The more sluggish increase of the capital stock in all sectors this year reduced idle capacity somewhat, according to our calculations. However, it may be that the capital stock is overestimated here, since various indicators show that the life of equipment was shortened in the last decade.[4] The continued expansion of production presumably will require new investments in many branches, even though a large number are presently saddled with spare capacity.[5] The decline in capital utilization is reflected in the changes that occurred in the capital–product ratio during the last decade: after averaging 1.9 at the end of the 1971–72 boom, the ratio moved up to 2.2 in 1975–76 and reached 2.4 in 1980–81. The rising trend encompassed all sectors except agriculture.

As with the capital stock, the increase in energy input slowed in all sectors, especially during the most recent period. Energy consumption in the economy as a whole trailed behind the growth of the product, and in 1980–81 it even fell off in absolute terms. The steady drop in per unit energy input was most conspicuous in transportation, agriculture, and industry.[6] This was, of course, a reaction to the oil price shocks of 1974 and 1979.

The rebounding of activity in 1981 in most sectors of the economy was accompanied by an improvement in measured productivity, after it had stagnated in 1979 and 1980. However, an analysis of productivity in a single year has only limited significance. Taking the years 1979–81 together, we find that it drifted up at a sluggish pace, continuing the trend evident in all sectors

[4] See the explanation in Chapter II.

[5] For a fuller description and several indicators of idle production capacity in agriculture, transportation, and the tourist trade, see the relevant sections below. Estimates of the utilization of industrial capital are presented in Table VI–12.

[6] Only provisional and partial data are available for 1981, but they point to a continuation of the downtrend in energy consumption.

Table VI-3

LABOR AND TOTAL PRODUCTIVITY OF THE BUSINESS SECTOR, 1960-81[a]

(Percent average annual increase)

	1960-65	1966-67	1968-72	1973-78	1979-81	1960-81
Labor productivity (product per manhour)[b]						
Agriculture	8.2	14.3	6.3	8.3	4.7	7.8
Industry	6.3	6.6	6.7	4.4	0.2	4.9
Transportation and communications	3.5	2.2	9.0	6.1	1.1	5.0
Electricity and water[c]	10.2	-4.3	15.5	-2.5	-0.7	4.7
Construction	3.4	7.7	1.3	-1.1	-1.0	1.4
Trade and services[b]	-0.2	4.5	7.0	2.6	0.5	2.8
Total business sector	**3.8**	**6.1**	**6.6**	**3.6**	**0.6**	**4.2**
Productivity, with product measured by final uses			6.5	2.2	1.8	
Overall productivity (Product per weighted unit of capital and labor)[b]						
Agriculture	5.0	10.4	4.7	5.4	3.3	5.2
Industry	5.6	1.7	7.0	1.2	-1.2	3.3
Transportation and communications	1.1	-2.9	7.2	2.8	0.6	2.5
Electricity and water[c]	6.2	-3.5	10.9	-1.4	-2.2	3.0
Construction	1.9	-1.6	6.1	-3.1	-1.3	0.6
Trade and services[c]	-4.9	-2.2	5.5	0.3	-0.3	-0.1
Total business sector	**1.8**	**0.4**	**6.5**	**1.0**	**-0.2**	**2.2**

[a] The calculations were made from unrounded data.

[b] The change in the number of manhours in each sector is based on labor force survey data, after adjusting for classification changes during the period and including workers from the administered areas. In the case of industry the labor input, and hence productivity, differ significantly when measured according to industrial production index data (see Table VI-10). Although the latter source is more appropriate, we preferred the labor force surveys for the sake of uniformity. In the other sectors of the economy this is the only source available for estimating the labor input.

[c] The real change in the product was calculated according to final demands, using the input-output tables for 1968/69, 1972/73, and 1975/76.

SOURCE: Central Bureau of Statistics.

in 1973–78 in both labor productivity (product per manhour) and overall productivity (product per combined unit of capital and labor).

Several possible reasons can be advanced to explain this development in productivity and product in recent years in each individual sector,[7] but it is hard to pinpoint any single common factor or combination of factors which depressed productivity (and hence the product) in the business sector as a whole. It may be that the high inflation, especially since 1979, coupled with a further rise in imported input prices (including oil), was the principal common factor. The severe inflation apparently led to sharp changes in the relative prices of goods, services, and factors of production. An incorrect assessment by the business sector of expected changes in such prices is likely to result in high production costs and the slumping of output and productivity. In other words, galloping three-digit inflation probably has a direct perverse effect on the product and productivity because of the uncertainty it creates. The disruption of producers' plans detrimentally affects their efficiency, and the resulting increased risk tends to depress output without a corresponding change in the factors of production. The rise of oil and energy prices in 1979 and 1980 and the efforts to economize on energy use, which were intensified at the end of the 1970s, also had a dampening effect on factor utilization. In addition, the high inflation and the difficulty of obtaining the requisite financing may have forced management to devote considerable time and effort to the problem of financing, at the expense of concentrating on production and marketing. Moreover, the quantity restriction of credit under the tight monetary policy introduced by the Bank of Israel in order to blunt inflation may in itself have been one of the causes of the contraction of activity in several sectors of the economy. The credit squeeze hit small producers and individual farmers in particular.

To promote exports and stimulate the growth of the business sector, the government has employed four principal policy tools in the financing sphere: investment grants, soft long-term development loans, directed short-term export credit, and R&D grants. These are intended principally for export production in industry, agriculture, and tourism. It should be stressed that such encouragement has been limited to a single factor of production—capital (both fixed and current)—while labor has remained heavily taxed. This discriminatory system of encouragement has distorted resource allocation, a development largely reflected by the slowing of overall productivity and a diminished utilization of capital in the business sector as a whole and in the component sectors.[8]

[7] A detailed explanation of developments in the various sectors of the economy can be found in the Bank of Israel Annual Report for 1980, Chapter VI, section 1.

[8] On the magnitude of the investment subsidy see U. Litvin and L. Meridor, "The Grant Equivalent of Subsidized Investment in Israel", Bank of Israel *Economic Review* 54.

Table VI-4

BUSINESS SECTOR PRODUCT BY FINAL USES, 1971-81[a]

(Percentages)

	Sectoral distribution			Increase	
				Average	
	1971-72	1973-75	1976-81	1971-81	1981
Product derived from domestic uses					
Agriculture	8	7	8	3.3	8.7
Industry	27	28	28	2.1	5.1
Construction	20	20	16	0.5	-0.9
Transportation	8	9	10	6.0	5.8
Services[b]	37	36	38	3.3	8.2
Total	**100**	**100**	**100**	**2.7**	**5.6**
Product derived from export[c]					
Agriculture	12	12	12	6.9	10.8
Industry	38	41	44	10.4	8.7
Transportation	20	19	15	5.1	8.6
Services[b]	30	28	29	7.9	0.0
Total	**100**	**100**	**100**	**8.4**	**6.2**

[a] Calculated using the input-output table for 1975/76, at constant 1975 prices.

[b] Trade, services, water and electricity; in the data on export also includes construction.

[c] Includes exports to the administered areas.

The shift in the relative importance of these four methods of financing, which began in 1980, continued in the year reviewed. From the producers' standpoint, the weight of the grants apparently rose, at the expense of the subsidy component of development loans and directed credit.[9] Both investment and R&D grants grew this year by about 15 percent in real terms. By contrast, medium- and long-term investment credit to the various sectors remained at the previous year's level, while the subsidy component of such loans may have fallen off even more steeply owing to their linkage to the consumer price index since 1979. But even so, there still remained a subsidy element, as the indexation increments are recognized as a deductible expense for tax purposes. In many cases this subsidy (tax saving) may even exceed the

[9] See also the section on domestic investment in Chapter II, "The Product and Domestic Demands". Industrial investment grants reached IS1,140 million in 1981, and approved R&D grants came to around IS600 million.

subsidy component of unlinked loans[10] (under the present system of taxation, whose revision is being mooted).

2. AGRICULTURE[11]

In 1980/81 the net agricultural product expanded 9.3 percent, which far surpassed the growth rates in the two preceding years and even exceeded the average gain during the period 1972/73 to 1977/78, which were good years for farmers. The impressive performance in 1980/81 can be mainly credited to exceptionally favorable natural conditions, which resulted in bumper field crops, especially cotton, and a smaller purchase of inputs from other domestic sectors and from abroad (feedstuff).

In livestock farming the falling product trend, attributable to low profitability, was arrested this year. The massive price support given to the livestock branches was undoubtedly an important factor in this development, and hence it is hard to regard the product gain in 1980/81 as signifying a return to the high growth rates of the previous decade.

The sector's terms of trade continued to worsen in the year reviewed. Output prices rose 124 percent, while purchased input prices went up 135 percent. The cumulative deterioration over the past five years came to about 7 percent (see the table below).

	1976/77	1977/78	1978/79	1979/80	1980/81	1976/77-1980/81
1. Annual change in output prices (%)	29	43	65	131	124	1,475
2. Change in purchased input prices (%)	30	46	55	146	135	1,600
3. Terms of trade (1/2)[a]	0.99	0.98	1.06	0.94	0.95	0.93

[a] Calculated as the ratio between the year-to-year change in the index of output prices and the change in the index of input prices.

This deterioration largely reflected the fundamental problem of excess agricultural production capacity in the long run.[12] The number of farmers has been determined primarily by socio-national considerations, and generally

[10] See, for example, the article by Sh. Eitan, "The Impact of Inflation on the Real Cost of Linked and Unlinked Development Loans", *Quarterly Banking Review* 78, March 1981 (in Hebrew).

[11] Unless otherwise stated, the data in this section relate to agricultural years, which begin October 1.

[12] For a fuller discussion of this problem see the Bank of Israel Annual Report for 1980, Chapter VI, the section on agriculture.

Table VI-5

CURRENT ACCOUNT OF AGRICULTURE, 1972/73 TO 1980/81 [a]

(IS million, at current prices)

	Value		Percent annual increase					
			Quantity				Price	
	1979/80	1980/81	Average 1972/73-1977/78	1978/79	1979/80	1980/81	1979/80	1980/81
1. Total output at producer prices	9,385	21,922	4.5	1.6	1.9	4.4	131	124
2. Intermediate inputs	666	1,747	0.0	-4.6	6.7	4.3	115	151
3. Agricultural output at producer prices (1-2)	8,719	20,175	5.0	2.0	1.5	4.4	131	122
4. Purchased inputs	3,963	9,360	3.4	2.4	1.6	0.4	146	135
5. Agricultural product at producer prices (3-4)	4,756	10,815	6.3	1.8	4.0	7.8	120	111
6. Depreciation	650	1,528	5.8	1.5	-1.2	-2.1	110	140
7. Net agricultural product at producer prices (5-6)	4,106	9,287	6.6	1.8	4.9	9.3	122	107
			Percent increase in value					
			1978/79	1979/80	1980/81			
8. Net agricultural product at producer prices	4,106	9,287	74	130	126			
9. Drought and war compensation	24	29	3	142	20			
10. Total income from agriculture (8+9)	4,130	9,316	73	130	126			
11. Interest and rent	924	2,077	109	241	125			
12. Wages of hired labor	899	2,206	72	113	145			
13. Income of farm owners from agriculture (10-11-12)	2,307	5,033	67	109	118			

[a] The calculations were made from unrounded data.

SOURCE: Central Bureau of Statistics.

such farming units as moshavim cannot be combined. The amount of land allocated to a person defined as a farmer is therefore relatively small. To earn a "normal" income from a small area of land requires a large output, which generally implies the employment of capital-intensive techniques. Since there is at present no market for such a volume of output at prices that would justify the requisite capital investment and factor payments, farmers would suffer losses unless they were heavily subsidized. Thus we find that the situation of the livestock branches improved in 1981 thanks to the subsidies given to egg and dairy farmers (even though this was not the purpose of the subsidies), while the crop branches, which were not granted such support, suffered.

In addition to this basic problem, whose impact is felt in the long run, the sector's terms of trade became less favorable over the last three years, for several reasons: (a) The world price of cotton is weakening (apparently a cyclical development), and this of course affects the profitability of the branch. Last year also saw the beginning of a cyclical downswing in world meat prices, and were it not for the support given local meat producers, they would already have been hit this year. (b) European currencies fell against the dollar (other sectors of the economy in which exports figure greatly were also hurt by this development).

On the other hand, as in the previous two years, there was an abundant rainfall in 1980/81, and this reduced the sector's need to purchase water, thus somewhat mitigating the effect of the terms of trade deterioration.

The expansion of production, combined with the adverse change in the terms of trade, resulted in a 125 percent growth in total income from farming in 1980/81, which roughly matched the rise in the consumer price index during the same period. However, because of a 15 percent increase in real wages paid hired labor, farm owners' income rose nominally by only 118 percent, which means that in real terms it fell 3 percent. Last year too real income shrank, owing primarily to a 50 percent real growth in the sector's measured interest payments. This, however, did not reflect an increase in real interest rates but stemmed from the fact that the rates are stated in nominal terms and include indexation increments. Hence the interest payments did not entirely represent an actual contraction of farm owners' income. But because of the credit restrictions in force in the economy, the rise in these payments squeezed the sector's available sources of funds.

Agricultural exports expanded in 1980/81 by almost 9 percent. The largest contribution was made by the crop branches—mainly potatoes, vegetables, and especially cotton—which enjoyed an unusually good year. In contrast, citrus and avocados suffered from adverse natural conditions (which caused yields to shrink from 32,000 tons to 8,000 tons); this explains the smaller overseas sale of fruit this year.

Table VI-6

DIRECT AGRICULTURAL EXPORTS, 1978/79 TO 1980/81[a]

(IS million, at current producer prices)

	Value		Percent annual increase					
			Quantity				Price	
	1979/80	1980/81	Average 1972/73-1977/78	1978/79	1979/80	1980/81	1979/80	1980/81
Field and industrial crops	897	2,529	20.0	12.0	-1.1	33.7	140	111
Vegetables, potatoes, melons	191	492	8.0	-5.8	-19.5	27.3	156	103
Fruit (excl. citrus)	243	324	14.2	30.5	2.2	36.3	128	110
Flowers, seedlings, ornamental plants, vegetable seeds, etc.	382	679	35.6	46.9	5.4	8.6	198	64
Total crops, excl. citrus	**1,713**	**4,024**	**19.3**	**19.0**	**-1.9**	**17.5**	**151**	**100**
Citrus	891	2,136	0.8	7.1	-4.6	-7.6	79	159
Total crops	**2,604**	**6,160**	**9.7**	**13.8**	**-3.1**	**8.9**	**120**	**117**
Livestock and livestock products	137	355	12.5	-8.1	-30.6	6.4	185	144
Total agricultural exports	**2,741**	**6,515**	**8.2**	**12.4**	**-4.5**	**8.8**	**123**	**119**

[a] Includes exports to the administered areas.

SOURCE: Central Bureau of Statistics.

Table VI-7

AGRICULTURAL OUTPUT MARKETED, BY ECONOMIC DESTINATION, 1979/80 AND 1980/81[a]

(IS million, at current consumer prices)

	Value		Percent annual increase			
			Quantity		Price	
	1979/80	1980/81	1979/80	1980/81	1979/80	1980/81
Output marketed						
Crops						
Direct domestic consumption	1,614	3,457	1.9	12.6	165	90
Industry	1,212	2,383	27.7	-9.4	157	117
Direct export	2,604	6,160	-3.1	8.9	120	117
Total crops	**5,430**	**12,000**	**3.5**	**5.9**	**140**	**109**
Livestock						
Direct domestic consumption	1,199	2,935	-1.7	-2.1	122	150
Industry	1,439	3,616	-0.3	2.9	115	144
Direct export	137	355	-30.6	6.4	185	144
Total livestock	**2,775**	**6,906**	**-2.5**	**0.9**	**121**	**147**
Total output marketed	**8,205**	**18,906**	**1.3**	**4.2**	**133**	**121**
Output retained on farms						
Own consumption	249	568	-2.5	4.1	138	119
Capital goods	251	642	10.5	0.2	96	156
Raw materials[b]	680	1,806	7.6	8.3	113	145
Total output	**9,385**	**21,922**	**1.9**	**4.4**	**130**	**124**

[a] The calculations were made from unrounded data.

[b] Intermediate goods, including the value of crops destroyed.

SOURCE: Central Bureau of Statistics.

The real drop in export prices mainly affected noncitrus crops (the foreign prices received by growers rose nominally by only 100 percent). Flower cultivation was particularly vulnerable: over the past three years the cumulative rise in producer prices here came to 423 percent, as against a 796 percent increase in input prices (a 40 percent real deterioration).

Exports of livestock products, which in the past consisted largely of surplus broilers sold at a loss to the economy, rose 6 percent this year, with no deterioration in the terms of trade. Most of the additional sales consisted of chicks and bebers, a water fowl newly introduced in Israel.

The input of hired farm labor declined in 1980/81, after an inexplicable increase the year before. Thus, the last two years taken together saw a

Table VI-8

INPUT OF MATERIALS AND SERVICES IN AGRICULTURE, 1979/80 AND 1980/81[a]

(IS million, at current prices)

			Percent annual increase [b]			
	Value		Quantity		Price	
	1979/80	1980/81	1979/80	1980/81	1979/80	1980/81
Feed	1,695	3,900	1.9	-2.6	148	136
Water	368	674	-8.0	2.0	183	80
Packing materials	260	552	-8.9	0.7	148	111
Fertilizers	134	381	-6.3	7.0	119	166
Transportation	270	667	-4.0	1.9	138	143
Spare parts, repairs, tools	133	331	-10.0	5.7	125	135
Fuel, lubricants, electricity	272	704	2.0	-0.9	172	161
Pesticides and veterinary preparations	411	1,084	-2.7	4.1	141	153
Insurance and government services	241	593	-6.3	1.7	111	141
Miscellaneous	179	474	14.2	5.6	147	150
Total purchases from other sectors	**3,963**	**9,360**	**-1.6**	**0.4**	**146**	**135**
Wages of hired labor [b]	899	2,206	4.0	-5.0	105	158
Interest and rent	925	2,077				
Intermediate goods	666	1,747	5.3	4.3	155	151
Depreciation	650	1,528	-1.2	-2.1	110	140
Total input	**7,103**	**116,918**				

[a] The calculations were made from unrounded data.

[b] The breakdown by quantity and price was made using wage data in the price index of input in agriculture.

SOURCE: Central bureau of Statistics.

continuation of the stable trend in this input, which has prevailed of late and is compatible with the relatively sluggish output growth. The existence of excess agricultural production capacity is clearly evident in the steady contraction of investment in this sector over the past three years (see Chapter II, Table II-2).

Output Subsidies

Agricultural production was subsidized much more heavily in the year surveyed, when the annual average price supports returned to their 1977/78 level, but were still a little lower than in 1978/79. At the beginning of the 1979/80 agricultural year macroeconomic policy aimed at cutting subsidies in the economy down to zero, and this explains the low level of farm price

supports that year. At the end of the 1980/81 agricultural year economic policy was revised, and subsidy rates were raised.

It is hard to determine quantitatively whether the main beneficiaries of the price supports were the farmers or consumers. But there is no doubt that the subsidies improve the farmers' financial situation, and that without such aid the crisis in agriculture would be much worse.

Table VI-9

AGRICULTURAL OUTPUT SUBSIDIES, 1979/80 TO 1980/81

(IS million, at current prices)

	Value		Rate of subsidy, at producer prices[a]				
			Average 1970/71-1976/77	1977/78	1978/79	1979/80	1980/81
	1979/80	1980/81					
Eggs	50	194	17	26	33	13	20
Poultry-meat	103	536	12	30	19	15	31
Milk	74	850	33	43	55	9	40
Total livestock[b]	**227**	**1,583**	**16**	**21**	**24**	**7**	**20**
Crops	13	49	1	1	1	0	0
Total subsidies on output	**240**	**1,632**	**7**	**9**	**9**	**3**	**7**

[a] The subsidy divided by the total output of the branch.

[b] Includes other livestock and livestock products.

SOURCE: Ministry of Agriculture.

3. INDUSTRY

In 1981 industrial production, excluding diamonds, moved up 6 percent in real terms, which was about one point higher than the average growth rate in 1973-79. To some extent the 1981 advance can be regarded as a compensatory response to the exceptional 3 percent decline in the previous year. The downturn was especially sharp in the first quarter of 1980, due to flagging demand. Subsequently the sector's activity began to gradually pick up, and it continued in this direction until mid-1981, after which production plateaued (see Table VI-14).

Labor productivity rose at a laggard rate over the past three years after virtual stagnation in 1979 and 1980. In 1981 the increase was 3.6 percent, which contrasts sharply with the 5 percent average improvement in 1973-78. Overall productivity showed a similar trend—a 2.5 percent rise in 1981 and a drop in the two preceding years, as opposed to a 2 percent average advance in 1973-78.

Table VI-10

INDICATORS OF INDUSTRIAL GROWTH, 1961-81

(Percentages)

	Average					Annual increase				
	1961-65	1966-67	1968-72	1973-80	1979-81	1977	1978	1979	1980	1981
Total industrial production [a]	13.4	-0.8	15.4	4.9	2.1	4.3	6.5	4.5	-3.0	5.0
Industrial production, excl. diamonds	..	-0.9	15.4	5.0	2.6	4.3	7.6	5.0	-3.1	6.1
Number of employed	7.6	-3.7	8.0	1.8	0.6	2.3	1.8	3.3	-3.9	2.6
Mandays worked	..	-5.5	9.4	-0.1	0.9	-1.1	0.2	4.6	-3.2	1.4
Real gross investment	6.0	-23.9	31.5	1.0	-4.1	-12.8	14.5	4.7	-18.0	2.6
Real gross capital stock [b]	11.0	6.4	7.7	7.2	5.5	7.2	5.5	6.2	6.2	4.2
Output per unit of capital [c]	2.2	-6.3	7.1	-3.2	-3.3	-2.7	1.0	-1.6	-8.7	0.8
Labor productivity [d]	..	5.0	5.5	5.0	1.2	5.5	6.3	-0.1	0.2	3.6
Overall productivity [d]	..	-0.1	6.7	2.1	-0.5	1.2	4.2	-0.7	-3.6	2.5
Real industrial exports, excl. diamonds	13.7	12.5	16.6	11.4	11.6	18.8	9.2	9.3	14.4	11.2
Revenue, at current prices	20.5	3.0	23.3	46.8	115.0	45.7	75.5	80.9	123.6	145.8
Wholesale domestic market prices	5.0	3.0	6.3	38.9	112.2	38.6	53.2	78.9	135.1	122.7
Total payroll outlay	..	5.0	18.7	42.3	122.7	44.4	64.8	94.9	125.3	147.9
Rate of return on capital	..	13	20	19	20	21	18	20	20	21
Return on capital as a percent of the product	..	34	43	44	41	44	42	41	41	42

[a] The data on production, labor, and wages up to 1978 have been adjusted for actual mandays worked.

[b] At the beginning of the year.

[c] The term "output" in this table refers to industrial production.

[d] The productivity estimates in this table differ somewhat from those in Tables VI-1 and VI-3. The labor input is measured here according to industrial production index data rather than labor force data (see also note [b] to Table VI-3).

The structural change in industrial output destinations carried over through the year reviewed. The weight of exports, which moved up steadily throughout the 1970s, continued to rise in 1981, when overseas sales of industrial goods (excluding diamonds) grew twice as fast as sales to the domestic market. Export value added (direct and indirect) averaged 28 percent of the sector's product in 1968-72, but rose to fully half of the product in 1980-81. Nearly all branches contributed to this striking increase in the weight of exports, although not to the same extent. Metal products and the electrical and electronic equipment industry chalked up especially impressive gains in production and exports, both over the period as a whole and during the last year.

The industrial output advance in 1981 was spearheaded, as stated, by exports, which accounted for two-thirds of the increment. A livelier private consumption demand accounted for another third (see Table VI-11). Sales of industrial consumer goods were quite buoyant in 1981, after slumping the year before. The reversal of trend can be credited to a 14 percent growth of real disposable income, along with the lowering of taxes on durable goods at the beginning of the year and a much heavier subsidization of current consumption goods in the course of the year. The effect of these policy measures was especially noticeable in the expanded production of processed food and household appliances. The change in demand added 2.2 percent to the industrial product. Since the demand for fixed investment was virtually static this year, this final use did not contribute to the growth of the industrial product. Public domestic consumption was responsible for a 1 percent increase in the product.

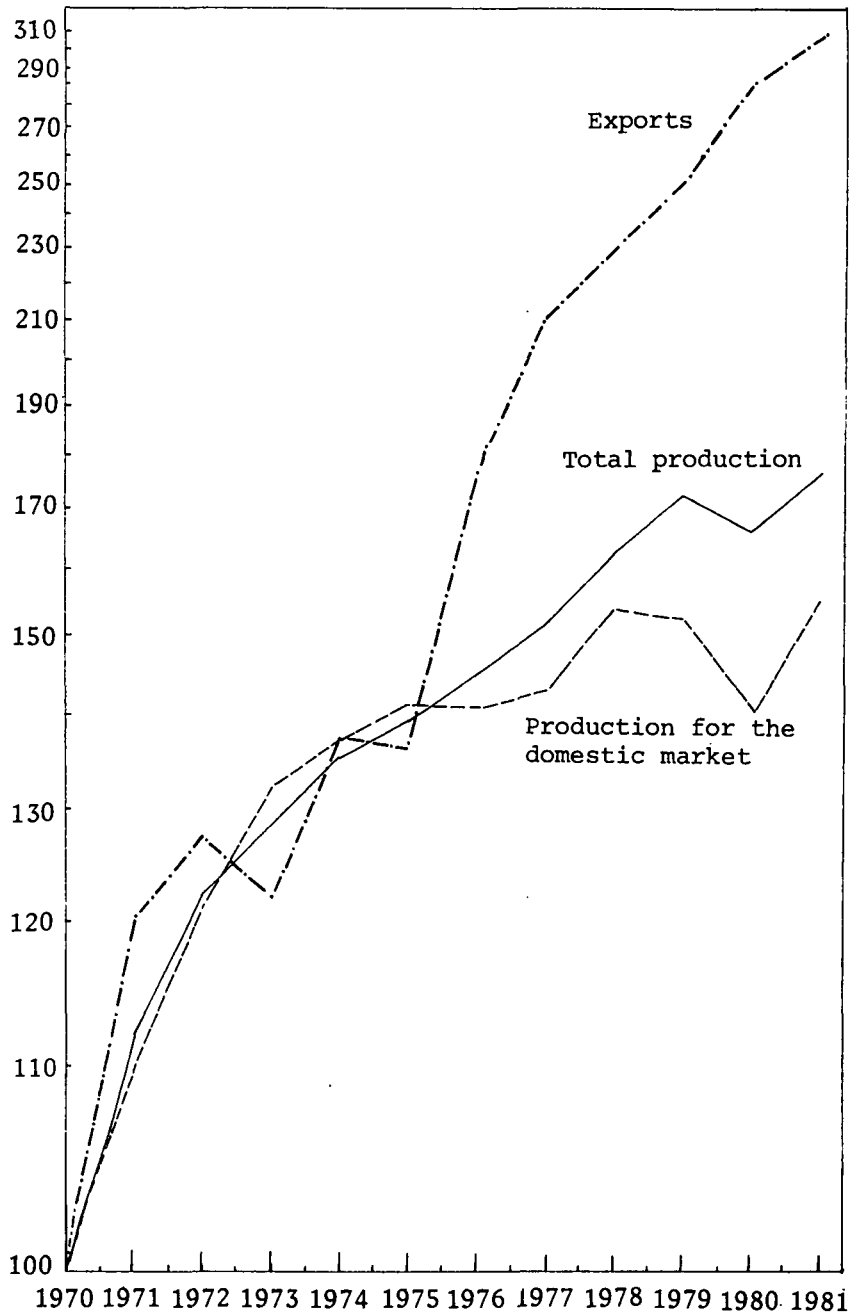
(a) Factors of Production and Productivity

The perking up of industrial production in 1981 was accompanied by a slight increase in the labor input (1.5 percent), but the number of workers in this sector did not return to its 1979 level. Manufacturers were apparently very cautious in employing additional factors of production, in view of the slump in early 1980 and the strong fluctuations in demand and production. Rapid changes in demand and in economic policy (which influence demand) induce industrialists to try to minimize risks by reducing investment in fixed capital and the recruitment of additional manpower, which at times also become a fixed productive factor.

Unit labor costs[13] inched down 1 percent in 1981, after rising at a similar

[13] This is an estimate of the change in employers' real gross wage outlay, i.e. the change in total wages paid deflated by the index of industrial output prices (a measure of the factor-cost price of the product). Real wages from the standpoint of the employee rose 14 percent (deflated by the consumer price index).

Figure VI-1
INDEXES OF REAL INDUSTRIAL PRODUCTION (EXCL. DIAMONDS) FOR EXPORT AND THE DOMESTIC MARKET, 1970-81
(1970 = 100)



Semilogarithmic scale.

Table VI-11

INDUSTRIAL PRODUCT BY FINAL USES, 1968-81[a]

(Percentages)

	Weight of uses in derived product				Annual increase		Contribution to growth of derived product	
	1968-72[b]	1973-75	1980	1981	1980	1981	1980	1981
Private consumption	37	27	23	24	-7.0	9.5	-1.8	2.2
Public consumption	15	21	14	14	-0.8	8.1	-0.1	1.1
Investment[c]	18	18	12	10	-14.1	-7.6	-1.9	-0.9
Thereof: In fixed assets	18	18	12	11	-1.5	-2.6	-0.2	0.3
Total domestic uses	**70**	**66**	**49**	**48**	**-8.1**	**4.5**	**-3.9**	**2.4**
Exports	2	3	3	3	7.6	9.5	0.2	0.3
To administered areas	28	31	48	49	15.6	8.7	6.6	4.2
To the rest of the world	30	34	51	52	17.0	9.1	6.8	4.5
Total final uses	**100**	**100**	**100**	**100**	**3.0**	**6.9**	**3.0**	**6.9**
Industrial production index (incl. diamonds)					-3.0	5.0		

[a] The product attributable to each use is the value added generated directly or indirectly in the production of goods destined for that use, i.e. it includes the estimated value of the intermediates used in production. These estimates are based on Central Bureau of Statistics data on final uses and Bank of Israel calculations of the derived product based on the 1975/76 input-output table. The calculations were made at constant 1975 prices.

[b] The average for these years is based on the 1968/69 input-output table.

[c] Includes changes in industrial inventories in 1980 and 1981 only.

rate in 1980 and by 2 and 4 percent in 1979 and 1978 respectively. Changes in hourly wage expenditure during the past two years did not deviate from the average change in labor productivity (product per manhour) for this period. Hence the weight of wages in the industrial product held virtually steady in recent years at 58-59 percent. The gross return to capital has also been remarkably stable for a fairly long period (see Table VI-10).

It is interesting to note that real hourly wages have gone up faster in branches geared largely to export than in those producing primarily for the home market, especially in the past few years (see the table in the following section). It may be that the structural change in manufacturing, i.e. the mounting weight of export branches, has necessitated the steady diversion of such specialized groups of workers as technicians, electronic engineers, and women doing precision work in the electronic and optical industries, by offering relatively high pay.

In response to the falling demand in earlier years, the expansion of the industrial capital stock tapered off in 1981, when gross fixed investment was equal to the measured annual depreciation. Capital expenditures this year still fell short of their level in 1979, following an 18 percent drop in 1980 and a 3 percent rise in 1981. The preponderant share of the investment is made in existing enterprises, and is mostly intended for expanding production facilities and replacing obsolescent equipment; investment in new plant and equipment has remained fairly small. The demand for industrial goods in previous years was such as to induce manufacturers to step up purchases of machinery and equipment in 1981, especially in electrical and electronic equipment, transport equipment, miscellaneous industries, and even clothing and textiles. (Since the actual implementation of investments tends to lag behind the recovery of demand, the capital stock continues to expand in industries whose export slumped noticeably in the preceding year.)

Another reason for the more sluggish growth of capital stock despite the structural change in output destinations was the buildup of idle capacity in many industrial branches (see Table VI-12). The subsidies, which in part were anticipated, and the various concessions received by industrial investors throughout most of the 1970s significantly reduced the cost of capital to the manufacturer, leading *inter alia* to an overinvestment. This was aggravated both by the escalation of inflation, which greatly increased the subsidy component of development loans (unlinked), and by the increase in investment grants.[14]

The linkage of development loans in 1979 only partly reduced their subsidy component by the end of 1981, since the expenses connected with such

[14] For a more detailed discussion of this subject see the Bank of Israel Annual Report for 1980, Chapter VI, the section on industry.

Table VI-12

INDICATORS OF CAPITAL UTILIZATION IN INDUSTRY, 1971-81

(Indexes: Average 1971-72=100)

	Electricity used per unit of total capital	Electricity used per unit of equipment stock		Electricity used per unit of connected load[c]	Shift coefficient[d]	Capital-product ratio[e]
		A[a]	B[b]			
1971-72	100	100	100	100	100	100
1973-74	93	91	92	90		108
1975-76	89	84	88	82		117
1980-81	85	78	89		93	135

[a] From R. Meron, *Capital Stock Series in Israel, 1960-1980—Updates*, Bank of Israel, Research Department, 1981.

[b] An alternative series which assumes a shorter life for the capital stock (see also Chapter II).

[c] See Y. Kondor (1981), "Capital Utilization, Returns to Scale and Productivity in the Business Sector", *Economic Quarterly*, 110-111.

[d] The average number of shifts in industry (according to a Central Bureau of Statistics survey for the years 1970-79) dropped from 1.19 to 1.11.

[e] At constant 1975 prices.

financing are deductible for income tax purposes. Linked loans are paid back more slowly than unlinked loans, and so they tend to have a higher subsidy element than the latter. The grants and subsidies enjoyed by investors in development areas in 1981 were not significantly lower than during the preceding period.[15] It follows that the encouragement of investment continued to be largely confined to a single factor of production—capital.

Inflation ran at a high rate in the past three years, owing *inter alia* to a second jump in oil and other imported raw material prices in 1979. Such a development has an unmistakable effect on productivity, as it makes planning extremely difficult for manufacturers, who must adjust their purchases of raw materials and other factors of production to expected developments in these prices as well as in the price of their own products. The sharpening of price fluctuations around a high trend increases the uncertainty facing manufacturers, and prompts them to slow down production and investment. Variations in the ratios of various inputs to fixed capital due to a reduction in imported energy and raw materials, for example, also depress production.

[15] In 1981 the grants reached IS1,140 million, which constituted 17 percent of total fixed investment in industry, including investment in enterprises which did not receive grants. The volume of grants granted in 1981 was up 17 percent in real terms.

Such developments have accentuated the effect of the rapid shifting of production from the local to the overseas market, which has been going on for several years now. This is likely to affect the composition of the factors of production and productivity in every single establishment, especially as it largely reflects a change in the product mix, namely the development of new items designed primarily for foreign customers (see the detailed description of industrial exports in Chapter VII).

Among other things, these changes have necessitated production in bigger series. Accordingly, for profitability reasons and in order to adjust production to their order books, many local plants have enlarged their production lines and marketing networks. It is not surprising, therefore, that export production has become increasingly concentrated in the hands of a small group of enterprises, as can be seen from the (provisional) estimates below.

CONCENTRATION OF INDUSTRIAL EXPORTS, 1977-81
(Percentages)

	1977	1980	1981
25 largest firms	51	53	55
50 largest firms	62	65	. .
Other firms	38	35	. .
Total industry	**100**	**100**	

The uptrend in exports of locally developed goods was accompanied by a steady rise in government R&D grants, which went mostly to the large firms—those possessing sufficient means for employing highly skilled manpower and for carrying out the necessary experiments and tests. In 1981 these grants increased 15 percent in real terms, compared with a 7 percent average annual rise in the four preceding years, and reached IS600 million. It will thus be seen that much of the government R&D assistance is intended for the workforce, which is discriminated against under the other systems of encouragement. The high risk assumed by the entrepreneur relative to the risk to the economy as a whole justifies the supporting of R&D, for even those manufacturers who could step up their exports are deterred by this risk from trying to win a foothold in new markets and from switching to the manufacture of locally developed products. Acquisition of the knowhow for turning out new products, market research, and original inventions are areas in which the government can legitimately be expected to intervene by assuring the availability of credit and by participating in the risks. The present system of grants, which in many cases are given after considerable delay (and without linkage), is apparently failing to achieve its purpose. Such aid is often too small to be a decisive factor in the eyes of the entrepreneur who is weighing

Table VI-13

INDUSTRIAL PRODUCTION AND EXPORTS AND WEIGHT OF EXPORTS IN DERIVED OUTPUT, 1980-81

(Percentages)

	Annual quantitative increase				Export share of derived output			
	Production		Direct exports		Direct exports		Total exports	
	1980	1981	1980	1981	1980	1981	1980	1981
Mining and quarrying	8	5	3	17	51	55	63	67
Nonmetallic minerals	0	6	38	8	3	3	7	8
Food, beverages, tobacco	-4	10	5	12	13	14	18	18
Textiles	-7	0	27	23	27	21	62	55
Clothing	4	10	29	-3	61	58	62	59
Leather and leather products	-2	3	3	18	19	19	27	27
Wood and wood products	-13	11	0	-32	9	6	15	12
Paper and paper products	-10	3	12	-57	11	4	38	32
Printing and publishing	9	8	12	4	9	9	24	23
Miscellaneous	-14	5	0	23	57	65	62	70
Rubber and plastics	-4	6	23	-8	43	40	55	53
Chemicals and refined petroleum products	-3	4	22	5	32	31	51	50
Basic metals	-7	3	70[a]	-40	24	21	41	40
Metal products	-4	3	13	30	31	35	47	53
Machinery	-1	8	15	28	19	24	33	39
Electrical and electronic equipment	-3	8	44	44	34	41	41	49
Transport equipment	-9	1	-1	20	44	45	49	51
Total industry, excl. diamonds	**-4**	**6**	**14**	**11**	**28**	**29**	**40**	**41**
Total industry, incl. diamonds	**-3**	**5**	**13**	**2**	**32**	**32**	**44**	**44**

[a] This datum is of doubtful reliability, and hence it should be accepted with caution.

whether or not to embark on a relatively high-risk project. Some incentive was given to manufacturers at the end of 1981, with the passing of a bill allowing such expenses to be deducted for income tax purposes.

(b) Developments in the Various Industrial Branches

The outstanding development in the various branches of industry in the 1970s was, as stated, the change in output destinations and the capital structure. The way in which this structural change was effected varied widely from branch to branch. For one thing, it appears that the differentiation between

distinct export industries[16] and other industries became somewhat blurred in 1979-80, with the percentage increase in the foreign sales of "other industries" virtually matching that of the first group in 1980. In the following year the customary pattern reasserted itself. In other words, the rapid expansion of the veteran export industries was apparently accompanied by the addition of new enterprises and subbranches to the list of exporters. This can be seen in the table below and in the following brief description of developments in the various branches.[17]

SELECTED INDICATORS OF EXPORT AND OTHER INDUSTRIES, 1972-81
(Percent annual increase)

	Production		Exports		Fixed capital		Daily wages	
	Export industries	Other	Export industries	Other	Export industries	Other	Export industries	Other
1972-79	6	5	16	3	7.5	4.7	52	43
1980	-4	-3	16	18	..	..	135	132
1981	5	7	14	-3	..	..	148	147

1. *Food, Beverages, and Tobacco*

This branch, which produces primarily for the home market, posted a 10 percent real growth in both domestic and foreign sales in 1981.

The increase in domestic sales was influenced by the general upswing in private consumption, and in particular by the drop in the relative price of basic food products due to the heavier subsidization. Sales of milk products, beef and poultry-meat, oils, and bakery products scored especially big gains.

In 1981 the overseas market took 14 percent ($340 million) of the total output of this industry; 45 percent of the exports consisted of citrus products, 17 percent of canned, frozen, dried, and dehydrated fruits and vegetables, and 15 percent of meat and poultry products. Sales of canned vegetables, notably tomatoes, fared very well this year, thanks to the high yields and the rapid adjustment of production to the favorable market conditions abroad. The more than 50 percent expansion of such exports followed a 5 percent decline in the previous year. All the large canneries produce for export in some degree or other, with the bulk of the overseas sales made on a centralized rather than individual firm basis.

[16] The group of "export industries" consists of all industries which significantly boosted the percentage of their output marketed abroad between 1972 and 1979; it includes mining and quarrying, rubber and plastics, chemical products, basic metals, metal products, machinery, electrical equipment, transport equipment, and "miscellaneous industries".

[17] This discussion complements and explains the data presented in Table VI-13.

2. *Textiles, Clothing, and Leather Products*

In 1981 domestic sales of textiles, clothing, and leather products soared, while exports plummeted. This crisis in exports can be attributed to several factors, of which the principal ones were the general world recession, the weakening of European currencies against the dollar, the neglecting of the U.S. market in favor of the Common Market in previous years, and the growing obsolescence of equipment, notably in the spinning mills.

Cotton yarn was hit hardest of all. In 1981 exports of this item tumbled to a third of their level the year before. Bumper cotton yields the world over sharply depressed the price of cotton products and led to the piling up of large inventories and an increased import from countries with cheap labor. One local mill discontinued the production of yarns and went over to the manufacture of knitted bed linen, a product unique to Israeli industry and in great demand in Europe. Steps were taken to protect domestic production, such as the imposition of a levy on imports from countries with cheap labor, and this despite the negative effect such measures have on resource allocation.

3. *Wood, Paper, Printing, and Miscellaneous Industries*

This group, especially "miscellaneous industries", boosted its overseas sales appreciably in 1981 (see Table VI-13). Much of the increment consisted of jewelry marketed in the U.S., which rose 20 percent to reach $100 million. The partial customs exemption granted Israel as a developing nation gave a fillip to this export.

Table VI-14

INDICATORS OF INDUSTRIAL GROWTH, 1980-81[a]

(Percent annual increase)

	1980				1981			
	I	II	III	IV	I	II	III[b]	IV[b]
Industrial production[c]	-7.9	3.4	2.8	1.1	2.1	2.4	0.1	-0.8
Industrial exports[c]	11.9	-0.7	-7.8	15.2	0.5	-5.5	8.7	16.0
Number of workers	-2.9	-0.4	0.0	0.5	1.3	1.0	0.6	-0.3
Mandays worked	-6.1	0.4	0.8	0.4	1.3	-1.0	0.0	2.3
Output per manday (labor productivity)	-1.9	3.0	2.0	0.7	0.8	3.4	0.1	-3.0

[a] Total industry excluding diamonds, seasonally adjusted.

[b] Provisional data.

[c] Production and export figures are from different sources; this may account for the dissimilar development of these two series.

Israel also began shipping educational toys and games abroad, and expanded its exports of precision, optical, and medical instruments—products with a high "human capital" component (highly educated and inventive manpower).

4. *Mining and Quarrying and Nonmetallic Minerals*

The enlarged potash production capacity was not fully exploited in 1981, mainly because of depressed world demand for fertilizers. Exports of potash and phosphates were moderately higher this year, but large stocks still piled up.

Production of building materials for the domestic market also rose mildly this year, in line with developments in the various categories of construction activity: structures and earthwork in the Negev, which are heavy users of cement and cement products; residential construction; and roadbuilding and nonresidential construction.

5. *Chemicals and Rubber and Plastic Products*

After a huge investment in the petrochemicals industry in preceding years, 1981 was supposed to be the first year in which production capacity would be fully utilized and exports would reach a respectable figure. However, the world recession and consequent sharp drop in international prices had a very perverse effect on this industry's foreign sales. The relative prices of its products also declined. Lower export figures were recorded for other items in this group, notably pesticides, fertilizers, and rubber and plastic products.

6. *Metal Products, Electronic Equipment, and Transport Equipment*

In 1981 exports of metal products and electronic equipment continued to gain momentum, continuing the trend which has persisted for the past few years. In 1975–80 such sales averaged 22 percent higher per year, and in 1981 they spurted 25 percent in real terms over their 1980 level.

The weight of this group in industrial exports has grown steadily in recent years, and in 1981 it reached 42 percent of the total figure excluding diamonds, and 32 percent including diamonds (compared with 30 and 19 percent respectively in 1975).

During the year reviewed both military and civilian exports of this group expanded, with provisional data showing that military items accounted for half or less of the increment. Most of the additional foreign sales consisted of construction equipment, aircraft, and medical and industrial electronic products. This brought up the weight of high-technology exports in these industries.

Sales of metal products and electronic equipment to the domestic market drifted up sluggishly this year, and in some cases even fell off. The output of the group as a whole rose 5-6 percent.

The workforce of these industries inched up 1 percent in 1981. Of 1,300 additional workers, about 800 were employed in the manufacture of electrical and electronic equipment, the industry scoring the largest export advance. Output per worker (and per manday) was up 4-5 percent in this group in 1981, with above-average increases registered in electrical and electronic equipment (8 percent) and machinery production (7 percent).

4. TRANSPORTATION, COMMUNICATIONS, AND TOURISM

Total output[18] of this sector at market prices, as well as its total gross product, averaged 5 percent higher in 1981 in real terms, after retreating 4 percent the year before. The growth of output and product here is largely related to general developments in the economy. The expansion of inland freight transport and communications can be attributed to the growth of domestic demands and national income, shipping and port output went up in the wake of the expansion of Israel's international commerce, and airport and civil aviation output was influenced by the larger number of Israelis traveling abroad this year.

In shipping, aviation, and airports output is also affected by developments abroad. Thus, the deepening slump in the world shipping market had an impact on Israeli shipping, and the drop in the number of tourists to Israel because of the recession in industrialized countries left its mark on aviation output.

On the supply side, changes in fuel prices have an important bearing on the sector's performance, as this input accounts for 20-30 percent of total operating expenses. In 1981 the uptrend in fuel prices came to a halt: after soaring in 1980, gasoline prices dropped 15 percent in real terms in the year reviewed, while the price of shipping fuel fell a little more slowly. Aviation fuel was slightly dearer this year, while diesel fuel, which is used mainly by buses and trucks, went up 30 percent in real terms, similar to the previous year's increase.[19]

After being cut back 30 percent in 1980, investment in transportation and communications rose 10 percent. There was a larger expenditure in 1981 on equipment (especially ships and aircraft, which jumped from near zero to half

[18] Total revenue at constant prices.

[19] With respect to gasoline and diesel fuel the change in prices is computed in sheqalim, deflated by the consumer price index. In the case of shipping and aviation fuel the change relates to the price in dollars.

the average annual investment in this sector in 1977–79), as well as on machinery and equipment; investment in structures, on the other hand, was cut back. The capital stock, which held steady in 1980, contracted slightly this year. Since the number of employed decreased 2 percent, the growth of product boosted productivity by 6 percent.

Wages rose 8 percent in real terms (deflated by the consumer price index), as opposed to a mere 1 percent increase in 1980. Since productivity went up this year after declining in 1980, the hiking of wages did not generate any pressure from the costs side.

Output prices went up 113 percent in 1981, which represented a real drop of 2 percent. The increase was smaller for inland than for international transport, and much lower than the rise in the general price level. Bus fares and communication prices moved up at a very laggard rate, owing to a heavier subsidization. Shipping and aviation prices, which are generally stated in dollars or other foreign currencies, rose fairly rapidly despite falling prices in international markets, especially shipping.

(a) Domestic Passenger Conveyance

Output of the domestic passenger branch[20] increased 7 percent in the year reviewed. Bus revenue, which accounts for most of the branch's output, was up 8 percent, but on regular routes, which yield some two-thirds of total bus revenue, the increase came to only 4.5 percent, which was less than the rise in private consumption excluding housing, nonprofit institution services, and durable goods.[21] Moreover, bus fares (deflated by the consumer price index) were down 12 percent in 1981, following a 31 percent real increase the year before. The trailing of bus revenue behind the growth of private consumption as defined above is explained by the larger number of cars this year. The stock of private cars expanded 11 percent, and average kilometrage per vehicle rose 12 percent. This can be ascribed to the cutting of taxes this year and the real decline in gasoline prices.

The real decrease in bus fares was largely due to the heavier subsidization of public transportation. This expenditure item jumped from IS506 million in 1980 to IS1,774 million, bringing up the weight of the subsidy in total bus revenue on regular routes from 49 percent in 1980 to 91 percent.

[20] Buses, taxis, and the railway. The data do not cover the entire branch, for some 20 bus companies that specialize in tours and excursions are omitted. Moreover, the distribution of the financial data between calendar years is statistically deficient. The change in the output of taxis has been estimated by the Bank of Israel on the basis of indicators rather than a direct measurement.

[21] Studies of transportation and communication services generally reveal a greater than unity income elasticity of demand and a statistically insignificant price elasticity.

Table VI-15

CHANGES IN OUTPUT, PRODUCT, AND PRICES OF THE TRANSPORTATION AND COMMUNICATIONS SECTOR BY BRANCH, 1978-81

(Percent increase)

	Estimated weight in sector gross product in 1980 (at 1972/73 prices)	Weight in revenue in 1980	Change in output				Changes in prices		
			1978	1979	1980	1981	1979	1980	1981
Land transport	36	31	6.2	1.3	-4.7	4.6	77	165	119
Buses	11	9	8.5	-4.2	-8.3	7.9	83	202	91
Taxis	4	3	3.0	2.0	-5.0	4.0	76	147	109
Trucks	19	17	5.4	3.5	-3.6	3.4	74	154	136
Railway	2	1	13.0	7.7	8.2	-4.3	100	126	127
Other domestic services	21	19	3.6	6.1	5.7	10.2	55	142	72
Oil pipelines	1	0	15	-69	25	-8.7	37	97	136
Communications	20	19	2.4	12.2	5.3	10.6	56	143	71

Shipping and ports	27	33	7.4	8.2	-4.3	2.8	57	115	129
Shipping	20	28	6.0	6.1	-2.2	2.6	58	118	126
Ports	7	5	15.2	19.1	-14.2	4.0	54	101	147
Civil aviation and airports	15	17	7.7	13.8	-9.0	4.0	59	147	123
Aviation	14	16	7.9	14.0	-9.9	3.2	59	150	119
Airports	2	2	5.8	11.4	-0.3	11.2	61	122	153
Total output at market prices	**100**	**100**	**6.3**	**6.9**	**-3.5**	**5.0**	**62**	**140**	**113**
Total gross product at 1972/73 prices			**6.6**	**5.4**	**-3.5**	**5.1**			

NOTE:

1. Output is at market prices, including VAT, the defense stamp duty (until April 1978) on bus, railway, and postal services, and excluding bus subsidies, the deficit of the railway, and the air travel tax (until October 1977).
2. The change in the sector's product was estimated on the basis of data from the 1972/73 input-output tables: the annual output changes in the subbranches were used as an indicator of changes in the product at constant prices.
3. The data for 1977-80 have been revised.
4. The output data for taxis, trucks, and oil pipelines were calculated by the Bank of Israel from figures provided by the Central Bureau of Statistics and internal industry sources.
5. The calculations were made from unrounded data.

SOURCE: Central Bureau of Statistics.

This subsidy, like the others, was upped as part of the policy of halting the advance of controlled prices in the hope of cooling inflation in 1981 (see Chapter III, "Prices"). Even if the subsidization of public transport is justified, it is difficult to justify the high rate of subsidization in 1981, for this leads to a less efficient resource allocation. Moreover, the current subsidy policy discriminates against taxis and truck passenger conveyance.

(b) Domestic Freight Transport

Domestic freight transport output[22] expanded 3 percent in 1981. The trucking industry, which accounts for 95 percent of the branch's output, recorded a 3.5 percent increase, after a 3.6 percent drop the year before,[23] while rail freight haulage slumped 8 percent.

Inland freight transport serves other sectors of the economy, and hence its output and product are subject to developments in these sectors. Industrial freights, which account for about half the truck operators' revenue, apparently increased 7 percent. Haulage for the construction industry, which accounts for about a quarter of the branch total, decreased 4 percent, and agricultural freights, whose share in the total stands at roughly 15 percent, expanded 2.5 percent.

Truck haulage charges rose 136 percent this year.[24] The authorized tariffs were revised by more than this, but presumably this did not reflect the actual change because of the existence of idle capacity since the end of 1979.

The spare haulage capacity, together with the discontinuation of subsidized credit for the purchase of trucks, led to the buildup of a stock of unsold vehicles in the country's assembly plants. To ease their plight, the Ministry of Transport decided to grant purchasers of locally manufactured trucks dollar credits, for five years at 6.75 percent interest. As a result, the truck fleet was enlarged by 6 percent according to provisional data, after a mere 2.5 percent increase the year before. But it must not be overlooked that this discrimination in favor of local production has an adverse effect on economic efficiency.

In 1981 the regulations forbidding haulage in excess of authorized load capacity were still not enforced. Aside from the damage this causes to the road infrastructure and to the vehicles themselves, it aggravates the problem of excess carrying capacity.

[22] The trucking industry and the railway.

[23] Changes in the trucking industry's output are measured indirectly by means of indicators, and so this estimate should be treated with caution. Total truck kilometrage declined 13 percent, which suggests a possible upward bias in the estimated real output change.

[24] This figure has been derived primarily from the relevant item in the agricultural and construction input price indexes.

(c) Communications[25]

The communications industry[26] chalked up an 11 percent output gain in 1981, as opposed to 5 percent the year before. Revenue from telephone services (which in 1981 contributed 80 percent of the industry total at current prices) increased slightly more than 9 percent, which was similar to the growth of private consumption excluding housing, nonprofit institution services, and durable goods (see Chapter II, the section on private consumption). The total number of meter pulses recorded, which is an indicator of changes in output, rose nearly 20 percent in 1981; this suggests that output may have expanded even faster than reflected by the financial data.

After a steep jump in telephone installations in 1979 and 1980 (29 and 21 percent respectively), the number of new lines installed in 1981 was almost the same as in the previous year. Even if the number of external transfers of telephone lines is added, there was still a slower increase in the year reviewed—5 percent as against 20 and 15 percent in 1979 and 1980 respectively. On the other hand, applications for telephones soared 40 percent in 1981. Consequently, the backlog of outstanding applications grew 2 percent in the course of the year, after shrinking 6 percent in 1980.

Following a precipitous rise in communication tariffs in 1980 (143 percent), they went up only 71 percent this year. These variations can be attributed to the changes in the government's subsidy policy (by far the greater part of the subsidies goes to the postal services): in 1980 subsidies were cut, but in the following year they were again increased.[27]

During the past two years the cost of installing telephones was raised three times: on May 1, 1980—from IS840 to IS1,260; on August 15, 1980—to IS1,702.40; and on November 1, 1981—to IS5,600 for a private phone and IS7,840 for a business phone. The large number of applicants awaiting phones may justify an extremely steep price hike, but the big delay in updating prices means that the burden of adjusting them for inflation is unevenly distributed. Moreover, the reasons for discriminating between private users and business are not at all clear.

Since the sharpest jump in installation charges occurred near the end of the year under review, it is difficult to assess its effect on the demand for

[25] Excluding the operations of the Post Office Bank. The data for previous years have been revised; the 1981 data are provisional. The distribution of financial data between calendar years is of limited statistical reliability.

[26] The change in output of the communication industry is measured as the change in revenue at constant prices.

[27] After adjusting for the increase in the consumer price index, the index of communication prices rose 5 percent in 1980 and dipped 21 percent in 1981. According to a Ministry of Communications study, the return on capital invested in telephone services has amounted to 4–5 percent in recent years.

telephones. Nevertheless, the data for the last quarter of the year indicate an 8 percent drop in applications as compared with the previous quarter, in contrast to the rises registered in the last quarters of 1980 and 1979 (46 and 10 percent respectively).

(d) Shipping and Ports

Real shipping output was up 2-3 percent this year, after falling off 2 percent in 1980. The reversal of trend was due to a 4 percent expansion of import tonnage following an 18 percent drop in 1980. By contrast, export tonnage, freight transport between foreign ports, and income from charter hire grew more sluggishly than in 1980.

The Israeli shipping industry's operations fall into two principal areas: one is connected with the country's international waterborne commerce (import and export cargoes), and the other is connected with general international shipping (freight transport between foreign ports and the chartering of vessels to foreigners). The 1980 contraction of activity in the first category stemmed primarily from a sharply smaller import of goods (excluding diamonds), while the following year's rise is explained by the upswing in such imports.[28] The second category is strongly affected by developments in world shipping. During the past two years the main changes here were as follows:

(1) Beginning in the early seventies a clear uptrend was discernible in world shipping.[29] In 1980, however, it changed direction, the level retreating 5 percent and in 1981 by another 6 percent. This was by no means the first time that the industry experienced a slump—decreases of 6 and 3 percent were recorded in 1975 and 1978 respectively. But in both cases the industry bounced back in the following year, whereas this time the level sank for two consecutive years, by a total of 11 percent. The depressed state of world shipping can be attributed almost exclusively to the contraction of crude oil shipments (as a result of reduced imports and the shortening of shipping routes).

(2) Container shipping charges rose mildly in 1981, while tanker freight tariffs plummeted for the second year in a row, and charter hire rates also fell.[30]

(3) Maritime carrying capacity has expanded steadily since 1971, although the trend tapered off noticeably in the past two years. The aforementioned developments in world shipping greatly depressed demand for tankers and moderated the growth of demand for bulk carrier shipping (see also the discussion on the expansion of world markets in Chapter VII, the section on exports).

[28] See Chapter VII, the section on imports.

[29] Measured in ton-kilometers.

[30] All prices are stated in U.S. dollars.

Table VI-16

ISRAELI SHIPPING REVENUE, 1979-81 [a]

(IS million, at current prices)

Revenue by type of shipping	1979 [b]	1980 [b]	1981 [b]	Percentage distribution 1979	Percentage distribution 1980	Percentage distribution 1981	Percent annual real increase[c] 1980	Percent annual real increase[c] 1981
Cargo (incl. oil)	1,695	3,651	8,484	82	83	83	-4.2	2.0
Imports	644	1,200	2,928	31	27	29	-17.8	4.1
Exports	280	627	1,496	14	14	15	12.5	5.7
Between foreign ports	771	1,824	4,059	37	41	40	1.0	-0.8
Charter hire [d]	329	652	1,496	16	15	15	7.5	6.5
Miscellaneous	45	100	226	2	2	2	0.8	2.5
Total revenue	**2,069**	**4,403**	**10,206**	**100**	**100**	**100**	**-2.2**	**2.6**
Thereof:								
Imports and exports	924	1,827	4,424	45	41	43	-8.7	4.6
Between foreign ports and charter hire	1,100	2,476	5,555	53	56	54	2.9	1.0

[a] The calculations were made from unrounded data.

[b] The data for 1979 and 1980 have been revised; the 1981 data are provisional.

[c] Based on Central Bureau of Statistics data, except for charter hire, which is a Bank of Israel calculation.

[d] Excludes revenue from the chartering of vessels between Israeli companies.

SOURCE: Central Bureau of Statistics.

It is against this backdrop that one should view the slackening in 1981 of the real increase in freight transport between foreign ports and the chartering of ships to foreigners, as well as the milder rise of prices in these areas of activity as compared with the others. Nevertheless, in 1981 Israeli shipping seems to have suffered less from these developments than did the world shipping industry.

Port output was up 4 percent this year, which more or less matched the real increase in revenue from import cargo transport.

(e) Aviation and Airports[31]

Aviation and airport output[32] expanded 4 percent in 1981, after shrinking 10 percent in the previous year. The upturn occurred in passenger conveyance and cargo transport alike. The better performance of the airlines stemmed from a slight increase in the number of persons flying to and from Israel (up 3 percent, as against 1.5 percent in 1980), and from the stabilization of the share of the Israeli carriers after last year's decline (they accounted for 45 percent of total passenger traffic in 1981, 45 percent in 1980, and 47 percent in 1979). The expansion of passenger business is explained by the large number of Israelis traveling abroad, which outweighed the drop in airborne tourism to this country (see the section on tourism below). The recovery in cargo transport was apparently due to the expansion of Israel's international commerce, following its contraction in 1980.

These developments helped to reduce the aviation industry's losses. The halting of the rising trend in charter flight business worked in the same direction, for in the past the growth of such service was partly at the expense of scheduled flight traffic. In 1980 the number of charter passengers flown by Israeli carriers more than doubled (following a similar rise in each of the three preceding years), while scheduled flight business fell off 10 percent. In 1981, however, the number of scheduled flight passengers increased more than 3 percent.

The stabilization of fuel prices after the steep jump in the two preceding years probably also helped to curtail the industry's losses. The price paid by El Al for this input went up in dollar terms by 3, 46, and 56 percent in the financial years 1981/82, 1980/81, and 1979/80 respectively. Even if the plateauing of fuel prices did not reduce the industry's losses in 1981, it at least ended the adverse effect this input had on the airlines' profitability.

[31] Since 1981 separate financial data are no longer published for domestic aviation, which in recent years has accounted for 2-3 percent of total revenue (in current prices) from air transport services. On September 27, 1981 Arkia began to fly on international routes. Maof began operations on October 26, but it is not covered in the data presented here.

[32] The change in output is measured as the change in revenue at constant prices.

Table VI-17

REVENUE FROM AIRLINE AND AIRPORT SERVICES, 1978-81[a]

(IS million)

	Revenue		Percentage distribution		Percent annual real increase			
	1980	1981[b]	1980	1981	1978	1979	1980	1981
Branch								
Airlines[c]	2,441	5,527	90.8	88.9	7.9	14.0	-9.9	3.2
Airports	246	693	9.2	11.1	5.8	11.4	-0.3	11.2
Type of service								
Passenger	1,921	4,371	71.5	70.3	4.6	10.9	-6.5	1.6
Freight	560	1,207	20.8	19.4	5.3	32.6	-10.0	3.1
Other	306	641	7.7	10.3	40.8	4.3	-25.5	27.8
Total	**2,687**	**6,219**	**100.0**	**100.0**	**7.7**	**13.8**	**-9.0**	**4.0**

[a] The calculations were made from unrounded data.

[b] Provisional data.

[c] Excludes the leasing of aircraft to Israeli companies.

SOURCE: Central Bureau of Statistics.

El Al's passenger load factor[33] rose from 68.8 percent in 1980 to 71 percent, and in cargo conveyance too the load factor went up this year.

In November 1981 El Al was hit by an 11-day strike. It is difficult to estimate the direct damage this caused, but presumably it further tarnished the image of Israel's national airline.

(f) Tourism

The tapering off of the uptrend in tourist arrivals in Israel in 1978-80 turned into an absolute drop in 1981, despite a 4 percent rise in both world and European tourism.[34]

The number of bed-nights in hotels recommended for tourists fell 6 percent in 1981, continuing the declining trend of the three preceding years. The number of foreign visitors (excluding cruise travelers) declined only 2 percent. During the past four years the number of bed-nights rose 4.3 percent, and the number of tourists (excluding cruise travelers) by 13.8 percent.

[33] The passenger load factor is the ratio of revenue passenger-kilometers to available seat-kilometers; the freight load factor is the ratio of revenue ton-kilometers to available ton-kilometers. See also the Bank of Israel Annual Report for 1980, Table VI-17, p. 154.

[34] Data on the growth of international tourism are from the World Tourism Organization.

Table VI-18

INDICATORS OF INTERNATIONAL TOURISM TO ISRAEL, 1978-81[a]

			Percent annual increase			
	1980	1981	1978	1979	1980	1981
Foreign visitors[b] (thousands)	1,176	1,137	8.5	6.3	3.3	-3.3
Thereof:						
Cruise travelers	110	97	21.0	15.3	-14.9	-12.1
Tourist arrivals	1,066	1,040	7.2	5.3	5.6	-2.4
Thereof:						
Asia and Africa	79	62	-1.2	-14.2	9.1	-22.0
U.S. and Canada	278	274	1.1	-1.7	-3.0	-1.5
Europe	647	642	12.3	12.2	9.0	-0.7
U.K.	123	122	30.6	20.9	10.9	-0.7
France	130	139	-3.1	7.3	10.6	6.5
West Germany	135	134	23.7	17.7	17.3	-1.0
Scandinavia	69	65	5.0	6.2	-4.4	-5.5
Bed-nights in hotels recommended for tourists (thousands)	7,231	6,787	3.3	5.4	2.0	-6.1
Thereof: In two highest grades	4,638	4,293	3.3	7.7	0.8	-7.4
Average number of bed-nights of tourists who stayed:						
Up to one month	11.6	11.6[c]				
Up to three months	15.3	15.0[c]				
Number of rooms in tourist hotels (monthly average, thousands)	25.2	25.6	5.3	4.4	2.4	1.5
Occupancy rate in tourist hotels (%)	54.4	52.4				
Employees in tourist hotels (monthly average, thousands)	17.1	17.7	11.8	3.5	-1.9	3.3
Income in foreign currency ($ million)	896	950	21.6	15.2	13.6	5.9
Average income per tourist ($)	762	835	12.1	8.3	10.0	9.6

[a] The calculations were made from unrounded data.

[b] Excludes arrivals from Lebanon (citizens of southern Lebanon, U.N. troops, and diplomats); also excludes foreign tourists to the administered areas.

[c] Provisional estimate.

SOURCE: Central Bureau of Statistics.

The slacker growth of tourist arrivals and the even more pronounced slowdown in the number of bed-nights in tourist hotels during the past four years resulted in a smaller percentage increase in foreign currency income from tourism during this period. Revenue from this source was, at $950 million, up 6 percent in 1981.[35]

[35] When the data are deflated by the rise in import prices (excluding direct defense imports), the real increase in income from tourism came to 8 percent.

Although the decline in tourist bed-nights was partly offset by an increase in the number of bed-nights by Israelis, the occupancy rate of tourist hotels sagged significantly in the year reviewed.

The index of tourist hotel input prices rose steeply this year, eclipsing the consumer price index by 5 points. Tourist hotel rates went up 15 percent in dollar terms.

In 1981 the downtrend in the weight of the U.S. and Canada in total arrivals came to a halt, apparently because of the strengthening of the dollar against the major European currencies. On the other hand, there was a striking decline in the number coming from Asia and Africa, with South Africa accounting for most of the decrease.

5. CONSTRUCTION

In 1981 construction output slumped 3 percent, with residential building edging down 1 percent and nonresidential construction falling by a much steeper 7 percent. The decline in the latter category continued the long-term downtrend compatible with the sluggish growth of the economy since 1973. This year, however, nonresidential building starts expanded strongly, along with a heavier investment in equipment.[36] Defense construction, which had been stepped up considerably in the previous two years, also fell off in 1981, apparently because of the completion of certain large projects connected with the military redeployment in the Negev.

The volume of investment in 1981 was largely determined, as usual, by the area of starts in the preceding year. Because of the comparatively long duration of construction projects, investments initiated in a given year will continue at a relatively steady pace, with the lion's share being made in the following year. Thus the smaller 1981 investment can be traced to the cutback in starts in 1980, which outweighed their appreciable growth this year. In this connection it should be borne in mind that construction output consists of two main components which differ from each other in the structure of production, intensity of the factors of production, and use of materials. Building construction is relatively labor-intensive, whereas the second category—earthwork, road paving, and defense construction—is capital-intensive. In the late 1960s and early 1970s the latter accounted for one-third of the sector's output, but in recent years its weight has declined to stand at only 21 percent in the past two years (in 1981 it held steady).

The residential construction market rebounded from the previous year's relative slump. Some 38,000 units were begun in 1981, as opposed to 33,000 in

[36] For a detailed discussion of nondwelling investment demand see Chapter II.

Table VI-19

PRINCIPAL DATA ON CONSTRUCTION ACTIVITY, 1967-81[a]

	1980	1981	Percent average annual increase					
			1967-72	1972-78	1978-81	1979	1980	1981
Total output (IS million, at current prices)	17,359	45,598	19.3	-3.5	1.5	6.3	1.3	-3.0
Investment in housing	10,406	23,994	30.1	-5.5	7.4	15.6	8.5	-1.2
Investment in nonresidential construction	4,861	10,803	11.1	-1.5	-9.2	-7.7	-12.9	-6.8
Output of other construction[b]	2,092	4,801	11.1	0.0	9.0	17.8	11.8	-1.8
Construction starts (million sq.m.)	4.9	5.7	25.8	-8.0	1.9	10.6	-17.4	15.9
Residential	3.7	4.3	31.0	-11.6	6.4	22.3	-14.3	15.1
Nonresidential	1.2	1.4	15.7	-3.8	-8.2	-12.2	-25.8	18.6
Number of homes started (thousands)	33	38	28.4	-12.4	7.1	24.0	-14.7	16.0
Number of homes completed (thousands)	31	34	11.2	-5.2	-1.6	-14.1	0.7	10.1
Employed (thousands)	115	117	15.2	-1.2	-0.1	5.0	-2.5	2.0
Israelis	79	78	9.8	-3.4	-0.9	2.4	-3.8	-1.0
From administered areas	36	39	..	2.6	6.7	11.6	0.3	8.7
Stock of construction equipment[c] (IS million, at current prices)	3,679	8,876	2.4	4.9	4.0	0.1	10.0	2.1
Residential construction input prices	—	—	8.8	37.4	114.6	87.4	127.6	131.7

[a] The calculations were made from unrounded data.

[b] Defense construction and a partial estimate of maintenance work.

[c] Beginning-of-year stock.

SOURCE: Central Bureau of Statistics.

1980 (see Table VI-20): this brought the level up to that of 1979, which was well below the average for the first half of the 1970s (around 56,000 a year). Private builders accounted for most of the extra starts, although public construction also expanded somewhat. The upturn in starts and completions came in response to the more buoyant demand for homes, as reflected in the data on sales of privately built homes in 21 urban centers, which indicate an increase from 2,900 units per quarter in 1980 to 3,300 per quarter in 1981.

The livelier demand for homes this year was due to several factors. One was the upsurge in real disposable income. The expansionary economic policy pursued in 1981, the 14 percent increase in disposable income, and mounting expectations greatly stimulated demands and construction starts. In 1980 an opposite situation had prevailed: a drop in real disposable income, which generated expectations of a fall in permanent income, led to the shrinkage of demands and new construction.

The relative softening of housing prices[37] in 1980 by 16 percent (see Table VI-21) presumably also contributed to the growth of demands and residential starts in 1981. There is a high correlation between the area of construction begun and the relative price of homes. Excess demand for housing and an inelastic supply in the short run lead to a relative rise in such prices, inducing contractors to step up the volume of starts. Figure VI-2 shows that, as in previous years, these factors affected the home construction industry in 1981.

In addition, the fluctuations in real dwelling prices have sharpened in recent years with the aggravation of inflation. This heightens uncertainty in the housing market, making things more difficult for builders and buyers alike.

The evacuation of Sinai and Yamit in April 1982 created a demand for some 2,000 housing units. For the most part it was met through the purchase of completed dwellings or the start of new homes for the evacuees.

At the same time, other forces had a restrictive effect on demand, which began to appear in the second half of the year. In the long run the expansion of population (natural increase plus net immigration) is what determines the demand for housing. The variations in population growth are due mainly to changes in the level of immigration, and over time construction starts adjust to the volume of net immigration. In 1981 there was a negative migration balance, yet construction starts were stepped up appreciably. This probably reflected the lagged adjustment of housing demand to the level of immigration to Israel,[38] and perhaps also the fact that the emigration figures for 1981 actually reflected the number of inhabitants who left the country in 1980.[39]

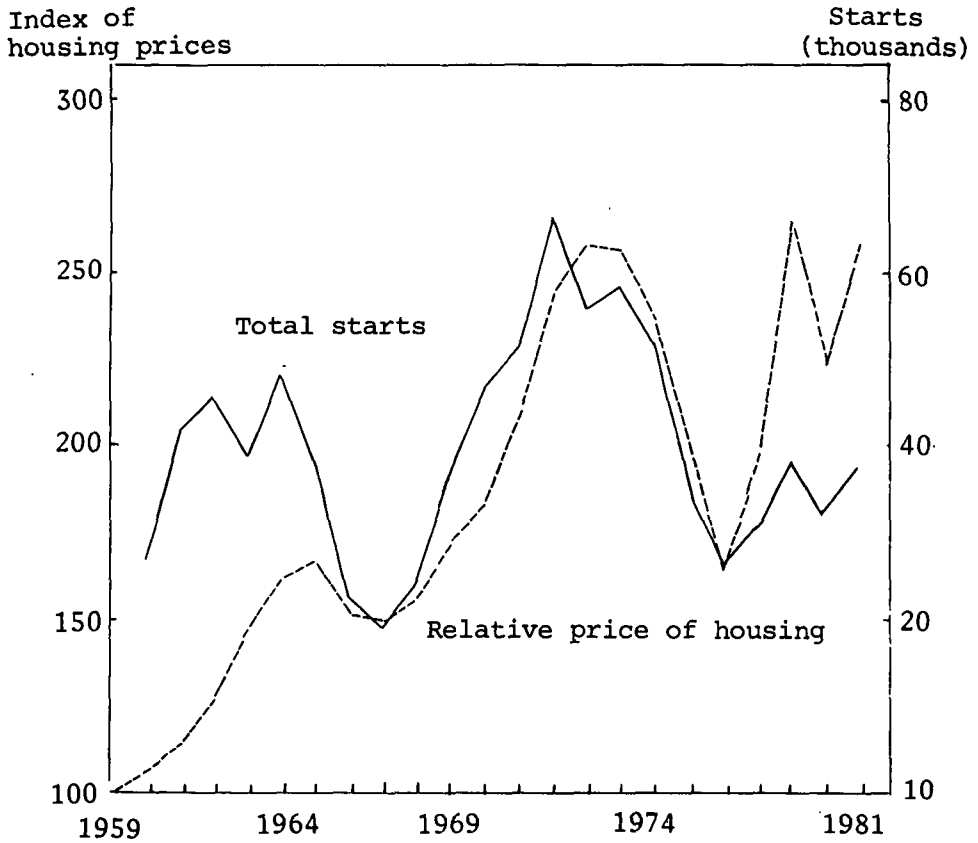
[37] Compared with the change in the consumer price index.

[38] Ministry of Housing figures on immigrant home rentals, transfers of dwellings to the Ministry of Absorption, and mortgage loans granted indicate a drop (of 2,000) in the number of units rented or sold to immigrants.

[39] See also Chapter IV.

Another factor, whose dampening effect on housing demand was anticipated, was the reduction of the rate of public financing for those eligible for assistance. In previous years the size of Ministry of Housing loans was updated semiannually. In the second half of 1980 the rate of such financing (expressed as a percentage of the dwelling price) reached a record high, but in 1981 the level of aid began to erode. The updating of the loans lagged, with the size of the maximum loan remaining constant for nine months (i.e. until November), even though homes became much dearer. The rate of financing for a 2.5-3 room home dropped from 32 percent in the second half of 1980 to 20 percent in the second half of 1981 for the lowest eligibility group, and from

Figure VI-2
INDEX OF HOUSING PRICES RELATIVE TO CONSUMER PRICES AND NUMBER OF UNITS STARTED, 1959-81



65 percent to 39 percent for the highest group.[40] Nevertheless, home purchases by young couples probably did not fall off, as they took 14,000 mortgage loans in 1980 and 15,000 in 1981, as against an average of 9,000 annually until 1979.

Examination of developments in the course of the year reviewed reveals a steep jump in construction starts in the first quarter (about 13,000), followed by an abrupt downturn to 8,000 in the last quarter (see Figure VI-3); this was similar to the previous year's pattern. Public construction was responsible for most of the decline (discussed below).

Private and public construction largely complement each other. Thus the sharp slump in public construction has been partly offset by the growth of private construction starts since the second quarter of 1980. This does not signify any further growth of demand, as is evident from the data on the supply and sale of homes in the private sector in 21 urban centers. During the

Table VI-20

RESIDENTIAL CONSTRUCTION BY INITIATING SECTOR, 1970-81 [a]

(Thousands of units)

	Starts			Completions		
	Total	Private construction	Public construction	Total	Private construction	Public construction
1970-75	56.0	30.0	26.0	46.7	26.9	19.9
1976-78	31.0	22.5	8.4	44.6	24.0	20.6
1979-81	36.2	22.5	13.8	31.7	20.3	11.3
1979	38.2	23.2	15.0	30.5	20.8	9.7
1980	32.6	20.0	12.6	30.7	21.3	9.4
1981	37.8	24.2	13.7	33.8	18.8	15.0
1980						
I	13.3	4.1	9.1	7.8	5.3	2.5
II	6.4	5.0	1.4	7.8	5.6	2.2
III	5.6	4.8	0.8	6.9	4.9	2.1
IV	7.3	6.1	1.2	8.3	5.6	2.7
1981						
I	13.5	5.6	7.8	6.5	3.6	2.9
II	9.0	6.1	2.9	8.3	4.7	3.7
III	7.1	6.0	1.1	9.4	5.4	4.0
IV	8.2	6.4	1.9	9.5	5.1	4.4

[a] The calculations were made from unrounded data.

SOURCE: Central Bureau of Statistics.

[40] These two groups comprise about half of all persons eligible for such aid: 30 percent are in the lowest and 20 percent in the highest category. For further details see Table VIII-21.

year the percentage of unsold units in the total supply of homes in all stages of construction went up. The proportion of unfinished units not yet sold dropped from 65 percent during 1980 to 53 percent at the end of the first quarter of 1981, and then turned up to reach 67 percent by the end of the year. This figure was negatively correlated with the change in the rate of increase in housing prices, and it reflected the weakening of demand during 1981, which became especially severe toward year's end. As already mentioned, the ebbing of demand was also apparent in the drop in the relative price of housing at the beginning of 1982, after it had moved up at a steady 7 percent quarterly rate during the first nine months of 1981 and at a slower rate in the fourth quarter (see Figure VI-4).

The increase in the proportion of unsold homes in 1981 is explained by the weakening of sales during the second half of the year and overbuilding in the last quarter. This prompted private contractors to cut back the volume of starts at the beginning of 1982.

Table VI-21

RELATIVE PRICES OF DWELLINGS AND PERCENT OF UNSOLD UNITS, 1977-81

	Percent increase over preceding period			
	Dwelling prices	Dwelling prices relative to consumer price index[a]	Dwelling prices relative to input price index[a]	Unsold homes as a percent of supply of unfinished units[b]
1977	9.8	-19.0	-16.6	62.3
1978	79.0	18.8	14.2	43.6
1979	144.4	36.0	29.4	59.7
1980	93.9	-15.9	-15.1	16.1
1981	152.0	16.4	9.2	59.8
1980 I	13.0	-9.2	-5.4	64.8
II	13.5	-8.2	-7.4	58.3
III	19.0	-2.5	-5.5	62.0
IV	24.7	-0.2	0.8	59.4
1981 I	30.3	4.7	4.4	52.5
II	30.8	8.7	4.7	56.1
III	25.3	6.9	1.5	64.1
IV	22.2	2.5	4.6	66.5

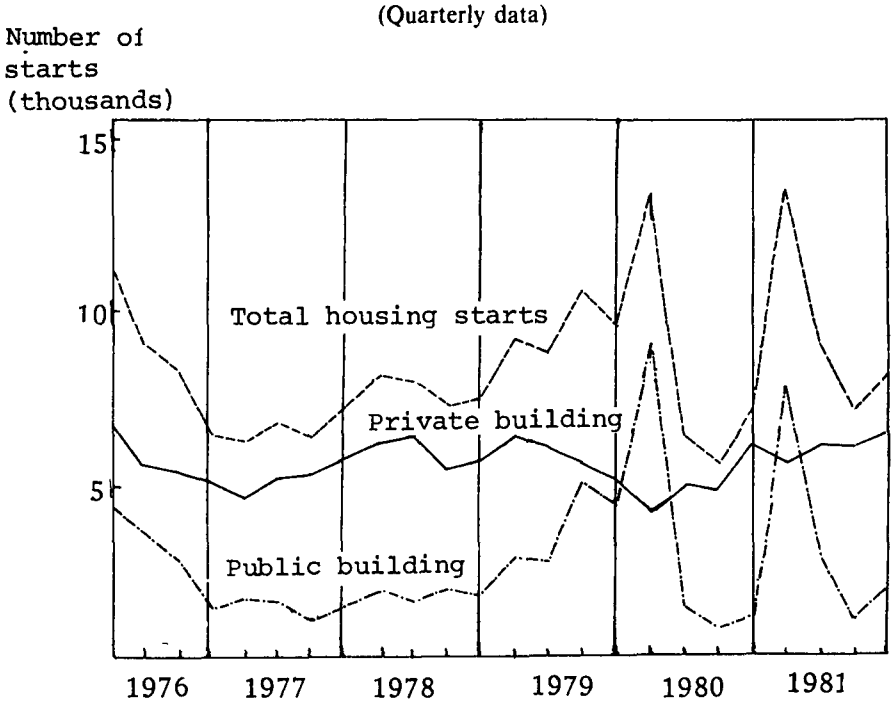
[a] The consumer price index and the residential construction input price index have been adjusted to correspond to the dwelling price survey periods, i.e. the average price index was calculated for each survey period.

[b] In the private sector, in the 21 largest towns.

SOURCE: Central Bureau of Statistics and Bank of Israel calculations.

The law to encourage the construction of rental housing came into effect at the end of 1980. It grants tax relief and accelerated depreciation for construction meeting the specified eligibility criteria. These concessions are granted upon completion of work, following the rental of at least half of the units in the project. Of the total number of units recommended by the Ministry of Housing for this purpose, only a small percentage was completed in 1981; it is therefore too early to assess the extent to which these concessions have been utilized, or how much tax revenue has been forgone as a result. Nevertheless, they may be regarded as an incentive to step up construction in general and during a slump in particular, since they reduce the risk facing builders by giving them the option of renting instead of selling, thereby mitigating the fluctuations characteristic of this industry.

Figure VI-3
HOME CONSTRUCTION STARTED, 1976-81
(Quarterly data)



(a) Public Residential Construction

After investment in public residential construction had expanded appreciably for two years, the level retreated 3 percent in 1981. This can be largely attributed to the reduction of starts in 1980; in the year reviewed the area of building begun rose 4 percent.

In earlier years there had been sharp swings in public construction and relatively mild ones in private construction, but in 1979-81 the area of public

starts also held relatively steady at an average of 14,000 units a year (although this figure masks sharp variations during the year). This stabilization reflects a change in the nature of public construction, which is becoming increasingly similar to private construction, shifting from the erection of housing estates directly under the aegis of the Ministry of Housing to projects executed through private contractors with only minimal Ministry intervention. This intervention takes the form of overall planning, development of the infrastructure, allocation of land, and direct aid to contractors—the partial financing of construction and a commitment to purchase any units they fail to sell. This commitment reduces the risk confronting the contractor, thereby inducing an increase in construction and helping to smooth fluctuations in the sector's activity. The growing resemblance to private construction also finds expression in the shortening of building time, from an average of 32 months in 1979 to 22 months in 1981; in the private sector the comparable figures are 20 months in 1976–80 and 21 months in 1981.

Residential construction initiated by the public sector is intended primarily for persons eligible for Housing Ministry aid, with the size of the units limited to 85 square meters. The average size actually comes to 84 square meters, which means that the entire authorized area is in effect utilized. However, the majority of young couples (65 percent) purchase second-hand homes, so that the public sector's policy of putting up dwellings of limited size is failing to achieve its purpose, as it augments the existing stock of relatively small units, which are already in fairly large supply. Private contractors have blunted the effectiveness of this restriction by building homes averaging 120 square meters in area.

In 1980–81 public construction starts displayed drastic swings in the course of the year, with most of the starts being concentrated in the first quarter (see Figure VI-3), which is the last quarter of the fiscal year. It seems that the Ministry of Housing wanted to realize its building program at any cost before the fiscal year drew to a close (thus, for example, some 60 percent of public construction starts in 1981 were bunched in the first quarter of the year).[41] This concentration of starts within a comparatively short period is bound to exert pressure on the factors of production available to the industry, making it impossible to carry out building at a regular pace. Indeed, Housing Ministry data indicate that work on homes which were begun (formally) in the first quarter was held up, dragging out the initial stage of construction until the requisite productive factors became available.[42] It is therefore obvious that it

[41] Partial data indicate a relatively high level of public construction starts in the first quarter of 1982, which suggests that the trend will continue this year as well.

[42] This assumption is supported by the absence of any marked variations in cement sales during 1981.

Table VI-22

RATE OF GOVERNMENT HOME FINANCING FOR YOUNG COUPLES BY ELIGIBILITY GROUP, 1980-81

(Total loan as a percent of the price of a privately built 2½-3 room home)

	Group A	Group D	Group F
1980			
First half			
Jerusalem	21	38	51
Rest of country	25	42	59
Second half			
Jerusalem	27	43	52
Rest of country	32	49	65
1981			
First half			
Jerusalem	23	35	46
Rest of country	25	37	48
Second half			
Jerusalem	20	29	40
Rest of country	20	30	39

NOTE:

1. Those eligible for such finance are persons who have served in the Israel Defense Forces.
2. Group A—persons with 0 to 599 points; Group D—1,000 to 1,190 points; Group F—1,400 points or more.
3. The prices are from the Central Bureau of Statistics survey of dwelling prices.
4. The total amount of loans is from Ministry of Housing data, including both indexed and nonindexed loans.
5. In no case did the loan exceed 95 percent of the price.

SOURCE: Ministry of Housing and Bank of Israel.

will take a greater than average time to complete the homes started during this period.

An especially striking feature of public construction this year was the expansion of Jewish construction in the administered areas, notably Judea and Samaria. In 1981 work was begun on some 1,600 units in Judea and Samaria,[43] in contrast to 500 the year before. The proximity of these areas to the center of the country and the relatively low cost of construction there make this an alluring alternative to buying a home in the large cities, and in the long run it will quite likely help to moderate the rise of housing prices.

[43] This was about 4 percent of total new starts in Israel.

(b) Productivity and Factors of Production

The 3 percent drop in the construction sector's product this year was accompanied by a 4 percent rise in labor input and a 7 percent decline in overall productivity. No long-term significance should be attached to this downswing, as it largely stemmed from a change in the output mix.[44] Investment in the final stages of construction decreased this year, while that in the early stages leveled off. This was responsible for the decline in both labor and overall productivity.

During the 1968–72 construction boom overall productivity rose 6 percent a year, but subsequently it fell off. This is partly explained by the fact that during the years of buoyant activity the proportion of earthwork, which is more capital-intensive than the rest of construction output, dropped steadily, from 25 percent of total output in 1968 to 13 percent in 1973. This meant that less capital was required per unit of output, and so the expansion of output was not accompanied by a corresponding rise in capital input; the result was a substantially higher measured overall productivity for this period.

An opposite situation prevailed in 1974–78. The sector's output shrank in real terms, and along with it overall productivity. The labor input fell much more moderately than output, and the capital stock even expanded. This stemmed from the increased share of earthwork in total output, which reached 17 percent in 1978.

In the past three years overall productivity stayed flat, following its decline in 1973–78. This cannot be attributed to a change in the output mix; it may have reflected a shift in the composition of the workforce in recent years, which have witnessed the withdrawal of Israelis and their replacement by workers from the administered areas, along with a reduction in the total number of employed. The weight of the administered areas in total employment in this sector increased steadily to reach 30 percent in 1974. During the ensuing cyclical downswing in construction activity the level fell to 25 percent in 1977, but then turned up to reach 33 percent in 1981. This fairly protracted rising trend has increased the number of uneducated, inexperienced laborers entering the industry, and goes a long way to explain the downward drift in productivity during the last decade.

Cement sales, which account for about 20 percent of the total material input, were up 9 percent this year; this was consistent with the appreciably higher volume of building construction starts, which require a large quantity

[44] Apart from possible shifts in the sector's output mix, changes can result from the fact that at any point in time there are projects in different stages of construction. The degree of capital intensity varies at each stage, as does the product-output ratio. Thus, for example, in a year when the share of investment in advanced stages of construction, which are relatively more labor-intensive, is small, output per unit of labor will decline.

of cement. The percentage increase in such sales has eclipsed the growth of every other indicator of construction activity since the early 1970s. The main reason for this lies in the mounting share of residential construction, where the cement input is higher than for other types of building construction. Another factor is extensive Arab building in the administered areas.

Figure VI-4
CHANGES IN RELATIVE PRICES OF HOMES BOUGHT FROM THE PRIVATE SECTOR AND UNFINISHED PRIVATE HOMES NOT YET SOLD, 1976-81
(Percentages, quarterly data)