

Chapter 2

Output, Domestic Demand, and the Principal Industries

1. MAIN DEVELOPMENTS

Economic activity, stimulated by the massive influx of immigrants, stepped up in 1990. After two years of recession, GDP was up by 5.1 percent and business-sector product by 6.2 percent (Table 2.1) on annual average; the pace speeded up during the year and in the second half of the year business-sector product rose by 11 percent (annual rate). Domestic demand, down by 1 percent in 1989, rose by 7½ per cent, with private and public consumption and investment all participating in the upswing. Exports rose moderately, whereas civilian imports rose by 8.1 percent, and the civilian import surplus by \$1 billion. The unemployment rate rose to 9.6 percent, owing to labor market rigidities and in spite of brisker business activity. Since employment (up by 2 percent) grew less than output, labor productivity rose steeply, a familiar accompaniment of emergence from recession; however, the civilian labor force rose by 3 percent, faster than employment—hence the rise in the unemployment rate. After two years of contraction and reorganization, industrial activity increased substantially and construction expanded as immigration stepped up. The rate of price increase, as measured by the CPI, was more or less unchanged and inflation remained at the level maintained since the economic stabilization program (ESP); the implicit price index of GDP, and in particular business sector product, rose more moderately.

This year's upswing is due primarily to the expansion of domestic demand, reinforced by immigration, which also generated expectations for faster growth, thus bringing into play the supply-side improvements of 1989 which in that year failed to materialize owing to slack demand.

No appreciable change in the factors determining profitability followed the improvement of 1989 (Table 2.2). Real labor costs, down by 1 percent in 1989, failed to go down further, in spite of the fact that the rate of increase of nominal wages again declined, while the labor market continued slack and labor productivity rose. Interest rates were once again down, in response to expansionary monetary policy. Long-term interest (as reflected by the yield to maturity of long-term government bonds) dropped from 5.8 percent in 1987–88 and 2.5 percent in 1989 to 1.9 percent in 1990, with a

Table 2.1
Resources and Use of Resources, 1981–90

	NIS million 1990	(real annual change, percent)								
		Quantity						Price		
		1981–85	1986–87	1988–89	1988	1989	1990	1988	1989	1990
Resources										
Gross domestic product	103,269	2.9	4.8	2.1	2.7	1.6	5.1	19.7	20.6	15.6
Imports of goods and services ^a	47,905	3.8	14.1	-4.4	-2.1	-6.6	8.6	7.7	21.7	12.7
<i>of which</i> Civilian	44,143	4.6	13.6	-0.4	0.5	-1.4	8.1	8.1	20.8	12.7
Total resources	151,175	3.2	8.1	-0.3	0.9	-1.4	6.3	15.4	21.2	14.6
Use of resources										
Private consumption	64,702	4.4	11.9	2.2	4.2	0.3	5.0	16.2	20.8	15.9
Public consumption										
Total	31,244	1.1	3.0	-5.3	-1.7	-8.8	3.7	17.2	24.1	16.9
Excl. direct defense imports	27,482	1.5	0.3	2.1	3.6	0.6	1.9	20.2	21.4	17.8
Gross domestic investment										
Total	19,137	-0.1	5.9	-2.8	-0.3	-5.3	25.2	15.7	15.5	12.2
Fixed	18,460	0.2	5.8	-2.6	-0.4	-4.8	17.1	14.1	17.8	13.8
Domestic use of resources ^b	111,321	2.7	7.7	1.3	3.3	-0.6	7.5	17.0	20.1	15.5
Exports ^a	36,092	5.2	8.4	1.1	-1.6	3.9	2.2	12.5	22.9	11.7
Use of resources										
Excl. direct defense imports	147,413	3.5	7.8	1.3	2.0	0.6	6.0	15.9	20.7	14.6
Total	151,175	3.2	8.1	-0.3	0.9	-1.4	6.3	15.4	21.2	14.6
Net factor payments to abroad	2,468									
GNP at market prices	100,801									
Gross product of business sector ^c	71,024	3.4	6.7	2.2	2.5	2.0	6.2	18.5	18.4	12.7

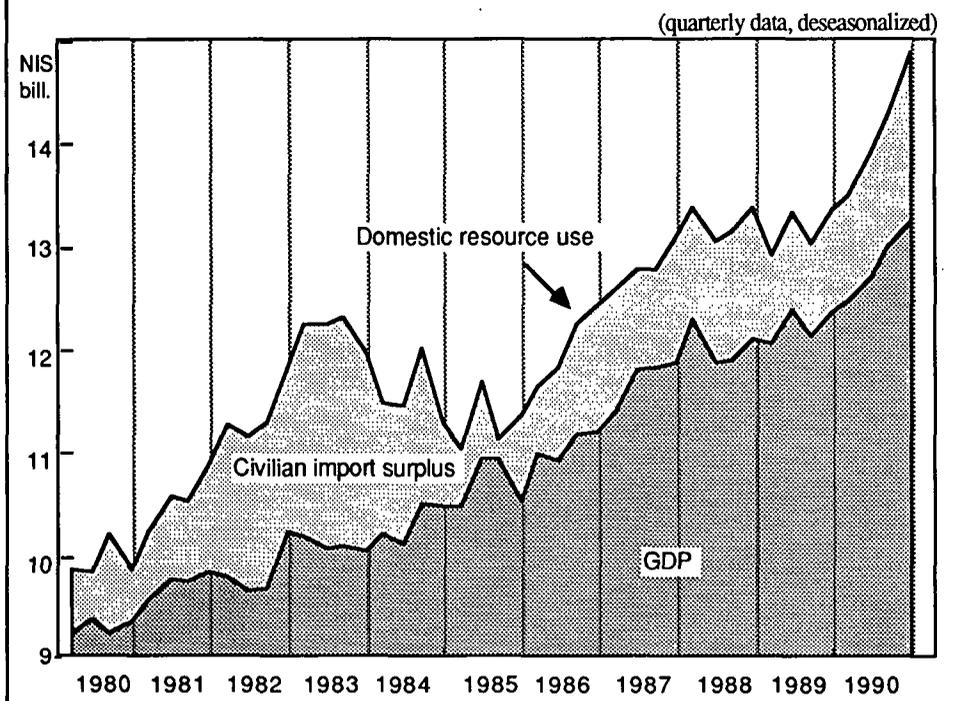
^a Imports (c.i.f.), exports (f.o.b.), excluding factor payments and general government interest from or to rest of world. Exports at effective exchange rate.

^b Excluding direct defense imports.

^c GDP less gross product of public services and ownership of dwellings. At market prices.

SOURCE: Central Bureau of Statistics.

Figure 2.1
Domestic Use of Resources, GDP, and the Import Surplus, 1980-90



SOURCE: Central Bureau of Statistics.

salutary effect on investment. Short-term rates also remained low. As a result of the events following the outbreak of the Gulf crisis and expectations for a substantially larger budget deficit, the trend changed in the last quarter of 1990, but the interest rate remained below the average 1989 level. There was no change in business-sector profitability and it still falls short of its level in the early 1980s, before the steep decline of 1986-87 that followed the launching of the 1985 ESP. With the exchange rate serving as a nominal anchor and because of labor market rigidities, real wages rose rapidly in these years, as reflected in the steep rise in unit labor costs (Table 2.2). These trends, accompanied by a steep rise in interest rates, were particularly marked in the tradables sector, and are among the major causes of the downturn of 1988. Monetary policy was expansionary in 1989 and, at a time of declining demand—especially for investment—reduced interest rates sharply. In addition, the delayed effect of rising unemployment moderated the rate of increase of real wages, so that labor costs declined and profitability rose. This improvement did not, however, compensate for the deterioration of 1986-87. Since monetary policy was still expansionary and unemployment rose, the improvement was expected to continue in 1990, and these expectations presumably contributed to the increase in output and investment. In fact, profitability failed to improve further, for a

Table 2.2
Selected Business-Sector Indicators, 1982-90^a

	1982-85	1986-87	1988-89	1988	1989	1990
<i>Index, 1986 = 100</i>						
Labor cost per man-hour						
Total	90.7	104.3	108.3	108.5	108.1	112.4
Industry	88.8	103.2	107.9	109.5	105.9	111.0
Unit labor cost						
Total	97.1	102.3	101.7	102.2	101.2	101.4
Industry	92.0	101.1	102.4	103.3	101.5	101.6
<i>Percent</i>						
Gross rate of return on capital						
Total	13.0	11.2	12.1	11.9	12.2	12.3
Industry	13.3	8.9	8.4	8.3	8.6	8.6
Real interest on short-term credit ^b						
Total	15.5 ^c	10.8	11.1	11.8	10.3	3.5
Industry	14.8 ^c	5.5	8.6	6.6	10.7	0.5
Real interest on overdraft facilities	40.1	37.0	18.4	25.6	11.3	10.2
Yield to maturity of 10-year bonds	3.4	5.8	3.4	4.5	2.5	1.9
Tax rates ^d						
Nonwage income, A	25.2	31.2	28.0	30.0	26.0	26.5
Nonwage income, B ^c	12.9	24.9	22.5	23.8	20.8	21.5
Statutory company tax	61	53	45	45	45	43.5
Investment						
Investment/product ratio	18.0	15.4	14.5	15.4	13.5	15.5
Average age of equipment (years)	5.9	6.1	6.3	6.2	6.3	6.5

^a The data are calculated from the income-originating side.

^b When deflated by implicit price index of business sector product, which reflects *ex post* profitability, the 1990 figures are 8.2 percent (total) and 7.5 percent (industry).

^c 1983-85.

^d Variant B is Variant A *less* credit concessions and capital grants to firms; includes tax on managerial salaries.

variety of reasons. The prices confronting producers, which are the relevant prices when considering labor costs, rose less than the CPI, to which nominal magnitudes, including wages, are indexed (and this also raised the *ex post* cost of real credit to producers); as mentioned, real wages remained quite high, in spite of the fact that nominal wages rose more slowly because of unemployment. This is explained largely by the institutional structure of the labor market; moreover, the unions, which are particularly strong in some industries, are more concerned with the wages of the employed than with the employment prospects of the out-of-work. Business-sector wages were also pushed up by the fact that public services wages rose faster.

As mentioned, all components of domestic demand rose. Immigration gathered momentum during the year, but some features of the upturn are part of emergence from

Table 2.3
Product and Productivity of the Business Sector, by Industry, 1980-90

	1981-85	1986-87	1988-89	1988	1989	1990
Gross product						
Industrial composition						
Agriculture	8.2	8.1	7.8	7.7	8.0	8.5
Industry	31.4	32.2	30.4	31.0	29.8	29.7
Transport and communications	14.7	14.9	15.1	15.1	15.2	15.2
Water and electricity	3.9	4.0	4.0	4.0	3.9	3.9
Construction	11.0	9.0	9.4	9.3	9.4	9.8
Trade and services	30.8	31.9	33.4	33.1	33.7	33.0
Total business sector	100.0	100.0	100.0	100.0	100.0	100.0
Annual change, percent						
Agriculture	5.5	4.4	0.1	-4.6	5.0	12.9
Industry	3.2	5.0	-2.3	-2.5	-2.0	5.8
Transport and communications	4.2	4.9	1.8	1.0	2.6	6.9
Water and electricity	3.1	6.3	1.0	2.0	0.0	6.0
Construction	-3.3	4.1	3.3	2.9	3.8	10.8
Trade and services	4.1	7.1	4.0	4.0	4.0	4.0
Total business sector	3.0	5.5	1.2	0.6	1.9	6.4
Productivity						
Labor productivity						
Agriculture	4.5	4.6	5.1	4.1	6.0	26.2
Industry	2.0	1.9	0.1	1.8	-1.5	4.8
Transport and communications	4.3	0.9	2.3	-0.4	5.0	4.1
Water and electricity	6.4	1.0	-4.9	-10.9	1.4	-7.8
Construction	-3.4	3.7	3.2	7.8	-1.2	-0.9
Trade and services	0.5	2.7	-2.5	-4.5	-0.5	5.1
Total business sector	1.4	2.5	0.4	0.3	0.5	4.0
Total productivity						
Agriculture	3.8	4.4	3.4	1.2	5.7	20.6
Industry	0.8	1.7	-1.6	-1.0	-2.3	4.7
Transport and communications	3.6	1.6	1.1	-1.0	3.2	4.8
Water and electricity	2.6	2.0	-4.2	-7.5	-0.7	-4.3
Construction	-3.3	4.7	3.0	6.7	-0.5	1.1
Trade and services	-0.3	2.7	-1.8	-3.5	-0.2	3.9
Total business sector	0.8	2.7	-0.2	-0.6	0.1	4.4

the recession and result from changes which had already begun in the second half of 1989. The most prominent of these is the 22 percent increase in non-dwelling investment which followed two years of decline. Investment, particularly imported producer durables, started to rise in the fourth quarter of 1989. During 1990, investment rose in

Table 2.4
Product and Productivity of the Business Sector, 1961-90^a

(real annual change, percent)

	1961-72	1973-80	1981-85	1986-87	1988-89	1988	1989	1990
Product								
Estimate A	10.0	3.1	3.4	6.7	2.2	2.5	2.0	6.2
Estimate B	9.1	3.3	3.0	5.5	1.2	0.6	1.9	6.4
Factor input								
Labor (man-hours)	3.6	0.8	1.6	3.0	0.9	0.3	1.4	2.3
Capital stock^b								
Gross	8.7	6.1	3.5	2.5	2.8	3.1	2.5	1.4
Net	8.0	5.0	2.6	0.8	1.8	2.1	1.5	-0.2
Productivity								
Product/man-hours								
Estimate A	6.3	2.3	1.8	3.6	1.4	2.2	0.5	3.9
Estimate B	5.3	2.5	1.3	2.5	0.4	0.3	0.5	4.0
Capital stock^b/man-hours								
Gross	5.0	5.3	1.9	-0.5	1.9	2.7	1.0	-0.8
Net	4.2	4.2	0.9	-2.1	0.9	1.8	0.0	-2.4
Total productivity^c								
Estimate A	4.5	0.6	1.2	3.8	0.7	1.3	0.2	4.1
Estimate B	3.7	0.8	0.8	2.7	-0.2	-0.6	0.1	4.3
Capital/product ratio								
Estimate A ^d	2.14	2.22	2.32	2.21	2.17	2.16	2.17	2.07

^a Estimate A is estimated from the expenditure side (national accounts). Estimate B is based on various by-industry indicators of output.

^b Beginning-of-year stock.

^c The weights are 0.68 for labor and 0.32 for capital, based on distributive shares of gross national income (long-run average) and inspection of the 1982/83 input-output table.

^d The figures give the ratio, not the rate of change.

most industries, not only those supplying the needs of immigrants; most of the increase is due to the 1989 improvement in profitability. Expectations of economic revival also pushed up investment. In the case of construction, on the other hand, the increase is attributable solely to immigration. The expansion of construction had a substantial effect on economic activity in general, and the industry contributed 1 percentage point to incremental business-sector product. The 5 percent rise in private consumption (which did not change in 1989) is mostly cyclical, with a 17.1 percent increase in purchases of consumer durables. Private consumption excluding durables rose by only 3.6 percent. On the other hand, immigration-related expenditures were prominent in civilian public consumption, with a 5 percent rise in nonwage expenditure reflecting chiefly services for immigrants (Hebrew-language classes, retraining, and so forth).

Exports rose by no more than 2.2 percent. This poor performance was partly due to

the impact of the Gulf crisis on tourism and to a steep decline in diamond exports. Other exports rose by 6 percent, evidently because of low profitability in the export-oriented industries, where real labor costs (wages deflated by prices confronting exporters) rose faster than in other industries in previous years. Thus although world trade expanded (by less, however, than in 1989), supply conditions slowed down exports. The volume of civilian imports, which declined by 1.4 percent in 1989, rose by 8.1 percent; this reflected the composition of incremental domestic demand, in particular investment demand, imports of producer durables rising by 24 percent.

Economic activity accelerated throughout the year: the 6.2 percent annual average rise in business-sector product compares with 9 percent during the year and 11 percent (annual rate) from the first to the second half of the year. Owing to events in the Gulf, this increase was not maintained. The acceleration in the course of the year can be ascribed to the rising pace of immigration; of the year's 200,000 immigrants, 140,000 (70 percent) arrived in the second half of the year, 80,000 of them in the fourth quarter. The pace of immigration was reflected in private consumption, which rose at an annual rate of 3.2 percent in the first two quarters and 11 percent in the last two; the corresponding figures for civilian public consumption are 1.5 and 3.2 percent. The second half of the year saw a substantial upswing in construction, and dwelling investment was up by 57 percent, compared with 15 percent in the first half (again, annual rates).

The increase in nondwelling investment translates into a moderate rise in the growth rate of the capital stock, a change in the trend prevailing since the 1985 ESP. Business-sector gross capital stock rose by 2.3 percent during the year, compared with 1.4 percent during 1989. Labor input also rose, by 2.3 percent. Labor productivity rose by 4 percent, about the same as total productivity (Table 2.3). Productivity was up in all sectors, particularly in industry, where labor and total productivity rose by 4.8 and 4.7 percent respectively (Table 2.4). This reflects the fact that in the last few years the business sector has undergone rationalization and restructuring, particularly in industry. The upturn in demand found a large proportion of firms at an advanced stage of the process, following two years of contracting labor input. The increased output of 1990 is due largely to better utilization of existing factors of production and there is no guarantee that this can continue. Towards the end of the year events in the Gulf and the resulting uncertainty slowed down the rate of increase of investment and output, and the outbreak of fighting in early 1991 brought it to a temporary halt. Immigrant absorption and the creation of sufficient jobs require sustained economic growth, which in turn requires expansion of the capital stock.

The economic effects of immigration

Two hundred thousand immigrants arrived in Israel during 1990. The resumption of large-scale immigration is a major event in the life of the country. This section seeks to quantify its initial impact on the economy. Mean population rose by 3.1 percent,

compared with 1.7 percent in recent years, i.e., the immigrants contributed no more than 1.5 percent to population growth (0.6 percent in the first six months and 1.4 percent in the second half of the year, since most of the year's immigrants arrived then). There are as yet no accurate data on the labor force entry of the newcomers; what information there is, is discussed in detail in Chapter 4. Here we confine ourselves to remarking that in view of the initially low participation rate of new arrivals, they cannot as yet have made much impact on the labor market; however, as they enter the labor force, the rate of increase of wages should moderate, thereby raising profitability; the extent of the improvement will, however, depend on increased flexibility of the wage-determination process.

Table 2.5
Effect of Immigration on Incremental Demand and Output, 1990

	(percent)						
	Private consumption ^a			Investment		Civilian public consumption ^d	
	Total	Durables	Other	Dwellings ^b	Other ^c	Total	Total
Demand^e							
Resident population	4.2	16.5	2.8	5.8	10.4	1.7	4.6
Immigrants	0.9	0.7	0.8	11.7	6.6	0.9	2.1
Total	5.1	17.1	3.6	17.5	17.0	2.6	6.8
Output^f							
Resident population	1.7	0.7	1.0	0.2	1.1	0.1	3.1
Immigrants	0.4	0.0	0.3	0.5	0.7	0.0	1.6
Total	2.0	0.7	1.3	0.7	1.9	0.1	4.7
Incremental output coefficient	0.4	0.04	0.36	0.04	0.11	0.03	

^a Per capita consumption of immigrants is assumed to be 50 percent of that of established residents in the first year and 60 per cent in the second.

^b It is assumed that in the absence of immigration the rate of change of housing investment would have been the average rate for 1987-89.

^c Classified by destination of output of each major industry.

^d Public consumption attributable to established population calculated by applying the index of population growth to the 1989 figure. Consumption attributable to immigrants is the residual.

^e Domestic use of resources excluding direct defense imports.

^f GDP.

The contribution of immigration to output can be measured from the demand side (the calculation is explained in Table 2.5). The estimate covers only the direct effect of the immigrants' demand and is therefore an understatement. On this basis, immigration accounts for 1.6 percentage points or one quarter of incremental business-sector gross product. Most of the immigrants' contribution stems from the upswing in housing construction, but their consumption also played a part. Since the effect is not spread

evenly over the year, it follows that the 3.5 percent increase in GDP in the first half of the year is primarily cyclical, although it also reflects (unquantifiable) expectations of future expansion. In the second half of the year, however, the immigrants' contribution is estimated at 50 percent of incremental GNP, so that in this period the increase in the growth-rate can be ascribed to immigration-related demand. The current influx is expected to reach one million within five years, so the contribution of immigration will rise and can be expected to lead to far-reaching changes in the country's economic structure. Successful integration of the immigrants requires reallocation of resources and in particular of public spending.

Output and productivity

Business-sector product, as measured from the income-originating side, rose by 6.4 percent in 1990 (Table 2.4), or by 3.3 percent per capita (which declined in 1988 and 1989). The main causes of the rise in supply are last year's improved profitability and the rise in factor utilization, a pattern particularly marked in industry, whose product rose by 5.8 percent, while labor input rose minimally, and the capital stock by 1.5 percent.

Some of the forces at work were, as stated, already active in 1989. When last year's *Annual Report* was being written it was still too early to decide whether the improvement in profitability was a transitory result of the recession or whether it was due to more basic economic processes. This year it can be said that the upward pressure on wages has eased but that labor market rigidities still prevent unit labor costs from declining. Thus in industry, which should be the leading sector, producing a substantial increase in exports, we find that wages rose much faster than elsewhere, reflecting institutional forces and union power which bear more heavily on industry. During 1990, the mid-point exchange rate was adjusted twice, by 6 percent early in the year and by 10 percent in September. In the first half of the year, the actual exchange rate rose by 6.2 percent vis-à-vis the currency basket as the combined result of the realignment and other forces, raising the relative profitability of tradables. In the last four months of 1990 and in early 1991, the increase in the supply of foreign exchange prevented the actual exchange rate from rising in spite of the 10 percent midpoint realignment in September 1990. In view of the divergence between Israel's inflation rate and that of its trading partners, the steadiness of the exchange rate may have weakened expectations of further improvement in the profitability of tradables. In March 1991, however, the midpoint rate was again raised by 6 percent, and the actual rate also rose. In a small open economy, a steep rise in domestic demand will—at full employment—as a rule be accompanied by real appreciation, that is, by a rise in the relative price of nontradables. Although economic activity picked up substantially in 1990, it cannot be said that output was at the full-employment level (even though wage rigidities push in the direction of real appreciation). The relative price of tradables was also, and mainly, pushed up by the rise in housing and controlled prices. These two categories apart, there was no change in the relative price of tradables.

The discussion above has stressed the rationalization programs undertaken by many firms. The principal means employed was to reduce labor input and get rid of unprofitable production lines and plants (the prime examples are Koor and Israel Aircraft Industries). The downturn, which began in late 1987 and was intensified by the *intifada* in 1988, also marks the beginning of efforts to rationalize. The fact that exports slowed down in 1988–89 in spite of the rapid expansion of world trade indicates that the rationalization programs were motivated largely by supply-side problems (aggravated by the *intifada*). After two-and-a-half years of recession, the upturn of 1990 indicates that some of these efforts have raised productivity: the business sector was evidently in a condition permitting it to respond positively to the rise in demand when it occurred and to increase output appreciably.

The increase in output was, as stated, accompanied by a moderate rise in factor input. The business sector's capital stock rose by 1.4 percent during 1989, while labor input rose by 2.3 percent on average. Labor productivity rose by 4.0 percent, much higher than any rate achieved in the 1980s. Total productivity rose by 4.4 percent, which is close to the rate prevailing before the steep decline that set in in 1973. These figures indicate a substantial rise in factor utilization, but there is no guarantee that this can be kept up. If the rise in productivity is to turn into a long-run trend, the government must push ahead with a series of reforms as part of the economic program approved in September 1990: labor market flexibility, liberalization of foreign trade and capital movements, capital market reform, tax reform, and privatization.

Real output rose in all industries (Table 2.4). Industrial product rose by 5.8 percent, (or by 6.3 percent if diamonds are excluded), in sharp contrast to the decline of the preceding two years. Most of the increase is attributable to the substantial rise in labor productivity and capital utilization. In 1988–89, when output contracted, labor input contracted faster, so that labor productivity rose then too.¹ Construction output rose by a substantial 10.8 percent, reflecting the large increase in housing starts (about 43,000 units), most of it government-initiated. This rapid expansion is consistent with the industry's short-run capacity, which, however, falls short of immigration requirements; temporary expedients are therefore needed and are provided in the Budget. The timing of this year's climatic factors (favorable and unfavorable) permitted a substantial rise in farm output. The secular trend of contracting labor input continued, labor and total productivity rising appreciably. The output of the distributive industries rose, but not enough to meet the needs created by immigration.

Domestic use of resources

Domestic use of resources rose by 7.5 percent this year, a rate similar to the 1986–87 average. Unlike in those two years, however, this year's increase is due principally to

¹ The data of Table 2.4 use LFS data. The industry indexes of the Central Bureau of Statistics indicate a higher rise in labor productivity.

the 17.1 percent rise in fixed investment. Private consumption rose by 5.0 percent and public consumption (excluding direct defense imports) by 1.9 percent.

Almost all investment categories shared in the increase (Table 2.6), the leading item being imported machinery and equipment (about \$2 billion), while transport equipment rose by 20.8 percent. The latter rise is a cyclical swing, following a 32 percent decline in 1989. Investment in nondwelling structures was down by 3 percent, presumably because there was a large stock of unutilized structures, but also because factors of production were diverted to dwellings, up by 17.5 percent (compared with 7 percent in 1989).

Table 2.6
The Rate of Saving, Investment, and the Current Account, 1981-90^a

	(percent)					
	1981-85	1986-87	1988-89	1988	1989	1990
Gross saving						
General government	-4.7	3.2	-0.2	1.5	-1.8	0.4
Private	22.3	14.6	16.2	14.2	18.2	17.3
Total	17.6	17.7	16.0	15.7	16.4	17.7
Gross investment						
Inventories	0.4	0.7	-0.1	0.1	-0.2	0.6
Fixed nondwelling investment	12.1	11.6	10.6	11.3	9.9	10.6
Dwellings	6.8	4.3	4.7	4.6	4.9	5.4
Total	19.2	16.6	15.3	16.1	14.5	16.5
Current account (saving less investment)						
Total	-1.6	1.2	0.8	-0.4	1.9	1.2
<i>of which</i> Civilian import surplus	6.1	4.7	3.7	4.0	3.4	4.9

^a The denominator is GNP *plus* unilateral transfers (converted to NIS at the official exchange rate). The saving figures are based on Bank of Israel estimate of interest payments.

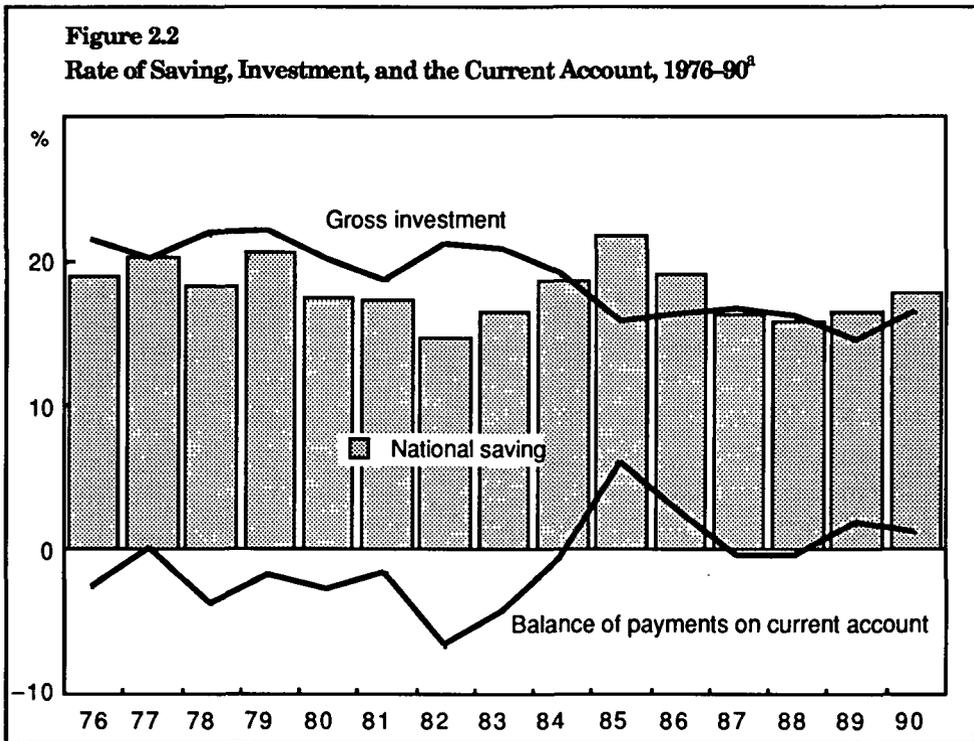
The rise in consumption reflects a (cyclical) rise of 17 percent in consumer durables. Consumption of nondurables rose by a moderate 3.6 percent. Since population grew by 3.1 percent, current consumption rose by only 0.5 per capita.

Public consumption rose unevenly. Defense (excluding direct imports) rose by 1 percent, and civilian consumption by 2.6 percent, somewhat less than the population. Civilian compensation of employees rose by no more than 1.8 percent, compared with 5.0 percent for other purchases.

The effect of immigration on resource use is shown in Table 2.5: on average for the year, immigrants accounted for 2.1 percentage points of the 6.8 percent increase in domestic use of resources excluding defense expenditure. However, the contribution was much larger in the second half of the year.

Import surplus, national saving, and investment

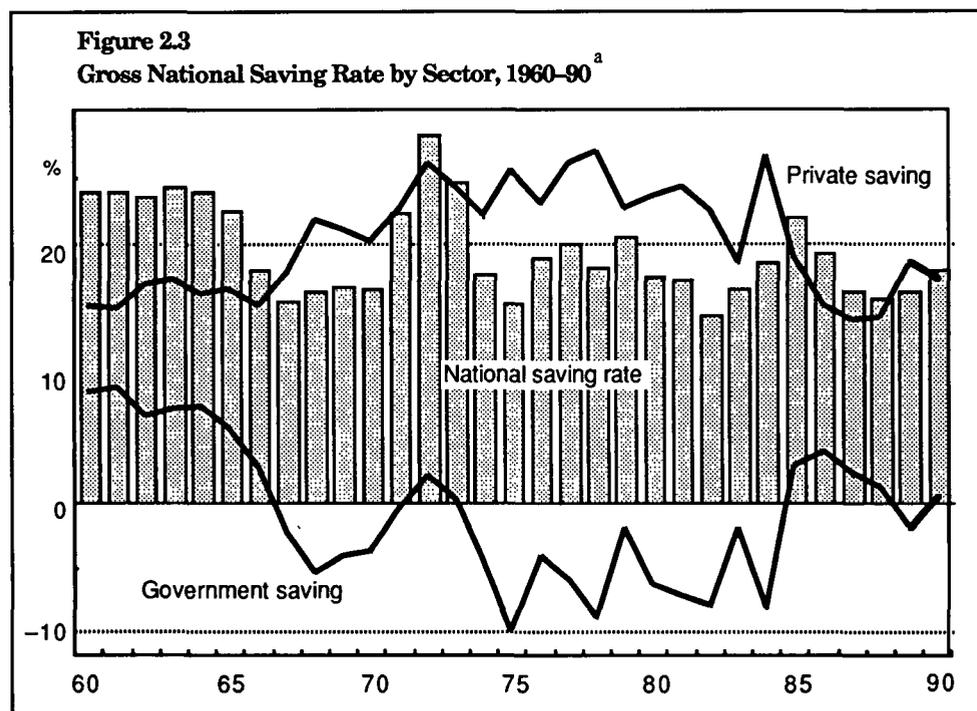
Total national saving (Table 2.6 and Figure 2.2) increased, returning to the pre-ESP level, which is close to the long-run rate. Israel's national saving rate has been fairly steady, fluctuating much less than its constituents, private and public saving (Figure 2.3). This is due to, among other things, the fact that general government saving reflects short-run fluctuations in tax revenue which cause corresponding (and opposite) fluctuations in private disposable income and hence in private saving. Private saving, which was up by 4.0 percentage points in 1989, declined by 0.9 points in 1990. Last year's steep rise was due chiefly to the recession, which reduced the revenue sharply, so that although national income fell by 6 percent, private disposable income rose by 4 percent (Table 2.A4). Households do not perceive such deviations as a change in their permanent income. Thus last year's rise in saving was partly transient and this year's decline is corrective. In 1988–89 the rate of private saving exceeded that prevailing just after the ESP was launched and fell short of that prevailing before it. This pattern is presumably connected with changes in the age structure. General government saving rose by 2.2 percentage points this year, most of the rise being in domestic saving.



^a The denominator is GNP plus unilateral transfers (converted to NIS at the official exchange rate). The saving figures are based on the Bank of Israel's estimate of interest payments.

SOURCE: Based on Central Bureau of Statistics data.

After declining steadily for several years, the investment rate rose by 2 percentage points, the rise embracing all categories—dwellings, other fixed investment, and inventories. In 1989, the national saving rate exceeded the investment rate by 2 percentage points (implying that the country's external debt contracted). In 1990, the gap narrowed to 1 percentage point and the current-account surplus came to \$700 million, implying that the external debt continued to contract.



^a The denominator is GNP *plus* unilateral transfers (converted to NIS at the official exchange rate). The saving figures are based on the Bank of Israel's estimate of interest payments.

SOURCE: Based on Central Bureau of Statistics data.

In the Bank of Israel's *Annual Report 1989* we presented a long-run analysis of saving and investment, which enabled us to evaluate the improvement in the balance of payments and the downtrend of the external debt in the late 1980s. Our conclusion was that the balance-of-payments improvement consisted of the decline in the investment rate and a long-run element stemming from the rise in general government saving (defined as the difference between current income and current expenditure). An increase in public saving was also a basic long-run precondition of the success of the ESP. The decline in investment stemmed from, among other things, reduced profitability, higher interest rates, and a steep decline in housing investment whose long-run causes are demographic factors such as age structure and the migration balance.

The resumption of massive immigration calls for reappraisal of investment and saving.

On the one hand, immigrant absorption requires a substantial rise in the rate of housing investment, to give the immigrants somewhere to live, and other fixed investment, to create jobs for them. On the other hand, immigration requires higher current spending by the government, chiefly as transfer payments, but also for the supply of services (education, health, welfare, and so on), and this makes for reduced public saving. In the short run, this will have a markedly adverse effect on the balance of payments. The extent of the deterioration depends largely on the ability to increase private saving; there are several factors favoring this: (a) the new immigrants' housing needs, since a large part of private saving is associated with housing purchase; (b) the incremental supply of labor, which will moderate the rate of increase of wages and reduce the distributive share of labor—since the marginal propensity to consume out of returns to labor is greater than the marginal propensity to consume out of returns to capital, this will raise the saving rate; (c) the temporary rise in the tax burden (2 percentage points on VAT and an immigration levy of 5 percent on the income tax liability), which reduces the rate of increase of disposable income.

In spite of the rise in domestic demand, in particular the investment/GNP ratio, interest rates again declined this year, due partly to the further liberalization of capital movements and also to domestic-capital market developments. This year the supply of government securities fell short of the budget deficit; this was in part financed by monetary expansion, which itself helped to reduce interest rates. As mentioned, towards the end of the year, the expectation for an increase in the budget deficit and events in the Gulf reversed the trend of interest rates.

2. INVESTMENT AND CAPITAL STOCK

Fixed investment rose by 17.1 percent in 1990, following two years of decline. Total investment rose by 25 percent, reflecting a NIS 700 million rise in inventories, evidently due in part to low interest rates, the upturn in economic activity, and expectations of a further rise. Business-sector investment rose by 22 percent, most industries participating in the increase. Dwelling investment rose by 17.5 percent, chiefly in response to government initiative intended to ensure the supply of housing for immigrants. After declining steadily for some seven years, the investment/product ratio of the business sector rose to 15.5 percent in 1990. This was, however, only enough to raise the sector's capital stock by 2.3 percent. Although this is more than last year's 1.4 percent rise, it is appreciably below rates experienced in the past, and too low considering the need to create jobs for the large number of immigrants expected (in the 1960s, the sector's investment/output ratio averaged 23.2 percent). Immigrant absorption demands a much greater effort. This year's increased output was made possible by stepping up utilization of the existing stock, and this is a process that cannot go on for long. Failure to invest adequately is liable to impose a severe constraint on the future expansion of output and creation of jobs.

Table 2.7
Gross Domestic Investment by Type of Capital Good, 1981-90

	NIS million 1990	(annual change, percent)								
		Quantity						Price		
		1981-85	1986-87	1988-89	1988	1989	1990	1988	1989	1990
Nondwelling construction										
Structures	1,578	-2.4	1.2	4.0	6.6	1.4	-4.4	15.6	18.6	16.4
Earthworks	1,475	-4.7	19.9	-2.1	0.3	-4.5	-1.3	21.5	17.8	16.2
Total	3,053	-3.6	9.1	0.9	3.4	-1.5	-2.9	18.6	18.3	16.3
Machinery and equipment										
Imported	4,595	7.2	-1.0	-3.1	-7.6	1.6	24.3	5.3	15.8	13.3
Locally produced	2,486	8.4	5.3	-4.2	-4.7	-3.7	9.8	13.8	17.9	9.2
Total	7,081	7.6	1.4	-3.5	-6.5	-0.4	19.0	8.5	16.5	11.6
Land transport	1,795	0.2	27.8	-12.3	13.2	-32.1	20.8	12.8	12.6	13.2
Subtotal	11,929	3.4	6.5	-3.9	-0.8	-7.0	13.5	12.0	16.4	12.4
Ships and aircraft	287									
Total nondwelling	12,217	3.3	7.8	-5.3	-1.3	-9.1	17.0	11.9	16.4	12.6
Dwellings										
Private	4,900	-1.5	3.8	4.8	3.0	6.7	0.4	20.1	19.3	17.2
Public	1,344	-16.5	-17.3	1.7	-5.2	9.2	184.2	16.8	18.1	17.5
Total	6,244	-4.9	0.9	4.5	2.2	7.0	17.5	19.9	19.2	16.4
Total fixed investment	18,460	0.2	5.8	-2.6	-0.4	-4.8	17.1	14.1	17.8	13.8
Change in inventories	676									
Total gross domestic investment	19,136	-0.1	5.9	-2.8	-0.3	-5.3	25.2	15.7	15.5	12.2

SOURCE: Central Bureau of Statistics.

Last year's improvement in the underlying factors favoring investment profitability continued, but at a slower rate (Table 2.2). The gross rate of return on capital, which rose from an average of 11.2 percent in 1986–87 to 12.2 percent in 1989, failed to rise further in 1990. Real long-term interest rates, as represented by the yield on long-term government bonds, fell to 1.9 percent, compared with 5.8 percent in 1986–87 and 2.5 percent in 1989, but, as stated, yields rose again at the end of the year. The yield to maturity of private bonds, a direct indicator of the cost of private sector borrowing, remained low at about 3 percent. Short-term interest rates declined, presumably affecting the timing of investment. The relative price of producer durables continued to decline, but, as stated, unit costs failed to do so, so that the improvement in profitability was arrested. In 1989 investment was held back by a variety of adverse factors (discussed in last year's *Annual Report*), but grew substantially in 1990, thanks to the rise in domestic demand and the massive influx of immigrants, which improved the business climate. Nevertheless, it must be stressed that the pace of investment does not measure up to the needs of immigration on the scale envisaged. At the end of the year, the mood changed owing to events in the Gulf and probably damped down investment.

As mentioned, investment was stimulated by the expansionary monetary policy and by the reduction of government pressure in the capital market. Government investment fell off by 5 percent this year—in contrast to the trend in the rest of the economy and in spite of immigration, which calls for a substantial increase in certain types of investment. As the Bank of Israel has been pointing out for several years, the need to expand the highway network is acute, both because of the neglect of the past decade and in view of immigration. The fact that there has been no increase in these investments is therefore extremely worrying. During the year, the government introduced a new channel of investment aid: investors will be able to opt for loan guarantees on two thirds of their investment in lieu of the benefits at present provided by the Encouragement of Capital Investments Law. These guarantees were introduced only at the beginning of 1991, so that it is too early for their effect to be felt. It may however be remarked that because of the low (1.5 percent) premium charged on the guarantees, and because approval of eligible projects remains in the hands of government officials, there is a distinct danger that some of the investments benefiting from this inducement will prove to be unprofitable from the social point of view.

Dwelling investment rose substantially in 1990, in response to immigration, reversing the downtrend of construction activity that prevailed since the late 1970s. Building starts doubled this year, to 43,000 units, most of them on government initiative. Past experience has shown that excessive intervention leads to severe distortions in this industry; the government's decision to embark on housing investment on its own account therefore gives rise to concern, since it reduces the effectiveness of the purchasing guarantees previously introduced.

3. PRINCIPAL INDUSTRIES

Agriculture

Agricultural product grew by 13 percent in 1990. This is much higher than usual, and much higher than in other industries. Farm output rose by 6 percent, mainly because of high yields in export crops, which benefited from favorable weather this year. Purchased inputs, on the other hand, were unchanged, while the downtrend in labor input accelerated. As a result, total productivity went up by 21 percent (compared with an average of 4.6 percent in 1987–89 and 3 percent in 1981–86; Table 2.8). The 'terms of trade' of agriculture (output prices relative to input prices) again deteriorated, one cause being the cutting of subsidies, and contributed to the decline in total real farm income. However, 9 percent of farmers² left the industry this year, and income per farmer (the return on own labor and capital) therefore rose. The industry is still in the throes of financial crisis and it is also confronted by the water crisis, which intensified this year as public awareness that the country's water reserves were at stake brought recognition of the fact that agricultural water consumption must be slashed.

Because of the high productivity which is one of the industry's salient features, the volume of farm produce outstripped both domestic and foreign demand, so that prices and farm incomes fell. The solution is faster exit of factors of production, a process hitherto held back by the subsidization of output and inputs and by the institutional set-up of marketing and production. The industry's excess capacity should, however, decline, as immigration from the Soviet Union increases the population.

This year's exceptionally high rise in farm product is, as mentioned, the result of a large increase in output (which declined in 1988 and remained at that level in 1989). Output has in the past grown as fast or faster, but on previous occasions the rise was usually accompanied by increased inputs. In 1990, on the other hand, the volume of inputs (which declined in 1988–89) was fairly steady.

The rise in output was confined to crops (up by 11 percent) and was due chiefly to favorable natural conditions after two years of extremely adverse weather. The outstanding performers were citrus and avocado among the export crops, as well as wheat and several types of vegetable. Livestock output again fell off, by 1.4 percent, the decline being concentrated in poultry. Livestock output is less affected by natural conditions and the decline of 1989–90 reflects adjustment of production and stock to the weakening of demand due to the recession and to events in the administered areas, as well as to subsidy cuts. It is not until the end of 1990 that demand for some livestock products shows signs of picking up, owing to immigration.

Most of the incremental output of nonlivestock products went to industry or exports; it is difficult to explain why a moderate expansion in the supply for direct consumption was

²Farmers include employed persons other than employees reported as working in agriculture (according to the Labour Force Surveys). See note d to Table 2.8.

Table 2.8
Indicators of Agricultural Production, 1979–90^a

	(real annual change, percent)					
	1979–81	1982–86	1987–90	1988	1989	1990
Output						
Total output ^b	2.9	2.7	2.6	-3.3	-0.1	5.9
Inputs ^c	1.8	1.6	0.3	-2.1	-4.4	0.4
Gross product	4.8	4.2	5.5	-4.6	5.0	12.9
Total farm income ^d	5.8	0.8	-5.3	-8.0	-8.6	-1.9
Returns to capital and own labor, per farmer ^d			-4.0	-5.0	-5.6	8.7
Factor input						
Labor ^e	-0.3	0.8	-4.6	-8.2	-0.8	-10.7
Gross capital stock ^f	3.6	2.1	-0.2	0.3	-0.1	-1.0
Capital/labor ratio	3.9	1.3	4.6	9.3	0.7	10.8
Productivity						
Product/labor ratio	5.1	3.4	10.5	3.9	5.9	26.4
Total productivity ^g	3.3	2.8	8.4	0.1	5.6	21.0
Exports^h						
Citrus	-1.9	-7.3	-11.3	-21.7	-21.8	34.3
Other	1.6	9.9	-1.7	-16.7	18.3	5.9
Total	-0.1	3.9	-5.4	-18.2	5.2	12.8
Prices						
Output	108.3	174.8	11.0	15.0	13.1	6.8
Purchased inputs	112.0	174.7	14.7	19.0	20.8	8.2
Terms of trade ⁱ	-3.0	0.1	-3.2	-3.4	-6.4	-1.4

^a Agricultural years (ending September of stated year) until 1986; calendar years from 1987 (except for citrus, avocado, bananas, and flowers). The output and income figures are calculated from data at prices of April of each year for 1982–83 and at each year's average prices thereafter.

^b At producer prices. Includes intermediate output.

^c Intermediate output, purchased inputs, own consumption, change in livestock, change in orchards, and forestry.

^d Deflated by the CPI. Farmers include employed persons other than employees reported as working in agriculture (according to the Labour Force Surveys), i.e. members of cooperatives and unpaid family labor are included.

^e Man-hours.

^f Beginning-of-year stock at fixed prices.

^g Product per unit of factor input (the average weight of labor is 59 percent).

^h Based on data in 1986 dollars (foreign-trade statistics). Excluding exports to the administered areas.

ⁱ Change in the index of relative output/input prices.

SOURCE: Based on Central Bureau of Statistics data.

sufficient to cause a significant decline in relative prices—and in some items an absolute decline. Moreover, the decline (in both producer and consumer prices) occurred at a time of rapid population growth and a 4–5 percent increase in the consumption of food, beverages, and tobacco. A partial explanation is provided by the low income and price elasticities. However, the main reason appears to be that supply in fact expanded much

more than would appear from the data on organized marketing, because of the expansion of other sales channels. Producer prices in the domestic market fell by 6 percent relative to input prices, with a somewhat greater decline for products sold to industry.

Total productivity rose by an exceptional 21 percent in 1990. In the past, increased productivity (which arose from technological advance) led to oversupply, so that the price of farm output declined relative to the CPI. This decline in relative producer prices was the principal cause of the 20 percent decline in real total farm income in 1987–90. Further technological advance was required for the industry to function properly, and in recent years this occurred mainly through a substantial reduction in the number of farmers. The decline in returns to capital and own labor (total income *less* wages) moderated to 1 percent this year (26 percent over 1987–90). However, since there was a substantial decline in the number of farmers, there was a 9 percent increase in income per farmer.

Farm subsidies were slashed by another 29 percent in real terms in 1990. The phasing out of subsidies was begun in 1985,³ and in 1990 it concentrated on the poultry industry; in particular, subsidies on broilers were abolished in mid-1989 (as part of the reform of this sub-industry), and this was reflected in this year's steep decline in both aggregate subsidies and the rate of subsidy.

Water

The end of the 1990 farm year found the industry in a critical position, being faced by the necessity of cutting output while changing the structure of production, owing to the water shortage. After several years of overpumping from the country's principal aquifers and a long series of dry years, water reserves fell to the danger level in the autumn of 1990. According to the State Comptroller's Report, the reserves were overdrawn by 1.6 billion m. cu. by the end of the year. If the aquifers are to be usable in drought years, an immediate rehabilitation program is essential—otherwise they will suffer irreversible damage. Such a program requires agriculture—the chief water user—to make do with much less water in the foreseeable future. The present water policy is based on prices which are a long way from reflecting the real cost of water; the resulting excess demand has meant rationing by an inherently misallocative quota system. The present severe shortage therefore requires greater reliance on market and price mechanisms, so as to ensure efficient allocation of water without resort to quotas. Such a policy would minimize the farm product forgone implied by the inevitable cuts in water consumption. The year's negligible rise in the price of water relative to the CPI or even the 11 percent rise relative to output prices is far from adequate, particularly as the water subsidy was raised by 12 percent in real terms (some NIS 75 million; in this connection, see Bank of Israel, *Annual Report 1989*, pp. 37–38).

More recently—in 1991—stricter administrative controls have been introduced, based

³ The process was effectively completed by the abolition of the milk subsidy (early 1991) and the subsidy on unfrozen chicken (April 1991). At present the only remaining subsidies are for poultry-farmers in Galilee, under the provisions of the 'Galilee Law' of early 1990.

on discriminatory quotas (by type of crop and district) designed to cut consumption to two thirds of the 1989 level (with more severe cuts—of 47 percent—in the case of potable water). The principal deficiency of these measures is that the price of water plays no part in its allocation. Furthermore, it is liable to be perceived as the solution to a temporary crisis, and will therefore retard the required structural change, while creating unnecessary arbitrary discrimination.

The chief burden of reduced quotas or (preferably) higher prices will fall on field crops, citrus, and avocado—a large proportion of the acreage devoted to these products has a relatively low marginal productivity of water. Reducing water consumption, whether by administrative or price rationing, will almost certainly mean that farmers have to be compensated for loss of income. If so, the compensation should be given on the basis of efficiency criteria, also taking account of non-economic factors.

Restructuring agriculture means switching to intensive crops which promise a high yield per unit of water, and developing unirrigated crops. In view of the scarcity of water at present prices it is sometimes suggested that cuts in water consumption can be avoided by the development of alternative water resources, some of them unconventional. But any investment of this sort must be *preceded* by an efficient price policy for water. Such a policy will ensure that—if needed—investors and funding for the development of new water resources will be forthcoming.

Industry⁴

Industrial production, which was down by 5 percent in 1988–89, rose by 6.3 percent in 1990. All industries participated in the increase, which was particularly marked in those with a high proportion of intermediate output (a major cause being the expansion of construction activity). Most of the growth occurred in the second half of the year, as demand picked up, but was checked at the end of the year. The increase in production was accompanied by a decline in the number of employees, a 7.5 percent rise in labor productivity (following a 6 percent decline in 1988–89), and a 6.8 percent rise in total productivity, a rate not experienced at any time during the 1980s. There was little change in real unit labor costs.

Demand for most industrial products rose in 1990. In the first half of the year domestic demand rose, while the volume of exports fell, reversing the trend of 1988 and 1989. In the second half, the growth of output for the domestic market accelerated and exports also rose substantially.

The upswing in industry stemmed from the improvement in profitability which

⁴ The data in this section are based on the industry indexes of the Central Bureau of Statistics and are not consistent with the Labour Force Survey data, according to which labor input rose by 0.9 percent and the number of employees by 2.3 percent. The figures cited therefore differ from those in Section 1 of this chapter.

Unless otherwise specified, diamonds are excluded from the discussion of this section and from the data cited.

occurred in 1989, as a result of restructuring and the expansion of demand. The principal causes of the recession (whose first signs appeared in 1987) were the decline in profitability and the change in the economic environment due to the ESP. These factors led to the reorganization and restructuring of 1988 and 1989. The share of the (export-oriented) high-tech industries rose, and in some of them (electrical and electronic equipment, for example), slackening demand led to recession earlier than in other industries, so that recovery also began earlier.

Table 2.9
Indicators of Industrial Production, 1980-90^a

(annual rate of change, percent)

	1980-85	1986-87	1988	1989	1990	1990	
						1st half	2nd half
Gross value added	2.5	4.2	-2.9	-1.8	6.3	2.9	6.1
Labor input (man-hours)	0.5	1.0	-4.6	-5.7	-1.1	-1.9	3.9
Number of employees	0.5	1.4	-3.5	-6.2	-0.8	-0.3	2.2
Real gross investment ^b	5.7	0.6	-15.7	-0.6	15.1	..	..
Gross capital stock ^c	4.8	3.7	3.6	2.0	1.5	..	..
Gross value added per man-hour	2.0	3.2	1.8	4.1	7.5	4.9	2.1
Total productivity ^d	0.9	2.5	-0.5	1.8	6.8	..	..
Real industrial exports	8.8	7.4	3.7	9.0	5.0	-6.2	12.7

^a Excluding diamonds.

^b Excluding motor vehicles.

^c Beginning-of-year stock.

^d Labor input according to industry indexes of the CBS (not the Labour Force Surveys).

SOURCE: Based on Central Bureau of Statistics data.

The mobility rate, an indicator of structural change, rose from an average of 14 percent in 1981-85, to 16 percent in 1986-87, and to 18 percent in 1988-89.⁵ Mobility was particularly high in the traditional industries, which employ labor with a relatively low level of education (which goes with high mobility). The restructuring process included the closure of unprofitable lines of production and plants; in other plants, prominently those with low labor productivity, there were lay-offs, thereby raising average labor productivity.

The 1989 rise in labor productivity was reflected in somewhat higher profitability—there was a 1.9 percent decline in real unit labor costs (according to the industry indexes) and the rate of return to capital rose; as can also be seen in Table 2.10, unit labor costs declined to below their average 1983 level, according to the industry surveys. Although

⁵ The mobility rate is defined as the sum of separations and hiring as percent of total employment. Owing to a change of sample, this year's mobility figures are not comparable with those of previous years. The figures presented here are based on computations of Haim Regev of the Central Bureau of Statistics.

the 1989 improvement in profitability did not recover all the ground lost since the early 1980s, it led to the initial recovery and may have created expectations that the improvement would continue. The first signs of recovery emerged in 1989, with a small rise in output, a rise in imports of producer durables, and (in the fourth quarter) of intermediates.

Table 2.10
Indicators of Industrial Profitability, 1983-90^a

	(percent)				
	1983-85	1986-87	1988	1989	1990
Real unit labor cost ^b (index, 1986 = 100)					
Estimate A	88.8	99.4	100.1	98.2	98.3
Estimate B ^c	94.6	99.1	95.5	93.7	93.8
Rate of return to capital ^c	11.8	9.5	11.1	11.3	11.3
Relative price, input/output (index, 1986 = 100)	99.7	98.6	96.6	96.9	96.9
Real short-term interest rate ^d	19.0	-5.3	6.8	11.7	8.9

^a Excluding diamonds.

^b Estimate A according to industry indexes of the CBS; estimate B, labor cost per unit of product deflated by an index of industrial product prices (according to industry surveys of the CBS).

^c Industry surveys for 1983, 1985, 1987, and 1988; other years interpolated according to industry indexes.

^d Deflated by index of industrial output prices.

SOURCE: Based on Central Bureau of Statistics data.

Restructuring continued in 1990, with lay-offs in the first half of the year, and a rise in capital utilization. Labor productivity rose by 7½ percent. Neither real unit labor costs (according to the industry indexes) nor the rate of return to capital changed by much. Profitability failed to rise because wages rose faster than the business-sector average, whereas the implicit price index of gross industrial product at factor cost rose by only 8.4 percent.

Nevertheless, industrial product continued to rise, owing to brisker demand and perhaps also to producers' expectation that profitability would improve. The rise accelerated in the second half of the year, when demand stepped up substantially, as immigration increased, and exports expanded.

Exports rose by 5 percent, which is below the average for the preceding five years; the rise was sustained by the 4 percent increase in world trade and was the chief element in the growth of industrial output, the next in importance being private consumption (whose contribution was negative in 1989). Next comes investment, while the contribution of public consumption was negative. Specific destinations which showed a substantial rise were machinery and equipment (9.9 percent), inputs to the construction industry, and inventories.

Table 2.11
Industrial Production, Exports, and Investment, 1989-90^a

(real annual rate of change, percent)

	1989			1990			Weight in index of	
	Production	Exports	Investment	Production	Exports	Investment	Industrial production	Industrial exports
Mining and quarrying ^b	-3.8	0.5	-12.7	13.2	-3.6	22.4	6.5	3.8
Food, beverages, and tobacco	-3.0	10.7	-7.9	1.1	6.5	-5.3	11.6	8.3
Textiles, apparel, and leather	-4.7	1.7	-16.4	8.3	13.6	28.2	9.4	10.1
Paper, printing, and publishing	-1.1	-1.5	-30.1	4.1	6.1	26.3	7.7	0.7
Wood and wood products	-3.7	5.7	0.1	8.2	13.3	21.5	3.3	0.8
Rubber and plastics	2.7	8.1	-16.2	12.0	12.6	20.1	5.3	4.7
Chemicals and petroleum	4.6	9.3	26.7	5.1	5.9	1.3	10.6	18.5
Basic metals	-5.0	13.9	-54.7	24.1	5.1	22.0	2.2	1.5
Metals and machinery	-4.4	4.1	-20.1	4.6	3.5	15.9	16.4	12.9
Electronic equipment	-4.6	6.6	17.5	7.4	5.5	24.5	17.6	20.9
Transport equipment	6.4	47.6	19.1	4.7	-15.9	43.8	6.7	7.4
Other	7.7	11.9	17.4	0.8	23.6	-16.2	2.5	10.5
Total industry	-1.8	9.0	-0.6	6.3	5.0	15.1	100.0	100.0

^a Two-digit aggregation. Excludes diamonds.

^b Including nonmetallic minerals.

SOURCE: Based on Central Bureau of Statistics data.

All industries participated in the expansion of output; as stated, there were substantial increases in industries supplying intermediates for construction or whose final destination is private consumption. These are mostly the traditional industries, and their share in total industrial output therefore rose, in contrast with the preceding two years. The mobility data for the first and second half of 1990 (see note 5) indicate higher mobility in the traditional than in the high-tech industries (as in previous years), and that mobility declines as size of establishment increases.

Factor productivity and profitability

Factor utilization rose along with output in 1990, continuing the trend of the preceding two years—an increase in capital stock and a decline in employment. The latter occurred chiefly in plants with relatively low labor productivity. The number of industrial employees was down by 0.8 percent, and labor input by 1.1 percent, in both cases following a 10 percent decline in 1988–89. Moreover, the growth of capital stock slowed down and it rose by only 1½ percent.

The expansion of output and the decline in input yield a 7.5 percent rise in labor productivity, compared with 4 percent in 1989. Industry's response to the low level of profitability was to close down less profitable lines and lay off workers, the latter chiefly in plants with low labor productivity, so that labor productivity rose in 1989. As recovery began in the second half of 1989 and gathered way in the first half of 1990, with a rise in capital utilization and no increase (indeed a decline) in employment, labor productivity rose substantially. As demand stepped up in the second half of 1990, the rise in output was accompanied by increased employment, and the rise in labor productivity slowed down (perhaps because most idle plant had already been put to work).

The combination of new labor input and slower growth of capital stock has reduced total factor input by one half of one percent. Nevertheless, industrial production rose by 6.3 percent, implying that total productivity rose by 6.8 percent.

The expansion of output was not backed by increased profitability in 1990. One indicator of long-run profitability is the rate of return to capital. In 1986–87, the first two years after the launching of the ESP, the rate of return to capital declined to 9.5 percent on average; there was some improvement in 1988 and 1989, when it reached 11.3 percent (this compares with an average of 11.8 percent in 1983–85). There was no change in 1990 (Table 2.10).

In the short run (i.e., with capital utilization constant) real unit labor costs are the effective determinant of profitability. According to the industry indexes, they did not rise in 1990, but this was after they had risen by 9 percent in 1983–89. According to the industry surveys, however, real unit labor costs fell to below the 1983–85 average.

The year's large increase in labor productivity failed to improve profitability; this was due to the unexpectedly low increase in the implicit price index of industrial product and the fact that industrial wages rose more than the business-sector average. The moderate rise in product prices (8.4 percent, compared with 17 percent for the CPI) is consistent with the moderate rise in the index of wholesale prices, the cutting of subsidies for

exports and domestic sales, and the increase in indirect tax rates. Industrial wages rose by 2 percent relative to average business-sector wages.⁶ This may be due to the greater prominence of unionized labor in industry or to the existence of public sector corporations whose wages are linked to public services wages; these firms account for 15 percent of industrial employment and 26 percent of the wage-bill (Industry Survey, 1988). The lay-offs of the the last three years and increased capital utilization (partly through shift-work) raised labor productivity, and this too favored high wages. Replacement of workers from the administered areas by Israelis presumably also helped.

The real *ex post* interest rate on short-term credit (deflated by the implicit price index of industrial product) declined from 11.7 percent in 1989 to 8.9 percent in 1990 (Table 2.10). This reflects a substantial decline in nominal interest, from 33.5 percent in 1989 to 18.1 percent in 1990 (compared with 22.8 percent on average for the business sector). The decline was due to the moderateness of the rise in the exchange rate against the dollar, which reduced the *ex post* rate on foreign credit, as well as to the decline in the domestic interest rate.

There was no change in industry's 'terms of trade', with output and input prices both rising by 10 percent. The price of imported intermediates declined, while in the second half of the year oil prices rose substantially because of the Gulf crisis.

Construction

Output rose by 7 percent on average in 1990, and at an increasing pace during the year, as immigration gathered momentum; the entire growth was in housing.

The number of housing starts more than doubled, from 20,000 units in 1989 to 43,000 in 1990. The bulk of the increase was in government-initiated housing, but private starts also rose substantially. Nondwelling starts rose by 27 percent, about the same as purchases of machinery and equipment.

As in past periods of immigration, construction is a leading industry and its expansion triggered activity in several other industries, principally road haulage and producers of construction inputs.

As output increased, there was a corresponding rise in employment, the additional workers coming mostly from the administered areas. Labor input from the administered areas, which fell steeply in 1988, continued to rise this year, to above the *pre-intifada* level. Total labor input rose slightly more than output.

Purchases of construction equipment rose by 79 percent and the stock, which was steady in 1988-89, rose by 4.2 percent during the year.

Housing

In the last few years the number of housing starts has averaged about 20,000 units. However, immigration on the present scale requires an annual figure of around 60,000.

⁶ Central Bureau of Statistics data based on employers' returns to the National Insurance Institute.

Table 2.12
Indicators of Construction Activity, 1972-90^a

	Absolute figures		Annual change, percent					
	1989	1990	1979	1972-86	1979-90	1986-88	1989	1990
Output (millions of 1986 NIS)								
Residential	2,503	2,939	-2.6	-3.5	8.6	2.2	7.0	17.5
Other structures	1,487	1,442	-2.4	-4.0	4.0	4.2	-1.3	-3.0
Other construction output ^b	1,645	1,739	2.0	1.8	3.6	3.1	3.4	5.7
Total	5,634	6,120	-1.6	-2.3	6.0	3.0	3.6	8.6
Starts								
Residential (thousand m. sq.)	3,110	5,561	-5.8	-6.4	19.5	5.7	-9.1	78.8
Other structures (thousand m. sq.)	1,100	1,400	-5.1	-6.5	8.9	25.3	-22.0	27.3
Total	4,210	6,961	-5.6	-6.4	16.9	10.8	-12.8	65.3
Residential (thousand units)								
Starts	20	43	-8.0	-9.6	22.9	1.6	-9.6	116.1
Completions	22	19	-6.5	-4.7	-2.8	-1.6	13.6	-13.2
Construction time, residential^c (months)	21	20	3.5	3.0	-3.8	-16.4	3.4	-3.3
Employment (thousands)								
Israelis	72	76	-2.6	-4.0	5.3	9.0	-3.0	6.0
From administered territories	56	64	3.9	3.9	7.7	8.7	3.7	14.3
Total	128	140	-1.0	-1.2	6.3	8.9	-0.2	9.6
Stock of construction equipment^d (millions of 1986 NIS)	1,158	1,139	4.1	-0.6	-1.7	0.1	0.5	-1.6
Index of input prices (residential construction)			42.7	153.1	20.1	20.0	18.6	16.3

^a Calculated from less rounded figures.

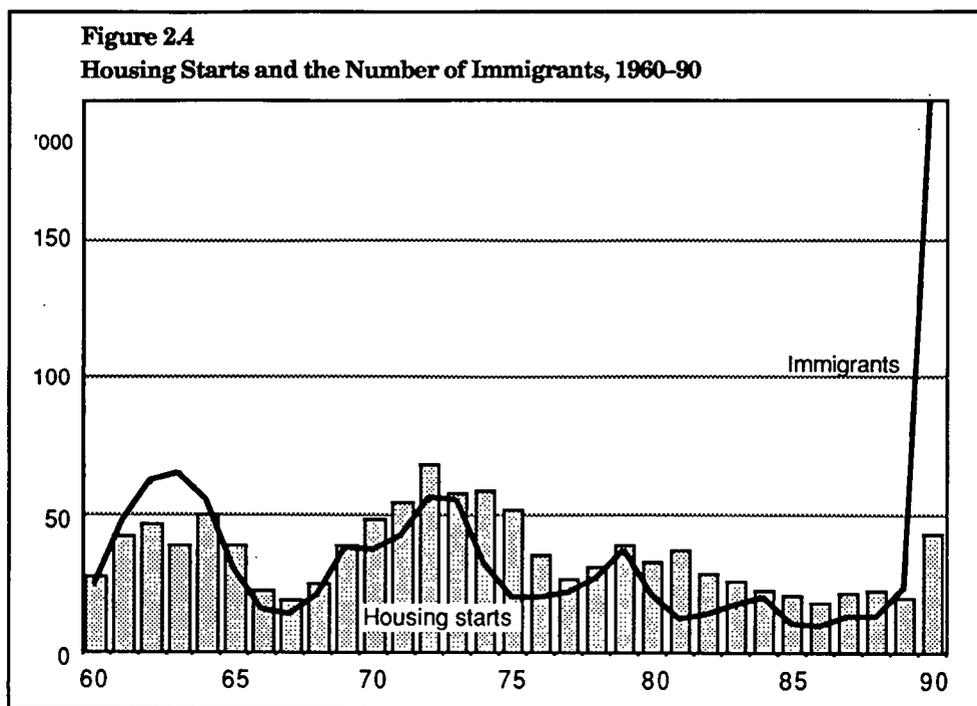
^b Includes defense construction and a rough estimate for maintenance and renovations.

^c Private construction.

^d Beginning-of-year stock.

SOURCE: Based on Central Bureau of Statistics data.

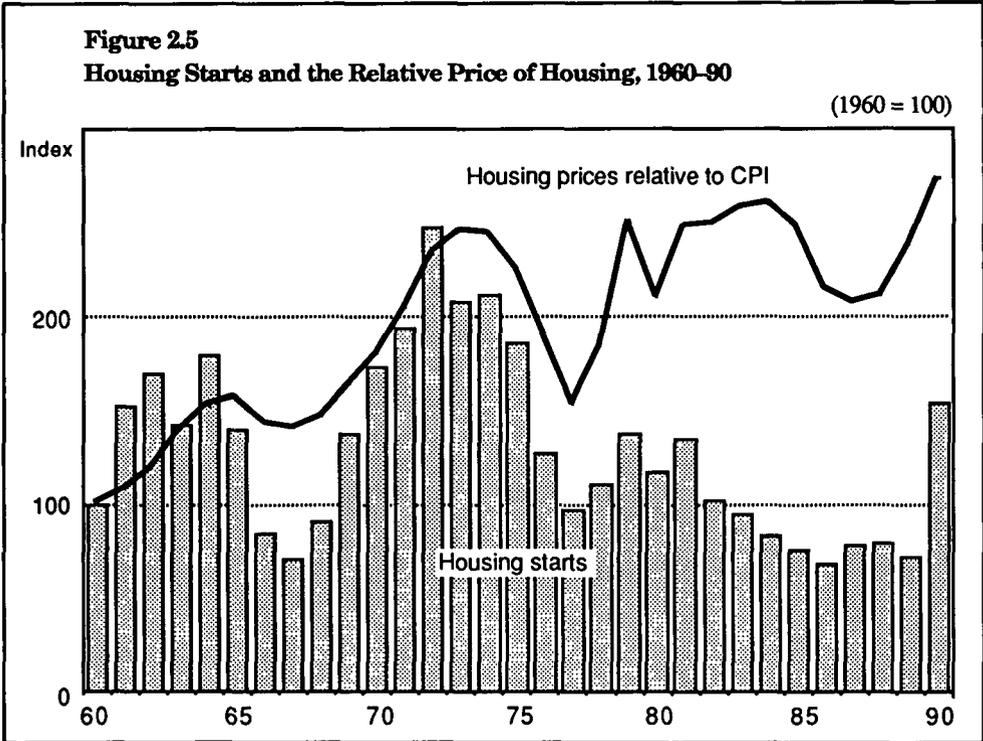
This year there were 43,000 starts, most of them government-initiated. The uncertainty regarding the effective demand generated by the rising number of new immigrants requires government intervention in order to reduce the risk confronting building contractors and construction firms. After several years of cutting down its involvement, the government stepped in this year by giving purchase guarantees on government-initiated apartments, which this year accounted for 19,000 starts, compared with an average of 3,000 in 1986–89. Private starts also rose substantially, from 16,000 units in 1989 to 24,000 this year. That the rise was not more rapid was due to the absence of a clear government policy and to the gradual stepping up of concessions, which generated expectations of larger inducements later on.



The increase in supply was accompanied by increased demand, as reflected in apartment sales and in prices: new apartment sales rose by a steep 37 percent, while the number of real estate transactions (which includes the secondary housing market) rose from 77,000 to 86,000. The increasing number of immigrants raised housing prices and generated expectations for further rises, pushing speculative demand up too. The price of housing relative to the CPI began to rise in 1988, after several years of depression and before the start of the immigration, and it has risen steadily since, by 12 percent in 1989 and 15 percent in 1990. However, whereas new apartment sales declined in 1989, this year's price rise was, as mentioned, accompanied by a steep increase in sales.

Housing construction began to pick up in the last quarter of 1989, as the economy

emerged from the recession. However, the dominant factor in the housing market is the immigrants from the Soviet Union, who have been arriving at an increasing rate since the second quarter of 1989. There were 200,000 arrivals in 1990, compared with 24,000 in 1989, and an annual average of 15,000 in 1980–89.



Housing aid to immigrants is based on owner-occupancy, for which interest-free indexed mortgages are given; initially, immigrants are eligible for a rent grant; this permits choice of location and standard of accommodation and reduces the amount of red tape involved. During most of the year, the grant was in the form of a fixed amount earmarked for rent, but this resulted in rising rents and at the end of the year the rent grant became part of the absorption grant (designed to cover immigrants' initial living expenses).

The growing demand for rented accommodation was reflected in a persistent increase in rents; regional differences narrowed, and the number of rentals and the utilization of the stock of dwellings rose. The government helped to increase the supply of apartments by exempting rent receipts of individuals from income tax. As a result, there was little need for temporary expedients in spite of the large number of arrivals. The rise in rents led to crowding among established residents and immigrants alike, with two or more (usually related) families sharing an apartment.

The increase in the demand for housing was reinforced by the decline in long-term interest rates in general, and mortgage interest in particular, as well as last year's cancellation of single-borrower limits. Both real wages and real disposable income rose quite slowly (by 1 and 4 percent respectively), thereby preventing demand from rising more than it did.

Government intervention

In the 1980s housing policy focused mainly on demand, the principal instrument being subsidized mortgages. This was appropriate in a period of low immigration, when changes in demand stemmed mostly from the growth of the established population and changes in its age composition.

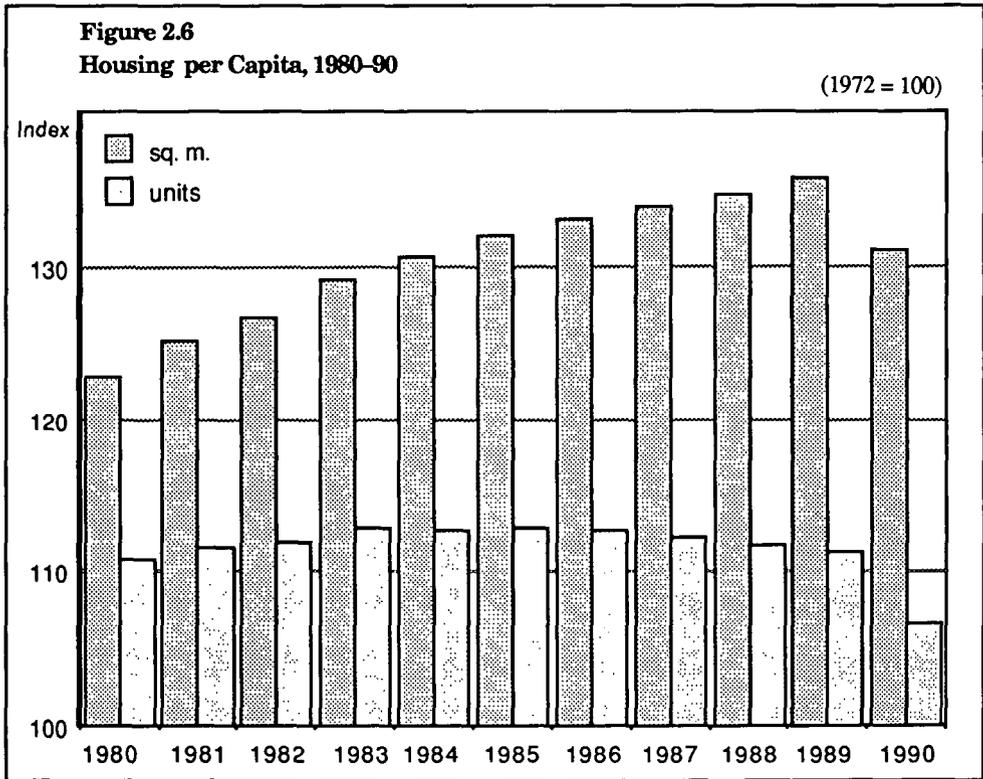
Table 2.13
Housing Construction by Initiating Sector, 1970-90^a

	(thousand units, period average)					
	Starts			Completions		
	Total	Private	Public	Total	Private	Public
1970-75	56.4	30.2	26.2	46.8	26.9	19.9
1976-78	31.0	22.5	8.4	44.6	24.0	20.6
1979-86	28.2	19.3	8.9	29.0	19.6	9.5
1982	28.5	20.1	8.4	33.3	20.0	13.3
1983	26.2	18.9	7.3	30.5	20.7	9.7
1984	23.3	16.8	6.5	27.4	19.8	7.6
1985	20.9	15.7	5.2	24.8	17.8	6.9
1986	18.8	15.7	3.1	21.7	17.5	4.2
1987	21.6	18.7	2.9	19.9	16.4	3.5
1988	21.9	18.9	3.0	19.6	16.4	3.2
1989	19.8	16.4	3.5	22.3	18.8	3.5
1990	42.9	23.5	19.4	19.4	16.1	3.3
1989						
I	5.7	4.1	1.5	4.8	4.0	0.9
II	4.3	3.6	0.6	6.1	5.1	1.0
III	5.1	4.4	0.7	6.0	4.9	1.1
IV	4.8	4.2	0.7	5.4	4.9	0.5
1990						
I	8.8	5.3	3.5	4.6	4.1	0.5
II	7.9	5.0	2.9	4.6	4.0	0.6
III	11.3	6.4	4.8	4.9	3.9	1.0
IV	14.9	6.8	8.1	5.2	4.0	1.2

^a Calculated from less rounded figures.

SOURCE: Based on Central Bureau of Statistics data.

This was the background against which the government was forced to take rapid action by the growing influx of immigrants. There is considerable uncertainty about the number of immigrants, the number of apartments they will need, and how demand for owner-occupied dwellings (including its geographical distribution) develops. Another area of uncertainty concerns the extent of government intervention. As a result market forces are prevented from substantially increasing the number of starts. An unequivocal policy is therefore essential if contractors and construction firms are to be able to plan properly.



The government's implementation of a policy to stimulate supply has been subject to many delays. The principal means employed has been government-initiated construction. As stated, this averaged around 3,000 starts in previous years, and entailed minimal government involvement consisting mainly of setting location and standards and cheap working capital. Beyond this, the firms concerned operated in the market. The rising tide of immigration and the fact that the market reaction was expected to take some time induced the government—albeit with some delay—to reduce the risk confronting construction firms by giving purchase guarantees on government-initiated housing. The guarantee applies to all apartments built in development areas and to 50 percent

elsewhere. As a result, government-initiated starts rose from 3,000 in the first quarter of 1990 to 8,000 in the fourth. The trend continued into 1991, when—in spite of the Gulf war—there were 12,000 starts in the first quarter.

Towards the end of 1990 the government decided to embark on own-account housing construction. This has many disadvantages, among them increased deficit-financing requirements, restraint of competition, and problems of allocating the apartments due to a noncommercial pricing policy. In view of the rapid response of housing starts during the year, it is not clear what led to this decision.

In addition to purchase guarantees, the Ministry of Housing also gives grants for speeding up starts and/or cutting construction time. As a result, the latter has fallen from 33 months in 1989 to 25 months in 1990. Provisional estimates for early 1991 indicate a further substantial fall for government-initiated housing, to around 11 months. Some of the acceleration is due to the increase in prefabrication. Note that in the boom years 1968–72, construction time averaged 14 months. Other measures included simplification of licensing procedures, increased supply of land, renovation of publicly-owned apartments, and provision of temporary structures (such as caravans).

Transport and communications

Real output rose by 6 percent in 1990, compared with 3 percent in 1989, while prices rose by 20 percent. Labor input rose by less than output and labor productivity rose by 3 percent (the average business-sector rate). Real wages, among the highest in the country, rose slightly (the national average was down by 3 percent). Investment other than motor vehicles rose by 8 percent, mostly in communications (up by 20 percent).

The dominant factors this year were recovery from the recession, large-scale immigration, increased tourism (up to the outbreak of the Gulf crisis), and the crisis itself. Long-run trends common to the western world continued this year, namely the shift from public to private transport and increased consumption of communications.

Developments within the industry were uneven. The output of land transport rose by only 4 percent and of civil aviation by no more than 1 percent; shipping & ports and communications, on the other hand, rose by 12 and 9 percent respectively. The increase in land transport reflected, on the one hand, the fact that the decline in bus output was arrested as immigration mounted and employment rose, and, on the other, the recovery of road haulage, based on increased construction activity and economic recovery in general. Civil aviation was the hardest-hit by the Gulf crisis, and in the fourth quarter airline output was down by 12 percent on the fourth quarter of 1989. Taxis also appear to have suffered severely, while the output of buses, shipping, and communications was not affected. The principal price rises were in bus, taxi, and rail fares; by contrast, the price of road haulage, shipping, and port services rose moderately.

Labor productivity gains were prominent in industries whose output also rose: 8 percent in communications, 22 percent in ports, 14 percent in railways; buses showed a 3 percent gain.

Table 2.14
Output of Transport and Communications, 1987-90^a

	Percent of total		Annual percent change						
			Real output				Price		
	Product 1989	Output 1989	1987	1988	1989	1990	1988	1989	1990
Land transport	48.2	30.5	4.2	-0.4	-2.1	4.3	13.7	17.5	13.3
Buses	14.3	8.8	1.8	-4.7	-9.6	0.7	21.3	29.0	29.6
Taxis	4.6	3.0	5.9	-1.0	3.6	2.3	8.0	24.0	24.0
Road haulage	27.3	18.0	6.5	1.0	2.2	6.3	14.6	9.8	4.0
Railways	1.2	0.6	1.9	-1.8	-8.2	9.6	8.7	21.4	26.4
Oil and gas pipelines ^b	0.9	0.0	9.5	-1.1	3.4	3.0			
Shipping and ports	15.2	22.7	8.4	9.3	-0.4	11.7	1.0	20.0	8.6
Shipping	10.4	17.7	8.2	10.4	-0.1	9.9	-0.2	20.0	8.1
Ports	4.8	5.1	9.3	5.2	-1.4	18.2	5.4	20.3	10.3
Civil aviation and airports	12.6	17.2	14.0	-4.7	9.2	0.6	15.8	19.5	15.8
Civil aviation	9.8	15.0	13.6	-4.7	8.6	-0.0	16.9	17.4	15.8
Airports	2.9	2.2	17.4	-4.4	15.2	6.4	7.7	34.3	13.3
Communications	11.4	13.4	9.5	7.4	10.9	8.5	16.1	10.9	17.0
Other^{b,c}	12.6	16.2	15.5	-1.8	-8.1	1.1			
Total output		100.0	8.8	1.4	3.0	5.3	16.3	20.2	20.3
Total gross product	100.0		8.3	0.1	2.2	5.2			
Gross fixed investment			37.3	7.9	-23.2	34.3			
Gross capital stock ^d			2.0	3.5	3.3	0.8			
Employed persons			5.7	3.5	-1.8	-0.6			
Labor input			7.5	1.4	-2.3	2.7			

^a Output and product at 1982/83 market prices.

^b Estimated from the input-output table.

^c Storage, refrigeration, parking lots etc., and services n.e.s.

^d At beginning of year.

SOURCE: Based on Central Bureau of Statistics data.

Inland passenger transport

Bus output on scheduled routes was down by 3 percent this year—about half of the average rate of decline of the past five years,⁷ while prices rose by 8.5 percent (relative to the CPI). The slower rate of decline is due to immigration⁸ and recovery from the recession. The average occupancy rate of buses rose this year, while mileage declined and output rose, the increase being largely confined to unscheduled services. Output per man-day thus rose by 3 percent.

The downward trend of bus output is associated with the increase in the number of private motor cars and mileage, due to the long-run rise in the standard of living and the downward trend of the relative price of cars and car travel.

Fares on scheduled routes rose by 27 percent (9 percent relative to the CPI). This is consistent with the decline in the share of subsidies in the bus cooperatives' receipts. The subsidy covers both government funding of new buses and the cooperatives' deficit. The latter increased because revenue from scheduled routes fell owing to the rigidity of the number of routes and frequency of service to the decline in the number of passengers. The rise in fares was accompanied by a 22 percent rise in input prices. Labor productivity rose, but the cost of labor rose by 28 percent per man-day—much more than the CPI, and more than the national average increase in wages; however, this rise compensated for a real decline in previous years, and was due to, among other things, increased overtime (as implied by the ratio of labor input to the number of persons employed).

The output of railway freight carriage rose by 10 percent, as did passenger traffic. The latter rise was presumably due to higher demand, reflecting the overcrowding on the roads, but the railways' share of passenger traffic is still negligible. After years of neglect, the railways are about to be developed—a program has been prepared and the funds for it appropriated.

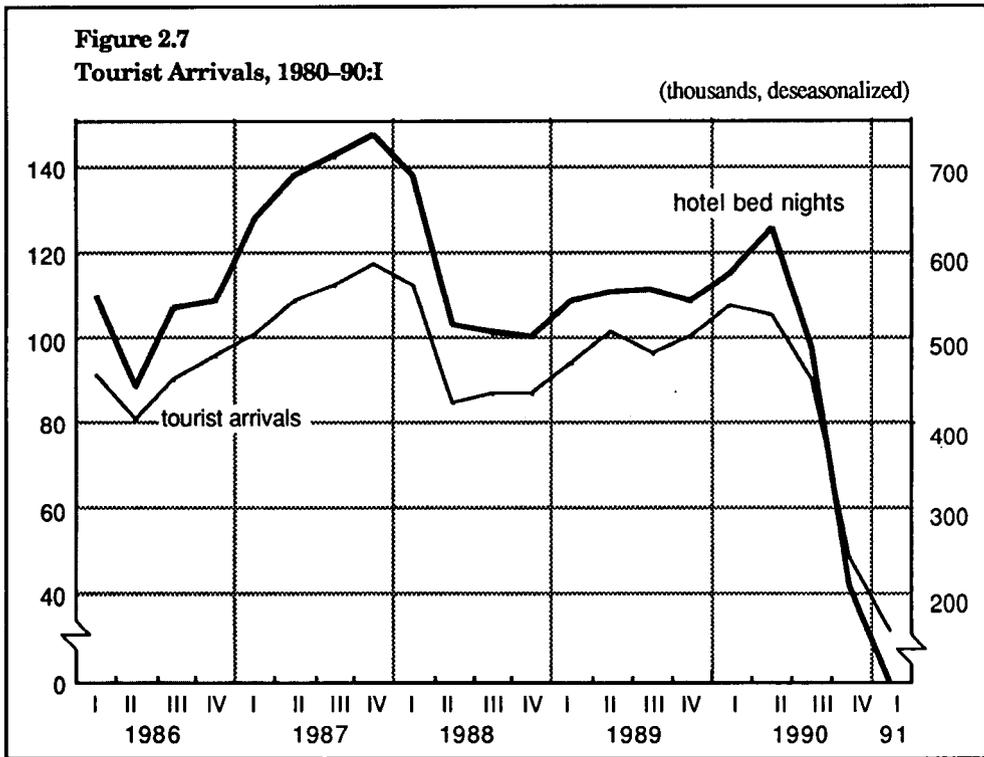
Tourism

The rapid recovery of early 1990, with its expectations of a record number of tourists, was brought to a halt by events in the Gulf. In September–December, the number of tourist arrivals was no more than half the average of the preceding eight months; for the year as a whole it was down by 10 percent. The loss of export proceeds is estimated at \$190 million; for the entire year, proceeds came to \$1,380 million, a decline of 6 percent. The number of arrivals from North America was down by 6 percent; arrivals from Western Europe, which have been falling since the start of the *intifada*, were harder hit, with a fall of 12 percent. Tourism from Western Europe has not recovered since the start of the *intifada*, and its share of tourist arrivals declined for the third consecutive year.

Employment in hotels was down by 4 percent this year, with most of the decline in the last four months. Labor input fell off more steeply: while the number of employed was

⁷ Output is measured by revenue at constant prices.

⁸ Immigration accounted for almost half of the year's population growth. Moreover, new immigrants tend to resort rather more to public transport than the established population.



SOURCE: Based on Central Bureau of Statistics data.

down by 15 percent, the number of man-days per employed was down by 30 percent. The number of hotel rooms available for tourists declined by 3,000, mostly in small hotels in Netanya, Jerusalem, and Tiberias. These rooms were leased to the Amidar housing company to provide accommodation for immigrants.

4. INFRASTRUCTURE (EXTENDED DISCUSSION)

The capital stock of water, electricity, and communications grew much more slowly in the 1980s than in the 1970s; in terms of the capital/output ratio, the slowdown is even more marked (Table 2.15). As a result, water and transport are suffering from a severe shortage of capital at existing prices, while the situation of power generation and communications is little better. The state of affairs, already unsatisfactory, will deteriorate further with the dramatic population increase due to immigration. If the infrastructure is not expanded, the quality of the services it provides will go from bad to worse, hampering economic growth and the creation of jobs. Proper pricing of infrastructure services is a difficult matter, particularly in the case of services with load fluctuations. Variable electricity tariffs (higher peak-hour prices) have not yet been extended to all consumers; nor does the country have any toll roads or adequate parking

facilities. Water, power, and telephones still suffer from discriminatory pricing, with adverse consequences for resource allocation.

In the 1980s, the capital stock of waterworks rose by much less than the demand for it. The amount of capital required is determined by the price of water, which subsidization reduces to far below the cost of extracting water from rechargeable sources, namely the cost at which water can be supplied without damage to the aquifer. A shortage of power-generating infrastructure also emerged in the late 1980s, with consumption increasing while the growth of capital stock slowed down, among other things, because of incorrect pricing of peak-hour current for many consumers. The result was a series of power cuts.

Table 2.15
Infrastructure Stock and Investment, 1970-91

	Electricity	Water	Transport and communications			Total
			Roads	Other	Total	
Capital stock^a						
<i>NIS million</i>						
1970	1,758	2,303	2,763	2,441	5,204	9,265
1980	3,763	2,889	5,243	5,194	10,437	17,089
1985	5,237	3,352	5,901	5,839	11,740	20,329
1990	6,641	3,418	6,930	7,354	14,284	24,343
<i>Real annual change, percent</i>						
1971-80	7.9	2.3	6.6	7.8	7.2	6.3
1981-85	6.8	3.0	2.4	2.4	2.4	3.5
1986-90	4.9	0.4	3.3	4.7	4.0	3.7
1991	5.6	-0.1	4.0	5.5	4.8	4.3
Capital/output ratio^b						
1970	7.8	10.3	12.3	10.9	23.2	41.3
1980	10.1	7.8	14.1	14.0	28.2	46.1
1985	12.3	7.8	13.4	13.7	27.5	47.6
1990	12.9	6.6	13.5	14.3	27.7	47.3
Investment						
1990 (NIS million)	737	64	262	585	847	1,647
Change over 1989 (percent)	36.1	-0.9	0.6	11.9	8.2	18.6

^a Beginning-of-year stock.

^b Stock divided by GDP.

The slowdown in communications investment created a record backlog in the 1980s, with a 3-year telephone waiting list of 300,000 people. The situation has since been remedied to some extent; the network has been expanded and improved, but there is still a long waiting list and the system is still not adequately reliable.

Table 2.16
Indicators of Infrastructure Utilization, 1976-90

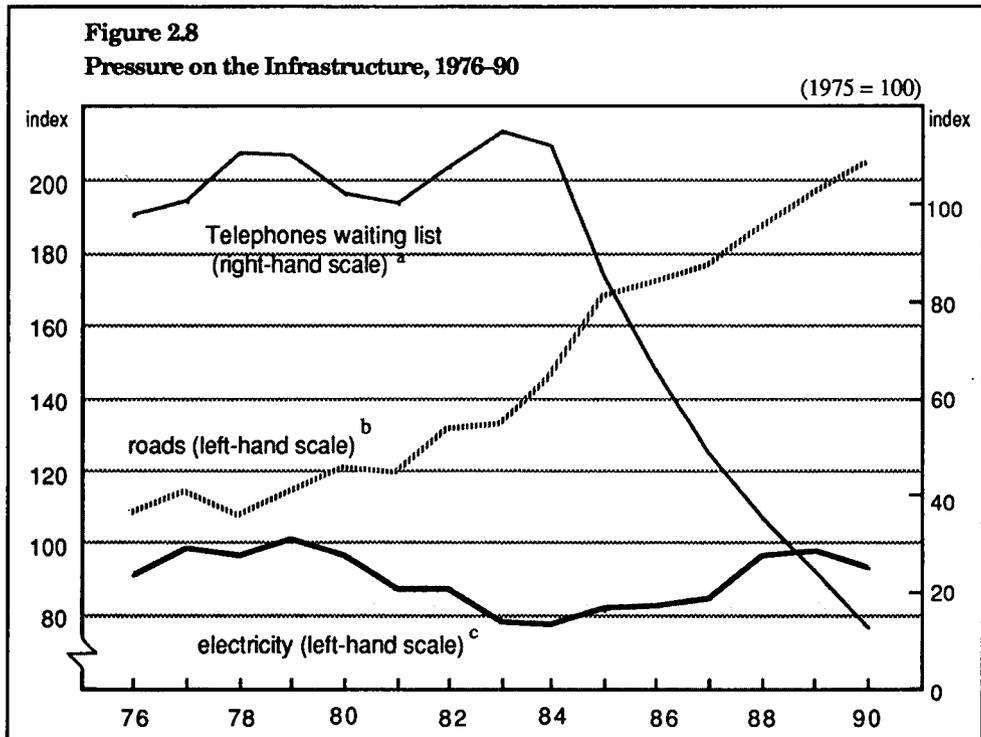
	(annual average rate of change, percent)		
	1976-80	1981-85	1986-90
Telephone waiting list (per 100 inhabitants)	0.4	-3.6	-31.3
Freight passing through seaports (tonnes) ^a	5.8	6.8	4.5
Movement of passengers and freight through airports ^b	18.0	5.9	5.6
Capacity coefficient (peak load)	0.6	-3.3	2.7
Index of road-traffic density	1.7	5.6	4.5

^a The figures should be treated with caution since they do not take into account technological, structural, and organizational changes in the ports.

^b Passengers and freight weighted by their shares in revenue. See also note a.

Road investment also fell off in the 1980s, while the investment of recent years has not relieved the situation because needs have expanded faster. The country is paying a high price for this, for example, in the serious neglect of road maintenance.

Investment devolving on the Budget (roads and, before the Bezeq telephone company was set up, communications), suffered more than that of public sector corporations,



^a Per 100 inhabitants.

^b Daily average traffic count on congested road sections.

^c Capacity coefficient (average load).

which have access to other funds. The Bezeq company is an excellent example. The Mekorot water company is an example of unsuccessful policy. Although it is a public sector corporation, a noncommercial pricing policy was imposed on it.

The 1980s slowdown in infrastructure development is connected with the government's efforts to combat inflation by restraining its own outlays. Once the distinction between the Ordinary and Development Budgets became blurred, the infrastructure suffered. Furthermore, even investment that could have paid for itself was neglected; thus telephone investment was held back in the early 1980s, and the construction of toll roads was abandoned. Investment fell short of requirements because the government set too high a profitability threshold—projects promising to yield less than 12 percent (including indexation) were rejected; though reduced to 10 percent in 1990, this figure is far too high, since the price of capital to the economy is well below this. Moreover, some investments which did satisfy the criterion were not carried out. Finally, price intervention was also damaging—it was the below cost price of water that led to the erosion of Mekorot's capital.

Power generation

Electricity is generated by a public-sector monopoly. Since 1970, generating capacity has grown by 290 percent (60 percent per capita). But demand has grown even faster and this seemingly impressive growth rate has not been sufficient to provide adequate reserves for fluctuations in demand, breakdowns, and maintenance. Such excess demand indicates that the price at which the current is sold does not—at least for peak-hour consumption—reflect costs correctly. This has led to power cuts and increased operating costs. Coal was introduced after the second energy crisis, and today accounts for half the country's generating capacity. Since 1985, the growth-rate of generating capacity has declined gradually, from an average of 8 percent in 1970–85 to 5 percent in 1986–90. The system comprises expensive generators with low production costs, and cheaper generators—gas turbines—with high production costs. The latter are used at times of peak demand. The gas turbines also take less time to install, and were therefore chosen when the shortfall in capacity became serious; as a result, their share of total capacity has risen from 2 percent in 1970 to 19 percent in 1990, and in 1990 supplied 2.4 percent of the current generated. Although expansion (by 48 percent in 1980–88) failed to keep pace with demand, it has been rapid by international standards.

The last five years' combination of slower expansion of capacity and faster growth of demand has strained the entire system, as shown by several indicators. Thus the peak-load capacity coefficient, which fell from 92 percent in 1970 to 63 percent in 1984, had risen back to 87 percent by 1989, and the average capacity coefficient shows a similar picture (Figure 2.8). In 1990, the situation was to some extent relieved by the opening of the Rutenberg Power Station at Ashkelon and the installation of some gas turbines.

Table 2.17
Electricity Generating and Transmission Capacity, Selected Years, 1970-90

	1970	1980	1985	1989	1990	Average annual rate of change, percent				
						1971-80	1981-90	1981-85	1986-90	1990
Installed generating capacity (MW)	1,232	2,737	4,062	4,295	5,055	8.3	6.3	8.2	4.5	17.7
<i>of which (percent)</i>										
Gas turbines	2.1	18.1	12.2	17.1	18.7	24.0	0.3	-7.6	8.9	9.2
Coal generators	-	-	25.8	24.4	31.7	..	..	..	4.1	29.5
Transmission and distribution (km) ^a	2,422	3,111	2,917	2,613	2,677	2.5	-1.5	-1.3	-1.7	2.4
Capacity coefficient (percent)										
Average	62.7	50.6	42.6	52.7	50.0	-2.1	-0.1	-3.4	3.3	-5.1
Peak-load	92.5	73.7	63.9	86.5	83.3	-2.3	1.2	-2.8	5.5	-3.7
Ratio of peak to average load	1.47	1.39	1.50	1.64	1.71	-0.6	2.1	1.5	2.7	4.3
Transformer capacity (MVA)	2,558	5,221	5,884	6,815	7,039	7.4	3.0	2.4	3.6	3.3
Output of electricity by type of fuel										
Heavy fuel oil	100.0	99.2	43.8	48.8	46.6	-0.1	-7.3	-15.1	1.3	-4.6
Coal	-	-	56.1	49.1	51.0	..	..	..	-1.9	3.8

^a Incremental capacity.

SOURCE: Central Bureau of Statistics and Israel Electric Corporation Ltd.

Roads

Road construction has been minimal for many years and the road network has fallen behind as regards both mileage and maintenance. Economizing on road investment carries a high cost—it is the way to increase congestion and maintenance costs. Furthermore, the opportunity was missed of expanding the highway network during the recession, when suitable factors of production were unemployed.

Table 2.18
Indicators of Road Traffic Density, Selected Years, 1980–90

	Road area	Motor vehicles	Mileage	Weighted vehicle/km ^b	Density index ^c	Vehicles/road area	Traffic count ^a	
							Daily average	Peak-hour
<i>Index, 1975 = 100</i>								
1980	118	129	118	115	98	109	101	120
1985	129	185	153	146	113	143	144	167
1986	131	195	158	150	115	150	155	171
1988	133	227	189	181	136	171	180	186
1989	134	235	198	189	140	175	189	195
1990	136	242	210	204	150	179	200	204
<i>Average annual change, percent</i>								
1975–90	2.1	6.1	5.1	4.9	2.7	3.9	4.7	4.9
1975–86	2.5	6.3	4.2	3.8	1.3	3.7	4.1	5.0
1986–90	1.0	5.5	7.4	8.0	6.9	4.5	6.5	4.5

^a On road sections with high volume of traffic (upper decile in 1980).

^b Vehicle/km by type of vehicle, weighted as follows: buses, 2, trucks, 2.5 (passenger cars = 1).

^c Weighted vehicle/km divided by road area.

SOURCE: Based on Central Bureau of Statistics data.

Traffic density was at a reasonable level in 1975, and this year can serve as benchmark. Since then, road area has grown at an annual rate of only 2.1 percent (Table 2.18), while the number of motor vehicles and mileage have grown at rates of 6.1 and 5.1 respectively. As a result, the density index rose by an annual 2.7 percent. This global index does not reflect the full severity of the problem. An index of traffic on congested roads (highest decile, at peak hours) shows a much greater increase, of 4.9 percent.

The 50 percent increase in density during these 15 years (104 percent for the congested roads) is much worse than it looks. As density increases, its evil consequences increase—accidents, wasted time and petrol, air pollution, and wear and tear on vehicles.

There has been some change in the trend in the last four years, and road investment

has risen, but the increase is far from sufficient for current maintenance, road repairs, and expansion. These needs have been estimated at an annual NIS 560 million, but in view of the large number of immigrants expected, this is too low. The government intends to spend NIS 2,650–3,050 million (at 1990 prices) in the next five years, one fifth of it in 1991. This amount can at most prevent the situation from getting worse while doing nothing to remedy past neglect. In addition, a toll-road (to be privately funded) is planned, and it is intended to increase investment in the railways, and this may somewhat reduce road investment requirements.

As with any other scarce goods, the problem of road congestion stems from underinvestment (a high rate of return on capital relative to other investment or to the cost of capital) and from a price to the user that is too low to equalize supply and demand. Since the return on road investment is presumably far higher than that on any other investment, this situation implies misallocation of resources.

Communications

The communications infrastructure has grown rapidly over the past 20 years, particularly since 1984. Thus the number of telephones per 100 inhabitants has risen from 12 in 1970 to 35 in 1990 (Table 2.19) and many new services have been introduced. One factor at work here is the rapid technological advances in this field. In addition, the situation was changed radically by the severance of the telephone service from the Ministry of Communications in 1984, when the Bezeq company was set up as a public-sector corporation whose investment is not constrained by the state budget. The reform of the communications network is the combined outcome of supply and demand forces. Commercial demand has risen, as economic activity has become increasingly dependent on communications, in Israel as elsewhere; household demand has also risen. On the supply side, computerization and miniaturization have led to extremely rapid progress. Services other than telephones have also expanded. Nevertheless, there is still room for improvement: excess demand persists, as indicated by waiting lists for telephones and data transmission lines, and there are still many breakdowns. There is less cross-subsidization, but the practice has not been eliminated.

5. ENERGY (EXTENDED DISCUSSION)

In 1981–90 available energy sources (chiefly oil, oil products, and coal) rose by 3 percent annually, but the energy-use coefficient failed to rise, while per capita consumption rose at an average rate of only 0.5 percent. During the same period, the price (to the user) of energy declined by 1.2 percent annually, while private income and GNP grew. The period reviewed was punctuated by severe price shocks, starting with the high prices due to the second oil crisis (1979–80). The relative price⁹ of crude oil

⁹ Throughout this section, this refers to prices relative to the implicit price index of GDP.

Table 2.19
Telecommunications: Selected Indicators of Infrastructure, Selected Years 1970-90^a

	Per 100 inhabitants					Real annual average change, percent				
	1970	1980	1983	1989	1990	1971-80	1981-90	1981-83	1984-90	1990
Telephones										
Exchange capacity	14.6	25.0	28.7	41.7	42.3	5.5	5.4	9.8	3.5	1.5
Direct lines	12.2	21.2	24.5	34.0	34.8	5.7	5.1	9.5	3.2	2.4
New installations ^b	1.5	1.4	1.6	2.1	2.2	-0.6	4.3	4.4	4.2	3.7
Line transfers ^b	0.3	0.5	0.6	0.9	1.0	5.3	6.2	4.9	6.8	10.6
Waiting list ^c	1.8	5.2	5.9	1.2	0.7	11.1	-18.6	-5.9	-23.5	-46.6
Public telephones ^d	1.2	1.9	2.1	3.2	3.1	4.7	4.9	11.8	2.1	-2.7
Data transmission lines	0.0	0.5	1.0	3.3	3.4	..	21.3	46.4	11.8	3.3
Mobile cellular lines	..	..	..	2.2	3.2	..	..	..	..	48.1
Digital lines (percent of total)	0	0	3	34	43	..	..	..	..	26.5
International voice channels ^d	0.5	2.0	2.5	5.2	6.4	15.9	12.3	12.1	12.4	23.6
Telex										
Lines ^d	4.5	9.3	10.9	12.6	11.1	7.5	1.8	10.8	-1.8	-12.2

^a The 1970-83 figures are for fiscal years (beginning in April 1 of stated year).

^b In the five years ending in stated year.

^c New phones and transfers.

^d Per 1000 inhabitants.

SOURCE: Central Bureau of Statistics and Bezeq-Israel Telecommunication Corporation Ltd.

Table 2.20
Consumption and Prices of Energy, Selected Years, 1970–90

(index, 1980 = 100)

	1970	1980	1985	1986	1988	1989	1990	1981–90	1981–85	1986–90	1990
Relative domestic price ^a											
Crude oil	11.0	100	82.3	33.0	24.6	30.3	35.2	-9.9	-3.8	-22.1	16.2
Coal (1981 = 100) ^b	..	..	129.4	86.9	65.2	62.5	62.5	-5.1	6.7	-16.6	-0.0
Oil products	29.0	100	128.7	89.2	66.5	77.1	96.7	-0.3	5.2	-12.0	25.5
Oil products/crude oil	264	100	156	270	271	254	274	10.6	9.4	12.9	8.0
Electricity	47.4	100	91.9	72.5	54.2	57.9	60.4	-4.9	-1.7	-10.9	4.3
Electricity/oil products	163.7	100	71.4	81.3	81.6	75.2	62.5	-4.6	-6.5	1.3	-16.9
All types of energy	31.2	100	121.6	85.7	63.4	72.4	88.9	-1.2	4.0	-12.2	22.8
Crude oil/export prices	15.8	100	94.0	44.8	36.6	43.6	52.9	-6.2	-1.2	-17.5	21.3
Energy-use coefficient ^c	107.3	100	93.2	93.0	99.8	103.4	101.2	0.1	-1.4	2.6	-2.1
Per capita energy consumption	83.4	100	98.4	100.3	112.3	115.7	105.5	0.5	-0.3	4.1	-8.8
Electricity as percent of total energy consumption	15.4	18.3	21.7	21.3	22.9	23.6	23.6	2.6	3.5	2.1	0.1
Energy-price burden ^d		8.5	8.1	5.4	5.1	5.4	5.8	-2.6	-0.4	-2.7	0.4

^a Deflated by implicit price index of GDP. Electricity and oil product price indexes calculated from monthly data and weighted by preceding year's quantities.

^b The series begins in 1981.

^c Available energy sources *divided by* GDP.

^d Annual rates of change of relative price of crude oil (relative to export prices) *times* the ratio of crude oil imports to GDP lagged one year.

SOURCE: Based on data of the Central Bureau of Statistics, the Ministry of Energy and Infrastructure, and the Israel Electric Corporation Ltd.

declined from 1981, collapsing in 1986; in 1990, there was a temporary increase. Consumption of electricity rose rapidly during the decade, its share of total energy use rising from 18 to 24 percent, both because of the decline in its relative price (relative to other forms of energy as well as to GDP) and the rise in the standard of living. Electricity prices discriminate between consumer categories and cross-subsidization may be involved. In 1990, the shares of business-sector, households, and public services in electricity consumption were respectively 58, 29, and 12 percent.

In mid-1990, prices rose steeply owing to the Gulf crisis: in August–December, the price of imported energy was 60 percent up on the corresponding period of 1989 (90 percent for crude oil), and the annual average increase for all energy imports came to 24 percent. In early 1991, as the crisis drew to an end, oil prices dropped back to roughly the pre-crisis level. Compared with previous oil shocks, the Gulf crisis did little damage either in terms of output forgone (0.4 percent of GDP) or in terms of direct inflationary pressure. Unlike on previous occasions, the price of energy to the user rose by more than implied by the rise in import prices.

The energy-use coefficient responded to the relative price of energy: until 1985, it declined by an annual 1.4 percent, but the trend reversed in 1987, with an annual growth rate of percent since then. Several connected factors were at work: the decline in relative energy prices, the growth of private consumption, accompanied by increased purchases of motor cars and electrical appliances, and the decline in the saving rate since the ESP. A major factor was the shift to electricity, whose production entails the loss of 66 percent of the energy contained in the raw material. The decline in the energy-use coefficient was much milder in Israel than in the OECD countries—9 percent compared with 22–36 percent (1970–87).

The decline in the relative price of fuel imports dominated the rise in consumption, and the imports/GNP ratio is strongly correlated with the price developments. Thus in 1980, the ratio was 10 percent, falling to 6½ percent by 1985, as oil prices declined. Since 1986, it has fluctuated around 3 percent.

Table 2.A1
Resources and Use of Resources (Annual Data), 1982–90

	(real annual change, percent)								
	1982	1983	1984	1985	1986	1987	1988	1989	1990
Resources									
Gross domestic product	1.1	2.8	2.3	3.8	3.7	5.9	2.7	1.6	5.1
Imports of goods and services ^a	4.2	6.7	-1.0	-0.5	9.5	18.9	-2.1	-6.6	8.6
<i>of which</i> Civilian	11.8	11.4	-3.8	-3.5	16.0	11.3	0.5	-1.4	8.1
Total resources ^b	2.3	4.3	1.0	2.1	5.9	10.4	0.9	-1.4	6.3
Use of resources									
Private consumption	8.0	8.7	-7.0	0.7	14.8	9.0	4.2	0.3	5.0
Public consumption									
Total	-6.2	-4.0	5.9	3.8	-9.5	17.1	-1.7	-8.8	3.7
Excluding direct defense imports	3.1	2.2	1.4	-1.2	-2.4	3.1	3.6	0.6	1.9
Gross domestic investment									
Total	14.8	10.0	-7.1	-10.6	9.5	2.5	-0.3	-5.3	25.2
Fixed	5.1	12.6	-11.3	-7.8	-1.1	13.1	-0.4	-4.8	17.1
Domestic use of resources ^b	7.9	7.3	-4.9	-2.1	9.1	6.4	3.3	-0.6	7.5
Exports ^a	-3.1	2.3	13.9	8.7	5.7	11.1	-1.6	3.9	2.2
Use of resources									
Excluding direct defense imports	4.7	5.9	-0.0	1.1	8.0	7.7	2.0	0.6	6.0
Total	2.3	4.3	1.0	2.1	5.9	10.4	0.9	-1.4	6.3
Gross product of business sector at market prices ^c	0.1	3.4	2.6	5.4	5.7	7.8	2.5	2.0	6.2

^a Imports (c.i.f.), exports (f.o.b.), excluding factor payments and general government interest from or to rest of world. Exports at effective exchange rate.

^b Excluding direct defense imports.

^c GDP *less* gross product of public services and ownership of dwellings.

SOURCE: Central Bureau of Statistics.

Table 2.A2
Gross National Product and National Income, 1987-90

	1987	1988	1989	1990
<i>NIS million</i>				
GNP at market prices	54,674	67,599	82,823	100,801
<i>less</i> Depreciation	8,839	10,357	13,010	15,810
<i>less</i> Net indirect taxes	6,818	7,552	9,846	12,916
<i>less</i> Indirect taxes on domestic production	7,881	9,159	11,399	14,602
Subsidies to domestic production	1,063	1,607	1,553	1,686
Subsidy element of government loans	790	702	568	582
National income	39,807	50,392	60,535	72,657
National income, excl. loan subsidy	39,017	49,690	59,967	72,075
<i>Real annual change percent^a</i>				
GNP at market prices	6.6	6.4	1.4	5.0
<i>less</i> Depreciation	3.4	0.9	4.0	4.8
<i>less</i> Net indirect taxes	8.9	-4.7	7.9	13.2
<i>less</i> Indirect taxes on domestic production	7.8	0.0	3.0	10.5
Subsidies to domestic production	1.5	30.1	-20.0	-6.4
Subsidy element of government loans	5.4	-23.5	-33.0	-11.6
National income	6.9	9.0	-0.6	3.5
National income, excl. loan subsidy	6.9	9.6	-0.1	3.7

^a Deflated by implicit price index of private consumption.

SOURCE: Central Bureau of Statistics.

Table 2.A3
Gross Income from All Sources and Gross Saving, 1987–90^a

(NIS million)

	Effective exchange rate calculation				Official exchange rate calculation			
	1987	1988	1989	1990	1987	1988	1989	1990
<i>NIS million</i>								
GNP at market prices	54,674	67,599	82,823	100,801	58,712	71,949	86,422	105,606
Net unilateral transfers from rest of world ^b	6,715	6,180	8,982	11,269	5,867	5,394	7,699	10,141
Gross income from all sources	61,388	73,779	91,806	112,070	64,579	77,342	94,121	115,747
Private consumption	36,224	43,864	53,138	64,702	36,224	43,864	53,138	64,702
Public consumption ^c	15,051	18,742	22,890	27,482	15,051	18,742	22,890	27,482
Direct defense imports ^d	3,166	2,971	3,058	3,361	2,776	2,598	2,668	3,027
Total consumption	54,441	65,577	79,085	95,545	54,050	65,204	78,696	95,211
Gross saving								
National	6,948	8,202	12,720	16,525	10,529	12,138	15,425	20,537
Private	9,020	10,996	17,138	20,079	9,020	10,996	17,138	20,079
General government (residual)	-2,072	-2,794	-4,417	-3,554	1,510	1,143	-1,713	458
<i>Percent</i>								
Gross saving/total income								
National	11.3	11.1	13.9	14.7	16.3	15.7	16.4	17.7
Private ^e	14.7	14.9	18.7	17.9	14.0	14.2	18.2	17.3
General government	-3.4	-3.8	-4.8	-3.2	2.3	1.4	-1.8	0.4

^a Balance-of-payments flows converted to NIS at the average effective exchange rate (left-hand panel) or the official exchange rate (right-hand panel) for imports and exports.

^b Unilateral transfers *less* net interest payments to rest of world by general government.

^c Excluding direct defense imports.

^d Includes advances.

^e Calculated from Table 2.A5 as the difference between gross private disposable income from all sources and private consumption.

Table 2.A4
Private Disposable Income and the Saving Rate, 1987-90

	1987	1988	1989	1990
<i>NIS million</i>				
National income	39,807	50,392	60,535	72,657
<i>less</i> General government income				
from property	621	834	1,361	2,063
Depreciation (private sector)	7,867	9,223	11,633	14,181
Gross private income from economic activity	47,053	58,781	70,807	84,775
<i>less</i> Direct taxes	12,002	14,568	16,102	18,851
Income tax	8,814	10,795	11,597	13,405
National Insurance contributions ^a	3,188	3,773	4,505	5,446
<i>less</i> Fees, levies, and fines	331	369	485	618
<i>less</i> Net compulsory loans ^b	-252	-955	-1,511	-488
Net transfer payments	4,577	5,784	7,511	9,840
Interest on the domestic public debt	3,905	4,419	5,629	6,990
Gross private disposable income				
<i>With nominal interest</i>				
From domestic sources	43,453	55,001	68,872	82,624
Private transfers from rest of world	2,204	1,847	3,080	3,276
From all sources	45,657	56,849	71,952	85,900
<i>With real interest^c</i>				
From domestic sources	43,039	53,012	67,196	81,505
Private transfers from rest of world	2,204	1,847	3,080	3,276
From all sources	45,243	54,860	70,276	84,781
Private consumption	36,224	43,864	53,138	64,702
Saving rate (percent)				
<i>With nominal interest</i>				
Out of domestic income	16.6	20.2	22.8	21.7
Out of total income	20.7	22.8	26.1	24.7
<i>With real interest</i>				
Out of domestic income	15.8	17.3	20.9	20.6
Out of total income	19.9	20.0	24.4	23.7

^a Including employer contributions to medical insurance.

^b Gross compulsory loans *less* repayments.

^c Bank of Israel estimate.

SOURCE: Central Bureau of Statistics.

Table 2.A5**Rate of Change of Private Disposable Income, 1987-90^a**

(real annual change, percent)

	1987	1988	1989	1990
National income	6.9	9.0	-0.6	3.5
Public sector income from property	-31.9	15.6	35.1	30.8
Depreciation (private sector)	2.8	0.9	4.4	5.2
Gross private income from economic activity	7.0	7.5	-0.3	3.3
Direct taxes	2.2	4.5	-8.5	1.0
Income tax	3.8	5.4	-11.1	-0.3
National Insurance contributions	-1.9	1.9	-1.2	4.3
Fees, levies, and fines	-35.6	-4.0	8.8	9.9
Net compulsory loans				
Net transfer payments	7.0	8.8	7.5	13.0
Interest on the domestic public debt	-3.7	-2.6	5.4	7.1
Gross private disposable income				
<i>With nominal interest</i>				
From domestic sources	7.5	9.0	3.7	3.5
Private transfers from rest of world	14.5	-27.8	38.0	-8.3
From all sources	7.8	7.2	4.8	3.0
<i>With real interest</i>				
From domestic sources	5.4	6.0	4.9	4.6
Private transfers from rest of world	14.5	-27.8	38.0	-8.3
From all sources	5.8	4.4	6.0	4.1
Private consumption	9.0	4.2	0.3	5.0

^a Deflated by the implicit price index of private consumption. See also notes to Table 2.A4.

SOURCE: Central Bureau of Statistics.

Table 2.A6
Private Consumption, 1981-90

	NIS million 1990	(annual change, percent)								
		Quantity						Price		
		1981-85	1986-87	1988-89	1988	1989	1990	1988	1989	1990
Goods for current consumption	26,349	4.7	10.8	2.2	3.3	1.2	4.2	14.5	18.2	11.3
Food, beverages, and tobacco	16,710	4.0	6.7	3.7	5.7	1.7	4.2	16.3	20.8	10.8
Other	9,639	6.1	17.5	0.1	-0.1	0.4	4.2	11.5	13.9	12.3
Services ^a	17,112	3.5	7.1	2.7	2.4	3.1	2.1	19.3	20.7	15.3
Consumption by Israelis abroad	3,245	2.8	16.1	9.6	6.3	13.1	-2.0	5.1	19.4	17.7
Consumption by foreigners in Israel (-)	3,219	2.0	-3.6	-1.3	-11.6	10.4	-6.9	15.6	17.3	8.8
Subtotal	43,487	4.5	11.4	3.3	4.6	2.0	3.9	15.5	19.3	13.5
Durables	6,021	6.0	30.2	-3.9	5.8	-12.8	17.1	11.0	10.5	8.7
Services of private nonprofit institutions	1,581	1.0	4.4	1.6	0.9	2.3	3.6	20.8	22.2	16.2
Housing services	13,614	3.8	2.4	2.2	2.1	2.3	2.4	22.0	31.4	30.2
Total	64,702	4.4	11.9	2.2	4.2	0.3	5.0	16.2	20.8	15.9
Total excluding durables	58,682	4.3	9.4	3.0	4.0	2.0	3.6	16.9	21.8	17.0

^a Excluding housing services and services of nonprofit institutions.

SOURCE: Central Bureau of Statistics.

Table 2.A7**Fixed Nondwelling Investment by Initiating Sector, 1981-90**

(real annual change, percent)

	1990 (NIS mill.)	1981-85	1986-87	1988-90	1988	1989	1990
Structures							
General government ^a	1,777	-3.1	17.0	-1.5	8.5	-7.3	-5.1
Public sector enterprises ^b	724	-6.9	7.5	1.4	-9.3	13.2	1.6
Subtotal	2,500	-4.3	14.3	-0.8	3.8	-2.6	-3.3
Private sector	553	-1.5	-8.6	1.3	1.0	3.9	-1.0
Total	3,053	-3.6	9.2	-0.4	3.4	-1.5	-2.9
Machinery and equipment							
General government	687	6.5	3.1	-3.0	-6.1	1.3	-4.0
Public sector enterprises	2,268	0.6	2.4	12.2	-1.1	11.9	27.8
Subtotal	2,955	2.5	2.6	7.7	-2.8	8.5	18.3
Private sector	4,126	10.5	2.9	0.9	-8.7	-4.4	17.6
Total	7,081	7.6	2.8	3.5	-6.6	0.5	17.9
Total							
General government	2,464	-0.2	11.8	-2.0	3.7	-4.8	-4.8
Public sector enterprises	2,992	-1.9	3.7	9.6	-3.3	12.2	21.3
Subtotal	5,456	-1.0	7.7	3.8	0.4	3.0	8.2
Private sector	4,679	8.5	1.6	0.9	-7.8	-3.5	15.5
Subtotal	10,134	3.8	4.5	2.4	-3.7	-0.1	11.6
Transport ^c	2,082	-1.1	36.7	-1.7	8.9	-40.4	46.4
Total	12,216	3.2	8.0	1.6	-1.3	-9.1	17.0

^a Public services, roads, afforestation, and land reclamation..^b Electricity, water, transport equipment (estimate), mining and quarrying, other industrial, transport, and services investment, government enterprises (railways, ports, airports, post office), and some construction equipment.^c No breakdown available.

SOURCE: Based on Central Bureau of Statistics data.

Table 2.A8
Tourism to Israel, 1987-90

	Thousands			Annual change, percent			
	1988	1989	1990	1987 ^a	1988	1989	1990
Tourist arrivals	1,112	1,177	1,064	25.2	-15.8	5.8	-9.6
Cruise visitors	129	167	205	47.0	-6.8	29.1	22.9
Total arrivals ^b	1,242	1,344	1,269	26.9	-14.9	8.2	-5.5
By selected countries of residence							
Europe	667	696	615	26.2	-15.9	4.3	-11.7
Western Europe	644	647	567	26.2	-18.4	0.5	-12.4
United Kingdom	138	135	114	16.2	-7.8	-2.7	-15.2
France	122	132	118	16.8	-21.3	8.2	-10.3
West Germany	140	119	98	30.9	-16.5	-14.5	-18.0
Eastern Europe	23	48	48	177.0	164.0	109.8	-1.7
United States and Canada	274	293	275	36.4	-15.1	6.6	-5.9
Asia and Africa ^c	102	113	112	11.1	-19.1	10.0	-0.5
South America	34	40	31	-18.1	-13.8	16.0	-21.9
By mode of travel							
Air	979	1,033	933	23.8	-14.9	5.6	-9.7
Charter flights	209	205	154	29.7	-12.9	-1.9	-24.8
Scheduled flights	770	829	779	22.4	-15.5	7.7	-6.1
Direct to Eilat	81	84	62	27.0	0.0	3.2	-26.7
Land	116	121	108	33.2	-21.0	4.6	-11.1
Sea	18	22	23	27.0	-24.3	24.4	4.6

^a New series; the change from 1986 to 1987 is based on the old series.

^b Excludes persons arriving from Lebanon without a tourist visa (residents of southern Lebanon, U.N. military personnel, and diplomats), foreign tourists in transit to the administered areas, visits of Israelis holding Israeli passports and residing abroad, and return visits by tourists through Taba after a stay of up to 7 days in the Sinai Peninsula.

^c Excluding Lebanon. The annual fluctuations in tourism from that country were connected with the war.