Chapter 2
*Product, Domestic Demand, and the Principal Industries**

1. MAIN DEVELOPMENTS

The recession that began to develop in the second half of 1987 continued in 1989. Gross domestic product rose by 1.3 percent (and decreased per capita) as business-sector product grew by 1.5 percent (Table 2.1). The composition of resource-use changed markedly. Domestic use of resources decreased by 1 percent, reflecting a slump in domestic private demand, thus prolonging the recession. Public consumption remained unchanged and exports grew by 4.6 percent, mitigating the slump. Civilian imports declined by 1 percent, improving the balance of payments and narrowing the civilian import surplus by $600 million. A prominent effect of the persistence of the recession was that the unemployment rate increased to 9 percent, in part because of a steep increase in the participation rate (see Chapter 4). The underlying inflation rate remained at the level reached after the 1985 stabilization program. Economic performance was uneven (Table 2.4): industrial product contracted for the second year running, this time by 2 percent. Trade and services continued to expand, with a marked increase in employment. Although building starts decreased, construction output expanded, reflecting previous years' starts.

Supply factors improved slightly, because of policies adopted in 1989 and the continuing recession (Table 2.2). Unit labor costs decreased for the first time since the stabilization program, by 3.5 percent, and the distributive share of labor declined by 1.6 percentage points, chiefly in response to previous years' exceptional wage growth and the deepening labor market slack. Interest rates fell substantially, responding to countercyclical expansionary monetary policy. Long-term interest rates (as reflected in the yield on long-term government bonds) fell by 2.5 percent after an average 5.8 percent decline in 1986–87; real short-term marginal local-currency interest (overdraft facilities) fell to 11.3 percent in 1989, compared with 25.6 percent in 1988. As a result,

* This chapter comprises the material presented in Chapters 2 (Product and Demand) and 6 (The Principal Economic Sectors) of previous issues of the *Annual Report*. The macro-economic analysis, based mainly on the national accounts, is combined with an analysis of the principal industries relying on by-industry data.

Table 2.1
Resources and Use of Resources, 1981–89

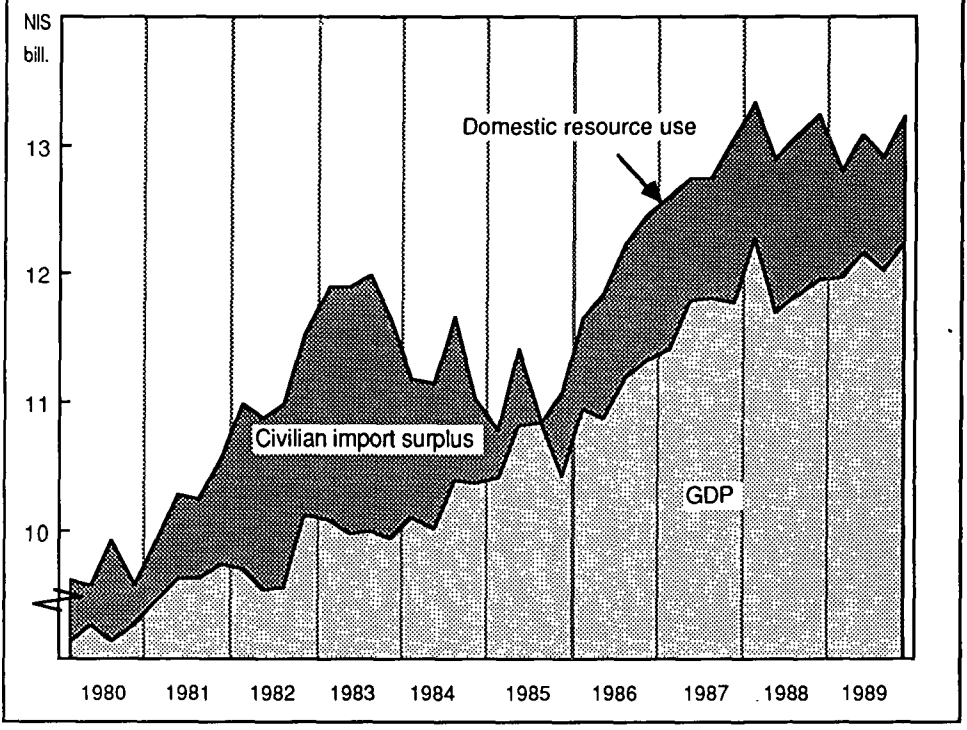
(real annual change, percent)

	NIS million 1989	Quantity						Price		
		1981–85	1986–87	1988–89	1987	1988	1989	1987	1988	1989
Resources										
Gross domestic product	84,071	2.9	4.6	1.7	5.5	2.1	1.3	20.5	19.2	21.1
Imports of goods and services[a]	38,695	3.8	14.1	-4.5	18.9	-2.6	-6.4	17.4	7.5	21.4
of which Civilian	35,808	4.5	13.6	-0.6	11.3	-0.0	-1.1	18.3	8.0	20.5
Total resources	**122,766**	**3.2**	**8.0**	**-0.6**	**10.1**	**0.4**	**-1.5**	**19.3**	**15.1**	**21.5**
Use of resources										
Private consumption	51,679	4.4	11.6	1.4	8.5	3.8	-1.0	19.9	15.6	20.6
General government consumption										
Total	25,953	1.1	2.9	-5.4	17.1	-1.8	-8.9	21.0	17.7	24.8
Excl. direct defense imports	23,067	1.6	0.3	1.9	3.1	3.5	0.4	24.0	20.8	22.1
Gross domestic investment										
Total	13,874	0.1	6.4	-2.3	2.9	-1.9	-2.7	22.7	13.6	17.4
Fixed	13,856	0.1	6.2	-3.0	13.5	-0.5	-5.5	22.7	14.2	17.6
Domestic use of resources[b]	**88,620**	**2.7**	**7.6**	**0.9**	**6.2**	**2.7**	**-0.9**	**21.4**	**16.5**	**20.5**
Exports[a]	31,260	5.2	8.1	1.2	10.7	-2.1	4.6	15.3	12.5	22.7
Use of resources										
Excl. direct defense imports	**119,879**	**3.4**	**7.7**	**1.0**	**7.4**	**1.4**	**0.5**	**19.7**	**15.5**	**21.0**
Total	**122,766**	**3.2**	**8.0**	**-0.6**	**10.1**	**0.4**	**-1.5**	**19.3**	**15.1**	**21.5**
Net factor payments to abroad	2,191									
GNP at market prices	81,880									
Gross product of business sector[c]	58,232	3.4	6.5	1.7	7.2	1.8	1.5	18.7	17.8	19.0

[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, 1980–89[a]



[a] Deseasonalized quarterly data.
SOURCE: Central Bureau of Statistics.

the gross rate of return on capital rose by 1.1 percentage points. This upturn stems in part from transient factors associated with the recession; profitability remains lower than in the past, since the decline in unit labor costs has not fully compensated for the exceptional rise in wages since 1985. The change in trend thus prevented further deterioration but failed to generate any real improvement. Another stimulus to business was the 20 percent devaluation against the currency basket. With the economy in recession, the devaluation helped arrest the decline in the relative price of tradables vis-à-vis nontradables (i.e., real currency appreciation[1]). The major factors tending to depress economic activity were stronger than those stimulating it. Domestic demand slackened

[1] The concept of real appreciation (or its converse, real depreciation) expresses different aspects of the variability of competitiveness of tradables. Among other things, a change in tradables prices (relative to nontradables) reflects the allocation of resources between tradables and nontradables (see Chapter 3 for selected indexes). One relevant indicator in this context is the unit cost of labor, which makes it possible to track changes in relative profitability between sectors or, for the business sector as a whole, over time or vis-à-vis other countries.

markedly, partly reflecting the recession but also correcting for the exceptional growth of demand in 1986–87 following the stabilization program and marking a return to the long-term trend, especially in private consumption; the continuation of the *intifada*, which aggravated the adverse business climate of 1988, intensified uncertainty, and reduced demand for investment; and persistently weak demand in the administered territories, coupled with disruption of supply. Labor input from the administered territories was about the same as in 1988 and substantially lower than in 1987. Supply-side rigidities hampered efforts to increase efficiency; large firms were engulfed in financial crises originating in previous years, holding back new investment.

As mentioned, economic activity began to slow down in the second half of 1987; the recession deepened during 1988 and continued to do so in 1989, but was checked during the course of the year. A major reason for this change (Figure 2.1) was the upswing in exports, which rose by 5 percent in the first half of 1989 and more slowly thereafter. This was a response to the slump in domestic demand and the devaluation, both of which improved export profitability. In particular, the growth of industrial exports contrasted with the contraction of total industrial output. Domestic demand increased slightly in the second half of the year (compared with the first half), but failed to reach the 1988 level. There were signs of recovery in the second half of the year, with some increase in industrial and construction output, the latter following a deep slump early in the year.

The slackening of domestic demand, notably in private consumption, was an important factor in prolonging the recession in 1989. However, most of the contraction appears to be a corrective response to the exceptional growth of consumer demand in 1986–87, which began in 1988 as economic conditions changed, and gained strength in 1989. The downturn in consumption was evidently fuelled by consumers' belief that the 1988 recession was not a transient kink in the business cycle and that recovery would take some time and need considerable effort. The increase in the unemployment rate, the decline in real wages, and the cuts in basic commodity subsidies confirmed this belief. Disposable income again grew by 6 percent, chiefly because the recession reduced direct taxes. The fact that consumption fell while disposable income rose would appear to confirm that the former was a corrective response. Public consumption and general government investment remained at about the 1988 level. The stability of public consumption is a satisfactory trend, since the share of public consumption/GDP ratio should be reduced in the long run. In a demand-driven recession, however, public infrastructure investment should be increased as a countercyclical measure and—more important—as a response to the massive cumulated lag of the last ten years. Another symptom of slackening domestic demand was a decrease in business-sector investment, to a low of 13.4 percent of GNP compared with 18 percent in the early 1980s, a development that typifies the period since 1985.

The downturn in investment is reflected in a decline in the growth rate of the capital stock (from 2.4 percent in 1988 to 1.3 percent in 1989), continuing the trend of the past several years. Labor input increased by no more than 1.4 percent. Product per man-hour

and total productivity were unchanged (Table 2.3), on average; the inter-industry picture is uneven, indicating that an adjustment process is indeed under way. In industry, total and labor productivity improved: both labor input and product fell, with the latter falling somewhat less. The improvement in labor productivity implies that firms have tightened their employment policy and are pruning less profitable activities. There is as yet no evidence that new firms are developing or that existing ones are expanding.

A noteworthy change is the contraction of tradables industries (chiefly manufactures) and the expansion of industries producing nontradables (chiefly services). The contraction of tradables reflects structural change, rising efficiency and better management and employment policy, and these increase the unemployment rate in the short run. These effects may also result from policies pursued before the 1985 stabilization program to promote tradables, which led to over-investment and over-use of capital-intensive technologies, especially by Histadrut-owned firms. The contraction of tradables also reflects the price the economy is paying for disinflation. The recession, which has affected tradables industries with particular severity, was triggered in part by the erosion of profitability—the rising cost of labor, the decline in the relative prices of tradables (real appreciation), and the rapid rise of interest rates after stabilization. Real interest rates fell in 1988 and 1989, and unit labor costs declined in 1989. In order to generate an upswing, particularly in industry, a number of rigidities will have to be overcome, chiefly in the labor market.

Output and productivity

Per-capita business-sector gross product was largely unchanged, whether measured from the expenditure side or the income-originating side (using a variety of by-industry indicators). The major supply factor in the past few years has been the low level of profitability, in spite of some improvement in 1989 (Table 2.2). This stagnation stems from the interaction of the economic decisions of firms and consumers and government policy.[2] The same policies that have held inflation at the relatively low annual rate of 16–20 percent have also caused a cumulative erosion of profitability, especially in industry.

Until 1988, the basic factors impairing profitability were the exceptional growth of unit labor costs, particularly in tradables, because the exchange rate was being used as the principal anchor for prices; high real interest rates; and sharp increases in business taxation. In this year's Report we stress only that profitability has been going down for several years and that the response of output was delayed, apparently until firms understood that the process would be protracted. It also seems that the substantial expansion of demand after 1985 permitted some firms to postpone the recovery process.

In 1989 the government acted in two major areas. The currency was devalued early in the year, in order to halt the decline of relative tradables prices in view of the recession.

[2] Thus, for example, as economic agents learned to adjust to government measures, they engaged *inter alia* in awarding outsize wage bonuses and in speculative cycles of foreign-exchange purchases.

Table 2.2
Selected Business-Sector Indicators, 1982–89[a]

	1982–85	1986–87	1988–89	1987	1988	1989
Index, 1986 = 100						
Labor cost per man hour						
Total	90.7	102.4	106.9	104.7	108.7	105.1
Industry	88.6	103.2	109.1	106.3	110.0	108.2
Unit labor cost						
Total	94.0	100.8	103.6	101.6	105.3	101.8
Industry	92.0	101.1	102.8	102.3	104.3	101.2
Percent						
Gross rate of return on capital						
Total	13.4	10.8	10.4	10.9	9.8	10.9
Industry	13.3	8.9	8.4	8.7	7.9	8.9
Real interest on short-term credit						
Total	16.6[b]	11.2	11.3	16.0	12.1	10.6
Industry	15.1[b]	5.5	8.6	10.0	6.7	10.5
Real interest on overdraft facilities	40.1	37.0	18.4	39.4	25.6	11.3
Yield to maturity of 10-year bonds	3.4	5.8	3.4	5.3	4.5	2.5
Tax rates[c]						
Nonwage income, A	25.2	31.7	28.0	31.0	30.0	26.0
Nonwage income, B[c]	12.9	24.9	22.3	24.0	23.8	20.8
Statutory company tax	61	53	45	45	45	45
Investment						
Investment/product ratio	18.0	15.5	14.5	16.1	15.5	13.4
Average age of equipment (years)	5.8	6.0	6.2	6.0	6.1	6.2

[a] The data are calculated from the income-originating side using various by-industry indicators of output.

[b] 1983–85.

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

There were two more devaluations, each of about 6 percent, in June 1989 and early 1990. This series of devaluations evidently signalled that prolonged delays in adjusting the exchange-rate, as in 1988, would not recur; to all appearances, however, the exchange rate would not be fully accommodated; specifically, no adjustment would be made in response to excessive wage increases. One of the 1989 monetary targets was a significant reduction of real interest rates, in addition to that achieved in 1988. This was done by expanding the money supply in response to the decline in investment demand and an increase in the household saving rate.

Once wage agreements had been renegotiated and become more flexible, the recession produced a delayed decline in real wages, which helped to arrest the decline in

Table 2.3
Product and Productivity of the Business Sector, 1961–89[a]

(real annual change, percent)

	1961–1972	1973–1979	1980–1985	1986–1987	1988–1989	1987	1988	1989
Product								
Estimate A	10.0	3.0	3.4	6.5	1.7	7.2	1.8	1.5
Estimate B	9.1	3.9	2.4	5.6	0.8	7.0	0.0	1.6
Factor input								
Labor (man-hours)	3.6	1.1	1.1	3.0	0.9	3.8	0.3	1.4
Capital stock[b]								
Gross	8.7	6.3	3.6	2.4	2.7	2.4	3.0	2.4
Net	8.0	5.1	2.5	0.8	1.8	0.7	2.1	1.4
Productivity								
Product/man-hours								
Estimate A	6.3	1.8	2.3	3.4	0.8	3.3	1.5	0.1
Estimate B	5.3	2.8	1.3	2.5	–0.1	3.0	–0.3	0.2
Capital stock[b]/man-hours								
Gross	5.0	5.1	2.5	–0.5	1.8	–1.4	2.7	0.9
Net	4.2	4.0	1.4	–2.2	0.9	–3.0	1.8	0.0
Total productivity[c]								
Estimate A	4.5	0.2	1.5	3.6	0.2	3.7	0.6	–0.2
Estimate B	3.7	1.1	0.5	2.7	–0.7	3.5	–1.2	–0.1
Capital/product ratio								
Estimate A[d]	2.1	2.2	2.4	2.3	2.3	2.2	2.3	2.3

[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 ratios, not the rate of change.

profitability. It should be borne in mind that, just as the recession was set into motion by profitability-impairing factors at work for an extended period, so this year's improvement in profitability has prevented the recession from deepening without as yet reversing the trend. For this to happen, producers will have to be convinced that a long-run uptrend in profitability has set in. Moreover, some of the reasons for this improvement, e.g., the decrease in business taxes, are due to the recession itself and are not to be regarded as basic changes that will affect firms' behavior in the long run.

Labor input grew at roughly the same moderate rate as GDP; in other words, average labor productivity did not change in spite of the fact that it rose in industry. Capital stock rose by 2.4 percent over 1988, indicating that total productivity decreased by 0.2 percent (Table 2.3). In industry, both labor and total productivity improved appreciably, particu-

Table 2.4
Domestic Product and Productivity, by Industry, 1981–89

	1981–85	1986–87	1988–89	1987	1988	1989
Gross product						
Industrial composition						
Agriculture	8.2	8.1	7.6	8.1	7.5	7.6
Industry	31.4	32.2	30.5	32.0	31.0	30.0
Transport and communications	14.7	14.9	15.1	15.0	15.0	15.1
Water and electricity	3.9	4.0	3.9	3.9	4.0	3.9
Construction	10.9	8.9	9.4	9.0	9.3	9.5
Trade and services	30.8	31.9	33.5	31.9	33.2	33.9
Total business sector	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Annual change, percent						
Agriculture	5.5	4.4	–2.2	8.2	–7.2	3.0
Industry[a]	3.2	5.1	–2.4	5.5	–2.7	–2.3
Transport and communications	4.2	5.1	1.3	8.3	0.1	1.6
Water and electricity	3.8	5.0	0.1	5.6	0.2	0.0
Construction	–3.3	4.1	3.3	9.5	2.9	3.8
Trade and services	4.1	7.1	4.0	7.3	4.0	4.0
Total business sector	3.1	5.6	0.9	7.1	0.0	1.6
Productivity						
Labor productivity[b]						
Agriculture	4.5	4.6	2.6	6.2	1.3	4.0
Industry	2.0	2.0	1.4	3.9	1.4	0.9
Transport and communications	4.3	1.1	1.8	0.7	–1.3	4.0
Water and electricity	7.0	–0.3	–5.8	5.2	–12.5	1.4
Construction	–3.4	3.7	3.2	1.7	7.8	–1.2
Trade and services	0.5	2.8	–1.2	2.7	–2.1	–0.2
Total business sector	1.4	2.5	0.0	3.1	–0.2	0.2
Total productivity						
Agriculture	3.8	4.4	1.1	6.8	–1.4	3.7
Industry	0.8	1.8	–0.9	3.3	–1.2	–0.9
Transport and communications	3.6	1.8	0.6	2.4	–1.9	2.2
Water and electricity	3.2	0.7	–5.1	4.1	–9.3	–0.7
Construction	–3.3	4.7	3.0	3.9	6.7	–0.5
Trade and services	–0.3	2.7	–0.8	2.9	–1.6	0.1
Total business sector	0.8	2.8	–0.6	3.7	–1.1	–0.1

[a] Including diamonds.
[b] Gross product per man-hour.
SOURCE: Central Bureau of Statistics and Bank of Israel.

larly in electronics, whose investment also increased. On the whole, however, industrial productivity improved because labor input contracted faster than product. The share of industry in business-sector product fell to 30 percent compared with an average of 31.4 percent in the early 1980s (Table 2.4). By contrast, trade and services, with a more modest productivity improvement, expanded markedly, accounting for 34 percent of business-sector GDP as against 30.3 percent in the early 1980s. Table 2.5 shows that these developments reflect a change in industrial structure, since nontradables grew faster than tradables throughout the 1980s.[3] This trend seems to be consistent with the more rapid growth of demand for nontradables (which is typical of developed economies) coupled with a rise in relative nontradables prices, such as occurred in Israel during the 1980s. The trend was temporarily reversed in 1984 and 1985, when domestic demand fell steeply after the bank-share collapse of late 1983, and, together with a substantial devaluation, led to temporary real depreciation and substantial acceleration of the inflation rate.

Table 2.5
Income Originating in the Business Sector, 1981–89[a]

(annual change, percent)

	Tradables	Nontradables	Business sector
1981–1989	2.6	3.6	3.1
1981–1985	3.5	2.7	3.1
1981–1983	2.9	4.4	3.7
1984–1985	4.5	0.1	2.1
1986–1989	1.4	4.8	3.2
1986–1987	4.6	6.5	5.6
1988–1989	–1.9	3.0	0.9

[a] At 1986 prices. Tradables comprises income originating in industry, agriculture, shipping and aviation, and services income originating in tourism. Nontradables are calculated as business sector *less* tradables; the figures are approximate and should be regarded as giving only an indication of the trend.

The policy adopted after the stabilization program, led to faster growth of both nontradables and the entire business sector. This was the outcome of a substantial expansion in demand, a typical response to stabilization programs in which the exchange rate serves as the major disinflationary anchor. At the same time there was a marked shift of factors of production from tradables, chiefly manufactures, to industries producing less tradables such as trade and services, while relative prices of nontradables rose, i.e., there was real appreciation. The persistence of this trend in the past two years, together with increased unemployment, seems to have been caused by factors connected with the relative profitability of the two sectors. Tradables prices are more susceptible to the

[3] The problems of a tradable/nontradable classification preclude accurate estimation. The discussion that follows is therefore concerned only with broad trends.

effects of overseas competition, i.e., these industries were less able to raise prices in excess of world levels (taking tax changes and exchange-rate adjustments into account). Furthermore, the tradables sector is more susceptible to institutional and trade-union effects on wages, so that wage increases here, while lower than in nontradables, were seriously detrimental to profitability. As stated, the late-1987 slowdown was due to supply factors, but the change in the trend of domestic demand also helped to prolong the recession. Since world demand continued to expand, the contraction of tradables product by a total of 3.6 percent in 1988 and 1989 largely reflects the decline in industrial profitability and the efforts to increase efficiency. By contrast, the profitability of nontradables was not impaired and output continued to expand at an average rate of 3.0 percent.

In a small open economy, a decrease in domestic demand usually manifests itself in real depreciation, i.e., the prices of tradables increase more rapidly than those of nontradables. It is not clear why there was no substantial real depreciation, although the real appreciation of the past few years was checked. There was ample unutilized capacity available in 1989, labor as well as capital. Presumably, then, the real exchange rate was affected by non-market forces, connected chiefly with nominal price rigidities and the increase in housing prices, and which prevented the inflation rate from declining.

Domestic use of resources

Domestic use of resources excluding direct defense imports declined by 1 percent in 1989. Both components of domestic private demand were down—private consumption by 1 percent and fixed investment by 5.5 percent. General government consumption excluding direct defense imports was unchanged (Table 2.1).

Consumption of durables increased markedly; current consumption grew by 0.5 percent, with a decline in goods and a rise in services. Total investment declined: residential investment expanded by 6 percent ; nondwelling structures rose by ½ percent and machinery, equipment, and motor vehicles (which behave much like consumer durables) dropped steeply.

General government consumption was stable. A 1.9 percent decrease in domestic defense consumption—embracing both compensation of employees (evidently because of reduced reserve duty requirements) and domestic purchases, which contracted by 0.7 percent—was offset by a similar increase in civilian consumption.

The slowdown in domestic demand was an important element in prolonging the recession and improving the balance of payments. The decrease in domestic resource use caused a moderate decline in business-sector product. The contraction of private consumption was responsible for a ½ percent decline in product, which was offset in part by an increase in investment, whose domestic component, particularly residential construction, rose.

The downturn in domestic demand cannot be attributed to exogenous shocks affecting households or firms. Thus in spite of the moderating effect of domestic demand, it was

evidently a response to conditions that had developed in 1988. Economic agents, expecting lower growth rates (as opposed to the optimism of 1986 and 1987) and aware that the recovery effort currently under way would last a considerable time, trimmed demand, especially private consumption. Such a process usually aggravates unemployment, as one would expect during a structural change involving the closure of plants that are inefficient or which are not viable in the post-1985 economic environment. Hence the decline in demand should be viewed as a response to the previous year's recession, which would also help to prolong it.

In the fiscal sphere, there was a sizable expansion of the domestic deficit. Government consumption was unchanged, that is, nothing was done to alter demand. However, the decline in taxes, itself a product of the recession, acted as an automatic stabilizer and moderated the slump, but the effect was weak because of the type of taxes involved. General government investment also remained constant and so did nothing to moderate the recession. The recession has provided the opportunity for considerable expansion of infrastructure investment, which has lagged appreciably for the past ten years.

Import surplus, national saving, and investment

The national saving rate was more stable than the private rate (Table 2.6). National saving increased by 1.5 percentage points in 1989, returning to the early-1980s average. Private saving increased by 5.5 percentage points; while general-government saving fell by 4 points. The composition of national saving was heavily affected by the sharp drop in tax revenues caused by two years of recession. The decline in the general-government saving rate does not seem to reflect long-run trends.

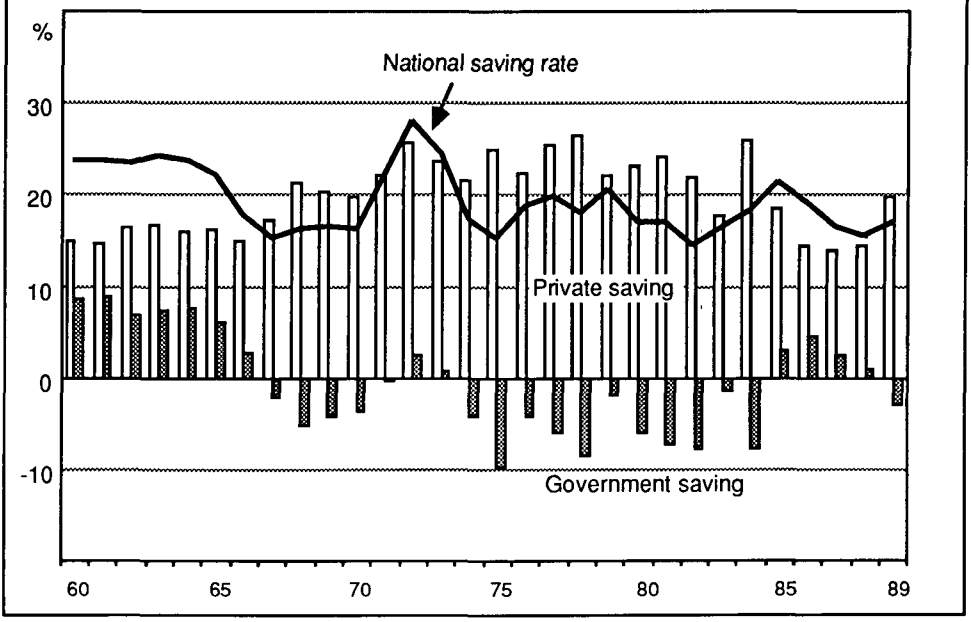
Table 2.6
The Rate of Saving, Investment, and the Current Account, 1981–89[a]

(percent)

	1981–85	1986–87	1988–89	1987	1988	1989
Gross saving						
General government	–4.5	3.5	–1.0	2.5	1.0	–2.9
Private	22.0	14.2	17.2	14.0	14.5	19.9
Total	17.4	17.8	16.2	16.5	15.5	16.9
Gross investment						
Inventories	0.3	0.7	–0.2	–0.1	–0.4	0.0
Fixed nondwelling investment	12.1	11.7	10.9	12.4	11.7	10.2
Dwellings	6.8	4.3	4.6	4.5	4.6	4.7
Total	19.2	16.7	15.4	16.9	15.9	14.9
Adjusted current account (saving *less* investment)						
Total	–1.8	1.1	0.9	–0.4	–0.3	2.0
of which Civilian import surplus	6.3	4.9	3.7	5.4	4.1	3.4

[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.

Figure 2.2
Gross National Saving Rate by Sector, 1960–89[a]

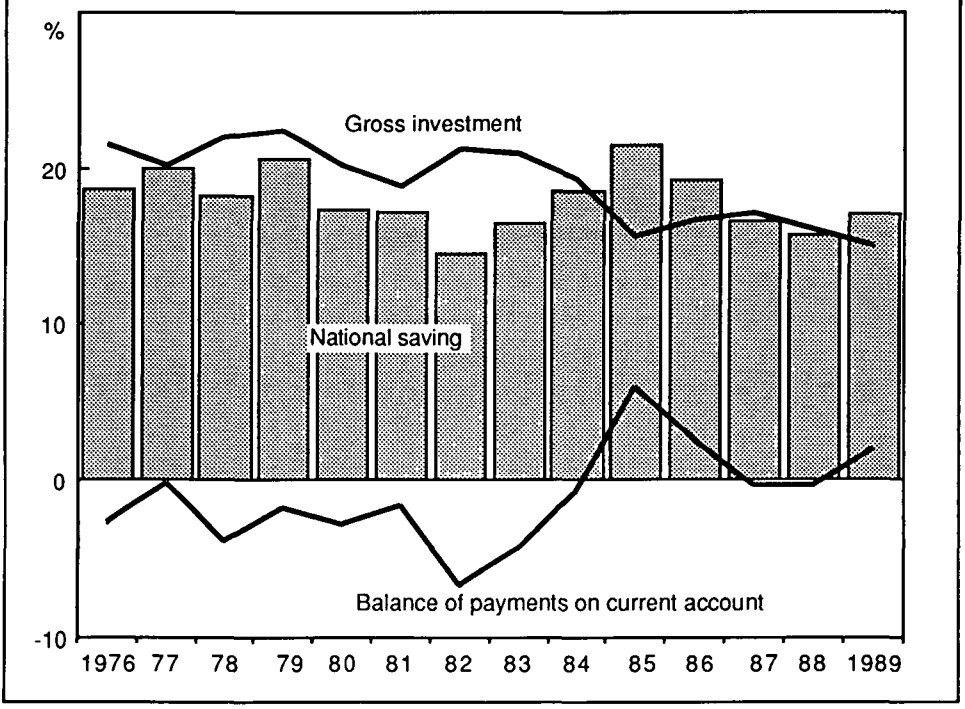


[a] The denominator is GNP *plus* unilateral transfers (converted to NIS at the effective exchange rate). The saving figures are based on Bank of Israel estimate of interest payments.

Whereas national saving rose, the investment rate dropped to a level 4 percentage points below that typical of the first half of the 1980s. Most of the decline was in nondwelling investment, the rate of residential investment remaining unchanged. The surplus of national saving over investment is the current balance-of-payments surplus, and is reflected in the continued contraction of the external debt.

Some of these developments were cyclical. The increase in the private saving rate was caused in part by the decrease in taxes, which raised disposable income from all sources by 6 percent. Another contributory factor was a strong upturn in private transfers from the rest of the world correlated with the speculative cycle of foreign-exchange transactions. Evidently households did not perceive these transfers as an increase in permanent income, and therefore channelled most of it into saving. The steep downturn of government saving mirrors the growth of private saving. For the first time since the economic stabilization program was introduced, general-government consumption exceeded revenues from all sources This, too, is largely cyclical, a consequence of reduced tax revenues. Some of the steep decline in the investment rate, too, was triggered by the recession; it follows that the surplus on current account is in part temporary.

Figure 2.3
Rate of Saving, Investment, and the Current Account, 1976–89[a]



[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.

SOURCE: Based on data of the Central Bureau of Statistics.

The period averages of Table 2.6 show that the improvement in the current account and the decline in the investment rate are roughly of the same magnitude, indicating a major difference in behavior between the government and the private sector. Government saving has improved since the economic stabilization program. The sizable dissaving that characterized government behavior before 1985 has become saving; in other words, the long-run prerequisite for the success of the stabilization program was met. Under these conditions, a long-run balance-of-payments improvement can be expected, since an increase in government saving should increase national saving, though not to the same extent: a long-run decline (rise) in the tax rate reduces (increases) government saving and increases (reduces) the public debt, both domestic and foreign. Economic agents evidently perceive this as a future increase (decrease) in taxes and modify private saving upwards (downwards). Thus national saving remained relatively stable in spite of the fact that government saving grew significantly, because of a decline in private saving connected with additional factors. One such major factor, which in the past has correlated strongly with the private saving rate, is the rate of dwelling investment. In the

long run, housing is of course affected mainly by demographic factors associated with age structure and the migration balance. During the 1980s, these developments caused the residential investment rate to fall sharply, accounting for some of the decline in the private investment rate. Furthermore, demographic effects on the saving rate exceed their direct effects on residential investment. To sum up, the investment and national-saving figures show that the balance-of-payments improvement consists of a long-run trend originating in an increase in the government saving rate and a decline in the total investment rate—a decline in which, as seen, the recession played a major role.

An increase in nondwelling investment is not a sufficient condition for the resumption of growth; in the late 1970s and early 1980s, when investment was relatively high, economic growth was no faster than in the second half of the 1980s. Past investment may have been affected by a distortionary incentive system which inflated the capital stock and failed to produce growth.

Interest rates came down in 1989, on the face of it contradicting the conventional assumption that the interest rate and investment are negatively correlated and that the interest rate and private saving are positively correlated (although neither economic theory nor empirical research have reached unambiguous conclusions about the latter). The fall in interest rates may indicate that the fall investment was due largely to other factors—chiefly the pessimistic economic climate originating in the recession itself, uncertainty caused by, *inter alia*, the continuation of the *intifada*, and the low level of profitability, especially in capital intensive industries. Profitability was also affected by factors other than interest rates, e.g., unit labor costs and the corporate tax rate. The increase in private saving was caused by an increase in tax receipts and a correction to long-run consumption trends. It may be inferred from this that, in addition to the expansionary monetary policy, one of the major factors contributing to the decline in interest rates was the decline in investment together with the growth of private saving, caused in part by transient factors.

2. INVESTMENT AND CAPITAL STOCK

Fixed investment fell by 5.5 percent in 1989, after a 0.5 percent decline in 1988, reflecting a sharp 11 percent drop in business-sector investment. The business-sector investment rate again declined (as it has since the stabilization program was launched), reaching 13.4 percent compared with an average of 18 percent in the early 1980s (Table 2.2).

Gross nondwelling investment decreased by 9.5 percent, reflecting stable public investment, a slight increase in investment by public-sector corporations (chiefly the telephone company, Bezek), and a decline in private investment, continuing the downward trend triggered by the high post-1984 interest rates and the erosion of profitability. Motor vehicles accounted for 70 percent of the decrease in business-sector

Table 2.7
Gross Domestic Investment by Type of Capital Good, 1981–89

(annual change, percent)

	NIS million 1989	Quantity						Price		
		1981–85	1986–87	1988–89	1987	1988	1989	1987	1988	1989
Nondwelling construction										
Structures	1,553	–2.6	5.2	4.2	17.4	5.5	2.8	25.3	19.7	18.4
Earthworks	1,441	–5.0	21.0	2.2	19.7	6.7	–2.0	24.2	18.0	17.9
Total	2,994	–3.6	12.0	3.2	18.5	6.1	0.4	24.8	18.9	18.2
Machinery and equipment										
Imported	3,089	7.2	–1.0	–5.7	6.5	–7.6	–3.7	19.5	5.3	15.7
Locally produced	2,145	8.4	5.2	–2.6	6.0	–4.7	–0.4	19.5	13.8	18.0
Total	5,234	7.6	1.4	–4.5	6.3	–6.6	–2.4	19.5	8.5	16.7
Land transport	1,312	0.2	27.8	–12.3	33.9	13.3	–32.1	20.4	12.9	12.6
Subtotal	**9,540**	3.4	7.2	–3.8	13.2	–0.0	–7.5	20.8	12.4	16.6
Ships and aircraft	–77									
Total nondwelling	**9,463**	3.2	8.5	–5.2	15.5	–0.6	–9.5	20.1	13.0	16.6
Dwellings	4,393	–4.9	0.9	3.0	8.3	–0.1	6.2	27.8	19.8	18.1
Private	3,970	–1.5	3.8	3.0	10.1	–0.0	6.2	28.0	20.1	17.8
Public	423	–16.5	–17.3	3.1	–5.7	–0.6	7.0	25.8	16.8	20.8
Total fixed investment	13,856	0.1	6.2	–3.0	13.5	–0.5	–5.5	22.7	14.2	17.6
Change in inventories	18									
Total gross domestic investment	**13,874**	–0.1	6.4	–2.3	2.9	–1.9	–2.7	22.7	13.6	17.4

SOURCE: Central Bureau of Statistics.

Table 2.8
Fixed Nondwelling Investment by Initiating Sector, 1981–89

(real annual change, percent)

	1989	1981–85	1986–87	1988–89	1987	1988	1989
Structures							
General government[a]	2,029	–3.1	22.2	7.2	31.8	15.2	–0.2
Public sector enterprises[b]	546	–6.9	7.4	–3.9	1.9	–9.9	2.6
Subtotal	2,575	–4.3	18.0	4.6	22.9	9.0	0.4
Private sector	419	–1.5	–8.6	–4.3	–0.2	–9.3	0.9
Total	**2,994**	–3.6	12.2	3.2	18.5	6.1	0.4
Machinery and equipment							
General government	633	6.5	3.1	–2.5	–5.5	–6.1	1.3
Public sector enterprises	1,517	0.6	2.4	1.8	–0.3	–1.1	4.8
Subtotal	2,150	2.5	2.6	0.4	–2.1	–2.8	3.7
Private sector	3,085	10.5	2.9	–7.5	11.9	–8.7	–6.2
Total	**5,235**	7.6	2.8	–4.5	6.3	–6.6	–2.5
Total							
General government	2,662	–0.2	15.2	4.3	17.4	8.6	0.2
Public sector enterprises	2,063	–1.9	3.6	0.3	0.3	–3.4	4.2
Subtotal	4,725	–1.0	9.4	2.5	8.8	3.0	1.9
Private sector	3,503	8.5	1.6	–7.2	10.6	–8.8	–5.5
Subtotal	**8,228**	3.8	5.3	–2.2	9.7	–2.8	–1.5
Transport[c]	1,235	–1.1	36.6	–19.4	49.6	8.9	–40.4
Total	**9,463**	3.2	8.7	–5.2	15.5	–0.6	–9.5

[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.

investment, falling sharply to NIS 0.8 billion after averaging NIS 1.2 billion in 1987–88 (1986 prices). Industrial firms owned by the Histadrut (the General Federation of Labour in Israel), once characterized by relatively high investment rates, have scaled their investments down considerably; non-Histadrut firms behaved in the opposite fashion.

Residential investment continued to expand in 1989. Despite the uptrend, which has persisted since 1986, it is still much lower now than in the early 1980s.

Most of the basic factors affecting the profitability of business-sector investment improved during the year (Table 2.2). The gross rate of return on capital reached 10.9 percent, compared with 9.8 percent in 1988. Long-term interest, as reflected in the yield to maturity of long-term government bonds, fell by a real 2 percent and failed to reach the early 1980s average. The yield to maturity of private bonds also fell, from 6 to 3

percent, attesting to a decline in the cost of capital to the private sector. Real interest on overdraft facilities, which could affect the timing of investment, fell by 11 percent from over 25 percent in 1988 and over 30 percent in 1986 and 1987; the relative prices of capital goods declined. All these developments gave reason to expect a genuine upturn in investment. This does not seem to have occurred, however, because adverse factors were stronger. For example, although profitability has improved, it is still very low compared with the past; the two-year recession has evidently damped down growth expectations and the continuation of the *intifada* has increased uncertainty and soured the business climate. Animal spirits were evidently at a low ebb. Some of the favorable factors are temporary. The reduction in corporate taxes was due to the recession, and not to reduced tax rates. The fall in labor costs was also triggered by the recession and it is not yet clear whether any substantive change has occurred in the functioning labor market. Finally, many large enterprises are still struggling to recover from financial crisis.

Industrial investment data show a marked downtrend in Histadrut enterprises and an uptrend in other private firms. Histadrut enterprises tend to be larger and more capital-intensive; in the past they were evidently more dependent on external capital than on equity. When capital market conditions worsened in 1984 and deteriorated further after the economic stabilization program was launched, these enterprises apparently suffered more than the others. This is borne out by output data for industrial Histadrut and non-Histadrut enterprises. In 1986 and 1987, when output grew substantially, expansion was mostly in non-Histadrut enterprises while Histadrut enterprises stagnated. This trend, confirmed by the industry surveys (available up to 1987), has apparently persisted in the last few years, as shown in the financial crisis experienced by Koor and the kibbutz industries.

Business-sector gross capital stock, whose growth rate has been declining for several years, increased by 1.3 percent in 1989, and for the first time failed to keep up with population growth. This trend, which reflects expectations of business stagnation, is especially serious in view of the resumption of large-scale immigration at the end of the year. If jobs are to be created for the newcomers, the capital stock must grow.

The decline in investment and the slower growth of capital stock are reflected in the increased average age of equipment, which means faster obsolescence and inability to benefit from technological improvements embodied in new equipment. Furthermore, the conventional measurement of capital stock may overstate the actual stock, since it ignores the increase in discards due to the closure of firms at a time of structural change.

3. PRINCIPAL INDUSTRIES

Agriculture

Agricultural product was up 3 percent after a sharp decrease in 1988. Output continued to decline; however, purchased inputs decreased more steeply and productivity improved

appreciably (Table 2.9). Real farm income was nevertheless down again because the 'terms of trade' of agriculture (output prices relative to input prices), which deteriorated by 5 percent in the preceding two years, worsened again: while output prices declined by 6.2 percent (relatively to the CPI), purchased input prices were stable; this is part of a long-run trend which was especially pronounced this year and played a major role in the real 9.8 percent decrease in farm incomes.

Citrus, avocado, and some winter vegetables suffered from unfavorable natural conditions, although not as seriously as last year. The climatic factors also contributed indirectly to the steep decrease in relative prices of fruit and vegetables—producer prices were down by 18 percent, consumer prices by 12 percent. After the February 1989 cold spell, farmers expected the supply of vegetables to shrink and responded by overplanting; unusual weather conditions that caused fruit to ripen irregularly further increased supply. Most of the decrease in fruit and vegetables output (0.5 percent) occurred in export crops, either because of natural factors or because production of low-profit crops such as cotton was cut back. The quantity of produce allocated to local consumption increased by 7 percent (vegetables and fruit by over 5 percent). Exports other than livestock products decreased by 9 percent, and the downtrend in the proportion of output exported continued.

Demand slackened because of the recession and the growing impact of the boycott of Israeli products by residents of the administered territories. The decline in domestic demand can be inferred from the fact that disposable income grew while consumption of food, beverages, & tobacco remained stable (and declined per capita), although the income elasticity of farm products is relatively low.

Prices of agricultural exports (relative to other exports) decreased at about the same rate as in 1988 but less than relative agricultural prices in the local market. This was caused mainly by the weakening of the European currencies and a real 5–6 percent currency appreciation in farm exports. Exports of fresh farm products came to $527 million (f.o.b) compared with $567 million in 1988.

Livestock production, almost all for the local market, declined by 1.7 percent because farmers cut back the production of milk, eggs, and some meat products in response to falling demand in Israel and the administered territories, and because subsidies were reduced by 60 percent (in real terms) during the year. The subsidy cut, concentrated in livestock, reduced the subsidy rate per unit of output from 8.2 percent in 1988 to 3.6 percent in 1989. In terms of gross product, the rate fell from 18.6 percent in 1988 to 8.5 percent in 1989.

The 1 percent decrease in farm output was accompanied by a 4.1 percent decrease in the volume of purchased inputs, so that gross agricultural product rose by 3 percent, rather more than the business-sector average. The trend line shows a considerable slowdown in growth rate during the 1980s, particularly in the past three years, as the slack in domestic demand was not taken up by exports.

The change in purchased inputs was uneven: feeding stuff (40 percent of the total) was down, reflecting the downturn in livestock production and changes in inventories

Table 2.9
Indicators of Agricultural Production, 1979–89[a]

(real annual change, percent)

	1979–81	1982–86	1987–89	1988	1989
Output					
Total output[b]	2.9	2.7	0.7	–4.5	–1.0
Inputs[c]	1.8	1.6	0.3	–2.1	–4.1
Gross product	4.8	4.2	1.1	–7.2	3.0
Total farm income[d]	5.8	0.8	–8.8	–12.0	–10.6
Factor input					
Labor[e]	–0.3	0.8	–2.6	–8.5	–1.0
Capital stock[f]	3.6	2.1	0.1	0.2	–0.1
Capital-labor ratio	3.9	1.3	2.9	9.6	0.9
Productivity					
Product-labor ratio	5.1	3.4	3.8	1.4	4.0
Total productivity[g]	3.3	2.8	2.6	–2.4	3.6
Exports[h]					
Citrus	–1.9	–7.3	–14.8	–21.6	–21.9
Other	1.6	9.9	–3.8	–15.3	17.2
Total	–0.1	3.9	–7.1	–17.9	5.1
Prices					
Output	108.3	174.8	12.4	14.7	12.8
Purchased inputs	112.0	174.7	16.8	19.0	20.2
Terms of trade[i]	–3.0	0.1	–3.8	–3.6	–6.2

[a] Agricultural years (ending September of stated year) until 1986; calendar years from 1987. The output and productivity figures are calculated from data at prices of April of each year for 1982–84 and at each year's average prices thereafter.

[b] At producer prices. Includes intermediate output.

[c] Intermediate output and purchased inputs.

[d] Deflated by the CPI.

[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). Does not include exports to the administered territories.

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

SOURCE: Based on Central Bureau of Statistics data.

(caused by an increase in the prices of imported feed). Packing materials, pesticides, and spare parts were down, but water consumption again increased, this year by 3.2 percent. The relative price of water for farm use decreased by 5 percent in spite of the marked aggravation of supply and allocation problems. For the last three years, water has accounted for 8 percent of purchased inputs.

The steady decline in the employment share of agriculture levelled off at 4.7 percent. Labor input dipped by 1 percent after declining by a steep 8.5 percent in 1988. The

number of employed persons other than employees declined slightly; the steep drop of 1988 did not recur, presumably because fewer employment alternatives were available. The number of Israeli employees rose by 6.5 percent in response to a 15 percent drop in the number of employees from the administered territories and a further decline in average hours worked.

Gross farm investment declined by 22 percent to the level of the early 1970s. The net capital stock has been falling since 1985; this year the gross capital stock also declined, as it did in 1988. The trend of investment and capital stock is undoubtedly a reflection of previous overinvestment, in the context of limited demand potential, declining profitability, and financing difficulties due to the onerous debt carried by the rural sector (only part of which is connected with agriculture). These difficulties, originating in, among other things, farmers' inability to provide collateral for new credit, may jeopardize the structural change that is essential if today's debt commitments are to be met.

On average over the past three years, total and labor productivity have risen at about the same rate as in 1982–86. Previous productivity increases expanded productive capacity in excess of demand. The failure of factors of production to contract more than they did was due to the various debt-restructuring arrangements, which were conditional on the execution of recovery programs, and to institutional intervention, such as the setting of floor prices for farm products.

As noted above, agricultural income declined for the third year running, this time by 10.6 percent, thus bringing the total decline for the last three years to about 25 percent (this compares with a 13 percent increase for the entire economy). The return to farmers' own labor and capital (calculated as total product *less* compensation of employees) came to NIS 1.3 billion. The average balance of agricultural bank credit was NIS 6.2 billion, 2.7 times the year's gross agricultural product. This marks a real 7 percent decrease relative to 1988, caused in part by the early-1989 debt write-off. The decrease in the average credit balance and the appreciable decline in real interest rates in 1989 reduced interest payments this year. However, the contraction of gross income, out of which 48,000 farmers must cover interest and repayment of principal, casts doubt on their repayment capacity.[4] It should nevertheless be borne in mind that agriculture provides no more than 30–35 percent of rural income, the rest originating in industry, visitor accommodation, and off-the-farm jobs.[5] A debt-restructuring arrangement for the kibbutzim (whose debt originates industry, agriculture, and consumer credit) was worked out late in the year but has not yet got under way because not all banks have yet joined up and the kibbutzim have not finished presenting their recovery plans. The arrangement consists of write-offs by the banks and the government and the

[4] The balance of bank credit allocated to agriculture gives only a rough idea of the magnitude of farm debts, since the figures include non-agricultural components and do not include agricultural debt to nonbank lenders.

[5] The major causes of financial crisis in agriculture and rural settlements, a crisis manifested by debts that the sector will find it difficult to repay, are discussed in previous issues of the *Report*.

rescheduling of remaining debt at relatively low long-term interest to be financed by the government. The kibbutzim are expected to liquidate assets, marshal internal sources of capital for mutual assistance, and carry out a detailed comprehensive recovery plan setting consumption, production, and investment levels for each kibbutz, supervised by the banks and the parent organization to which it is affiliated. Following this agreement, the terms of the debt-restructuring arrangement for moshavim (smallholders cooperatives) were revised accordingly.

Water policy

After several years of drought (1983/84–1985/86) and low rainfall in the Lake Tiberias catchment area, the country's water reserves were further depleted by overpumping rooted in a distortionary price policy. Concern has mounted recently and it is feared that if consumption is not trimmed, there will be further depletion, some of it irreversible. The country's sources of potable water (about 1.7 million cu.m. per year) consist of surface water in the Jordan system and Lake Tiberias (37 percent), two major aquifers (38 percent), and other aquifers (25 percent). Another 300 million cu.m. per year of effluent, brackish water, and other nonpotable sources are available. About 70 percent of the water is allocated to agriculture, 5–7 percent to industry, and the rest to household uses. Under the present system, water is allocated to agriculture, local authorities, and other agencies by administrative quotas and in accordance with long-standing water norms. Prices are prescribed by rules laid down in water regulations and the Water Law. The base price of water is appreciably lower for agriculture and industry than for household use. A uniform price of 23 agorot per cu.m. was set for agriculture in June 1989. To encourage conservation, farmers were charged less for 80 percent of their quotas and more for the remaining 20 percent, with a surcharge for overuse. These prices, however, hardly begin to reflect the real cost of water, which includes the outlays needed to develop new water sources—e.g., purification and desalination—and geographic and seasonal variables. In other words, water is heavily subsidized. The major component of the water subsidy is not budgeted at all, because the cost of capital is virtually ignored. The end-1989 gross stock of capital in waterworks was estimated at NIS 6 billion; i.e., the annual cost of capital is NIS 400–500 million (in accordance with assumptions about interest rates and the lifespan of investments). In addition, there is an explicit water subsidy which came to NIS 60 million in 1989. Farmers' expenditure for water came to NIS 260 million this year.

Subsidization of water on such a scale seriously misallocates resources by encouraging overconsumption. The misallocation stems from the disparity between the social and private cost of water consumption and the fact that different types of farming differ in the intensity of water use. The major consumers are irrigated field crops (e.g., cotton) and citrus. The demand distortion itself distorts policy as regards the magnitude, composition, and timing of investments in water system development. Continued overuse of water may cause irreversible damage to at least one of the major aquifers (Yarkon-Taninim). The pricing of water is a complex issue, since water is a joint

product. Furthermore, a price policy based on the real cost of developing additional sources, including the abolition of the quota system, would have far-reaching effects. Nevertheless, it would be more efficient to place greater reliance on market mechanisms for the allocation of so crucial an input as water. The existing system of administrative allocation and pricing is inherently susceptible to political and sectoral pressures.

Industry[6]

The recession, which emerged in the second half of 1987, deepened in 1988 and 1989, as both industrial production and employment contracted at rates unprecedented in the past thirty years.[7] Industrial production (excluding diamonds), which was down by 3 percent in 1988, fell by 2 percent, whereas total gross business-sector product rose by 1.5 percent (when estimated from by-industry data), and 3 percent growth (when estimated from the expenditure side of the national accounts). The major reasons for the crisis were the protracted erosion of profitability and special factors such as the *intifada* and the cancellation of the Lavie project. Industrial product plunged in the first quarter, increased slightly in the second and third, and levelled off in the fourth at about 1 and 4 percent below the 1988 and 1987 figures, respectively. The downturn of industrial production was accompanied by a 6.2 percent decline in the number of employees, a 4.1 percent increase in labor productivity, a 1.1 increase in total productivity, and a 2.3 percent decline in unit labor cost.

A prominent feature of the final destination of output is the increase in the share of industrial exports, which rose by 8 percent this year,[8] because of the expansion of world trade (also by 8 percent) and because the contraction of domestic demand channelled output to the export market. In these circumstances, one would have expected exports to grow faster. That they failed to do so, suggest that profitability, although better, is still poor.

The causes of the recession—headed by the decline in profitability—are discussed in detail in the introductory section of this chapter. The combination of exchange-rate developments and the excessive rise in wages, as manifested in appreciable growth of the real unit cost of labor, had particularly severe repercussions on industrial profit-

[6] The data in this section are based on industry indexes of the Central Bureau of Statistics, which are not consistent with foreign trade and labor force survey (LFS) data this year. The foreign trade data, taken together with the national accounts, suggest that industrial product has increased, whereas the industry indexes indicate a decline (see note 8). Labor input declined less according to the LFS than according to the industry indexes (see note 10).

[7] Only the past thirty years are compared; data for previous years were not collected regularly. In the 1965–67 recession, industrial product contracted by 2 percent and employment by 7 percent.

[8] The 8 percent growth in the volume of exports, together with the 2 percent decline in industrial product, is puzzling. Since 45 percent of industrial product is exported, these figures imply a 12 percent decline in final output for domestic use, rather more than in fact occurred. (This problem recurs in the input-output data.) Some of the discrepancy may be due to drawing down of inventories; the absence of change in real revenue, in spite of the decline in product, supports this explanation. The change in the composition of domestic demand would work in the same direction. Finally, the data should in any case be treated with caution, since they come from a variety of sources.

ability. Disinflation added to the corporate tax burden by increasing effective tax. However, interest rates had little effect on industrial profitability, since the effective interest on short-term credit was relatively low (Table 2.2). Several years' decline in profitability, the weakening of demand in 1988, the cancellation of the Lavie project in 1987, and the *intifada* led to recession, although the strong growth of demand in 1987–88 prevented problems from surfacing immediately. The Lavie cancellation was particularly damaging to the transport equipment industry, but producers of intermediates for the project suffered as well. The *intifada* reduced sales to the administered territories and supply was affected by the irregular absenteeism of employees from there. The Lavie cancellation and the *intifada* reduced industrial product by 3–4 percent in 1988.

Even though the data for industry as a whole indicate that the recession surfaced only in the second half of 1987, some industries were hit earlier. In electronics, for example, the recession struck as early as 1986, and action to promote recovery could not be postponed. In those industries where demand remained high, e.g., textiles and clothing, the recession was felt later.

The uneven development of the 72 three-digit industries is reflected in the variance of the growth rate of output: compared with the 1980–84 average, it rose slightly in 1986 and substantially in 1987. In 1988, however, the slump deepened and affected most sub-industries, thus causing the variance to decrease that year and again, slightly, in 1989.

The recession persisted in 1989 because profitability continued low, because it takes time to raise efficiency, and because domestic demand fell. Industry was affected by conflicting factors, whose net result was that profitability was still low, in spite of some improvement. The policy adopted early in the year introduced more flexible wage agreements, and the exchange rate was adjusted. This, however, hardly compensated for the previous three years' erosion. The shift in wage-policy afforded firms greater flexibility, allowing them to link wage increases to profitability. As a result (and because the recession deepened), the growth rate of wages declined. There was also a substantial (4.1 percent) increase in labor productivity, so that unit labor costs declined by 2.3 percent after growing by 22 percent in 1985–88 (and by 12 percent in 1983–88). Working in the opposite direction were the rise in the effective interest rate on short-term industrial credit and in the prices of intermediates: although local-currency interest rates were brought down, devaluation raised the effective cost of foreign-currency credit (which accounts for the bulk of industrial credit); and the 'terms of trade' of industry (input relative to output prices), which improved by an annual 1 percent in 1986–88, deteriorated by 1 percent in 1989.

The effect of the recession and the stabilization program on the economic environment brought about a structural change in industry and, in the last two years, its contraction. Non-Histadrut private firms' share of industrial investment and output rose. The mobility rate[9] increased from an annual average of 13.5 percent in 1981–85 to 17 percent in

[9] The mobility rate is defined as the sum of hiring and firing as percent of total employment. The figures presented here are based on computations by Haim Regev of the Central Bureau of Statistics.

Table 2.10
Indicators of Industrial Production, 1980–89

(percent)

	Annual average change		Change over preceding period				
						1989	
	1980–85	1986–89	1987	1988	1989	1st half	2nd half
Gross value added[a]	2.6	0.8	4.9	–3.0	–2.0	–2.5	1.5
Labor input (mandays)	0.5	–2.2	0.1	–4.6	–5.8	–2.6	–2.2
Number of employees	0.5	–1.8	2.0	–3.5	–6.2	–3.4	–3.1
Real gross investment[b]	5.7	–4.9	6.7	–16.7	–2.8		
Gross capital stock	4.8	3.2	3.2	3.6	1.9		
Gross value added per manday	2.1	3.0	4.8	1.7	4.1	0.1	3.8
Total productivity[c]	0.6	1.1	3.7	–1.3	1.1		
Real industrial exports	9.3	6.7	9.2	3.9	8.1	7.6	6.1
Real unit labor cost[d]	0.3	4.2	–0.2	3.0	–2.3		
Relative price, input/output	–0.2	0.0	–3.1	–0.2	1.2		

[a] Excluding diamonds.
[b] Excluding motor vehicles.
[c] Labor input according to industry indexes of the CBS (not the labor force surveys).
[d] Index of labor cost per unit of product deflated by an index of industrial product prices.
SOURCE: Based on Central Bureau of Statistics data.

1986–89. Mobility was highest in the traditional industries (textiles, clothing, leather, and wood & wood products) that rely on manpower with a relatively low level of schooling. These are industries with a high manpower turnover, with most of the hiring being concentrated in expanding plants. Their high mobility may be an indication of the structural changes they are undergoing. The contraction of employment—especially conspicuous in small enterprises (50 employed persons or less) and large ones (100 or more)—stems from the contraction of industry due to low profitability and from efficiency measures. Unprofitable production lines and factories have been shut down, and labor productivity has increased (Table 2.10). The contraction in 1987–89 was most marked in enterprises with relatively low labor productivity.

The low investment level of most industries (caused in part by the investment constraints of enterprises which had not yet extricated themselves from their financial difficulties) suggests that introduction of new products and penetration into new areas has been limited, because innovations usually entail the introduction of new technology and increased investment. The substantial growth of exports in some industries may indicate penetration of new markets. There are signs of recovery in electronics, which was affected comparatively early by the recession—an upsurge in exports (at the expense of domestic sales), a shift to civilian products, and a substantial increase in investment.

Developments at Koor and Israel Aircraft Industries (IAI), where there have been

substantial changes in the past few years, are of special interest. These two firms, which accounted for 16 percent of industrial employment in 1986, are responsible for almost half the decline in employment in 1987–89. Seriously affected by the cancellation of the Lavie project, IAI laid off about one quarter of its labor force but approached its 1987 output while increasing its share of export. At Koor, unprofitable production lines were shut down, plants were sold off, and the contraction of output was accompanied by a 30 percent manpower reduction and a substantial increase in labor productivity. Nevertheless, the conglomerate is still experiencing difficulties

Factor use and productivity

The past two years' decrease in industrial output was accompanied by adjustment of factor use. The number of employees, down by 3.5 percent in 1988, decreased by 6.2 percent, labor input declined by 5.8 percent (4.6 percent in 1988),[10] and the growth rate of gross capital stock slowed to a mere 1.9 percent.

The decrease in labor input and employment embraced all industries, regardless of whether their output expanded or contracted. While output increased a little in the second and third quarters and levelled off in the fourth, labor input and employment continued to go down in the second and third quarters, beginning to level out only in the fourth.

In 1988, average hours of work declined; in 1989, the decline in labor input reflects both a decline in employment and a rise in average hours worked. The latter occurred in spite of the gradual spread of the five-day week and the reduction of the working week from 47 to 45 hours since August 1988. In 1988, firms may have pruned labor input by trimming average hours worked rather than by lay-offs, in the hope that the recession would not last long, thus reducing the cost of manpower turnover; in 1989, as the recession persisted and deepened, employers were increasingly prepared to dismiss workers. Since the tendency is to dismiss part-time employees first, average hours worked increase further. Firms on the way to recovery may have preferred to extend working hours before taking on new workers, because of uncertainty as to the strength and the very existence of the recovery.

Labor productivity (product per man-day) increased by 4.1 percent because labor input declined more than output. Most of this rise occurred in the second half of the year (Table 2.10) and embraced almost all industries. It indicates how producers are tackling the erosion of profitability (caused mainly by exceptional wage rises): because it is difficult to reduce wages, profitability was restored by reducing employment and cutting down the less profitable activities.

The 1.9 percent growth of the gross capital stock, compared with an annual average of 4.5 percent during the 1980s, reflects the 17 percent contraction of investment in 1988 and the persistent increase in discards. In 1989, investment was down by another 2.8 percent. Most industries were affected, although several, including electrical and electronic equipment and transport equipment (Table 2.A8), showed marked improve-

[10] According to LFS data, industrial employment was down by 1 percent and labor input by 0.5 percent.

ment. The composition of investment changed appreciably, with structures rising by 23 percent and equipment declining by 5 percent.

As labor input contracted and the capital stock hardly rose, (weighted) factor input declined by 3.1 percent. Since industrial product fell by only 2 percent, this implies that total productivity[11] increased by 1.1 percent, about the same as last year.

Construction[12]

Construction output was up 4 percent in 1989, reflecting an increase in housing and stable nonresidential construction. Because of the long production time, the change in output was determined largely by the growth rate of building starts in 1987 and 1988. In 1989, starts declined by 17 percent, because of weak demand in the first half of the year and a decrease in private nondwelling investment due to the recession. Investment in structures and infrastructure by the government or initiated by it continued to increase, as it has for several years (see Section 2 above)

The market for new apartments slackened, with residential starts and sales of new apartments down by 12 percent. Output slowed down in the first half of the year because of the recession and home buyers' decisions to advance purchases in late 1988. In the second half of 1989, there was an upturn, because subsidized housing loans for young couples were adjusted, interest rates on unrestricted housing loans went down, and there were expectations of a substantial increase in immigration.

Relative housing prices rose by 12 percent, reflecting pent-up demand pressure in the secondary housing market. Demand for new apartments picked up after mid-year. Immigration doubled in 1989, reaching 24,000, and by the end of the year mass immigration from the Soviet Union was forecast for the next few years. Housing the newcomers presents the construction industry and the policymakers with several problems. Immigrants are free to choose where to live and are eligible for subsidized government housing loans. Until they are ready to buy, they are referred to the rental market and are given grants to cover this expense. Immigrants do not buy apartments immediately on arrival for several reasons: lack of realizable assets and cash, employment uncertainty, and the difficulty of obtaining loans in the absence of the guarantees demanded by the mortgage banks. On the supply side, building contractors face considerable uncertainty—about the number of immigrants, the strength and timing of immigrants' housing demand, and the size of units required, and where to build them. Consequently there is no immediate inducement to increase the number of starts. Land designated for residential use is in short supply, and the process of planning and approval of new sites takes too long, considering the urgency of the need. Financing the expansion of construction also presents difficulties. All these factors, combined with the

[11] The total productivity data are biased because the capital stock figures include stocks of plants and production lines that were shut down. (This problem is especially liable to arise at a time of contraction.).

[12] In this year's Report, construction is the industry for which a more extensive survey is presented.

Table 2.11
Indicators of Construction Activity, 1968–89[a]

	Absolute figures		Annual change, percent					
	1988	1989	1968–72	1973–79	1980–86	1987	1988	1989
Output (millions of 1986 NIS)								
Residential	2,288	2,430	30.1	–2.9	–2.8	8.3	–0.1	6.2
Other Structures	1,640	1,650	11.1	–2.4	–3.6	19.8	7.2	0.6
Other construction output[b]	1,591	1,645	7.5	2.0	1.8	2.3	3.1	3.4
Total	**5,519**	**5,726**	17.4	–1.8	–1.8	9.5	2.9	3.8
Starts								
Residential (million m. sq.)	3,385	2,980	31.0	–5.8	–6.4	18.5	4.6	–12.0
Other structures (million m. sq.)	1,375	980	15.7	–5.1	–6.5	13.1	22.2	–28.7
Total	**4,760**	**3,960**	25.8	–5.6	–6.4	17.0	9.2	–16.8
Residential (thousand units)								
Starts	22	19	28.5	–8.0	–9.6	15.4	0.6	–11.8
Completions	20	22	11.2	–6.5	–4.7	–8.1	–1.3	11.1
Construction time, residential[c] (months)	20	21		3.5	3.0	–0.4	–13.9	3.4
Employment (thousands)								
Israelis	74	72	9.7	–2.6	–4.0	9.5	9.0	–3.0
From administered territories	54	56		3.9	3.9	4.4	8.7	3.7
Total	**128**	**128**	15.3	–1.0	–1.2	7.3	8.9	–0.2
Stock of construction equipment[d] (millions of 1986 NIS)	1,153	1,158	2.3	4.1	–0.6	–5.6	0.1	0.5
Index of input prices (residential construction)			8.7	42.7	153.1	25.6	20.0	18.6

[a] Calculated from less rounded figures.
[b] Includes defense construction and a rough estimate for maintenance.
[c] Private construction.
[d] Beginning of year stock.

SOURCE: Based on Central Bureau of Statistics data

lapse of time between start and completion, threaten a serious housing shortage whichwill worsen over the next two years, so that temporary solutions will be needed. The government has belatedly begun to act by initiating residential construction and offering contractors assistance (in the form of purchase guarantees), as well as fast-completion incentives.[13]

Construction labor input increased by 5 percent. Labor productivity (output per man-hour) decreased slightly after several years of rapid growth. Average weekly labor input of employees from the administered territories, which was sharply reduced by the *intifada* (33 hours per week in 1988), rose slightly but remains substantially below the 1987 level of 44 hours. The number of employees from the administered territories rose appreciably in 1988 and to a smaller extent this year, offsetting the decline in average hours. The number of Israelis employed fell, while their average hours worked rose, the net result being a small increase in total hours worked by Israelis.

The housing market

After two years of expansion, the new-apartment market slumped, while the second-hand market continued to grow. Residential starts and new-apartment sales dropped by 12 percent. The fact that there was no change in assisted housing loans (for young couples, immigrants, relief of overcrowding), while the number of real estate transactions rose, indicates increased activity in the secondary housing market.

The major indicators fell sharply in the first half of the year and rose in the second half. New-apartment sales declined 10 percent from the second half of 1988 to the first half of 1989; private building starts responded by a 20 percent drop in the same period. This decrease is in part connected with the recession in the first half of the year, the decline in real wages, and the rise in unemployment. In part, it is due to speculative demand in the fourth quarter of 1988 sparked by the parliamentary elections and expectations of an end-of-year devaluation. In the second half of 1989, sales increased by 13 percent and private starts by 9 percent. The entire growth in sales occurred in the fourth quarter. The upturn in demand was supported by the mid-year upward adjustment of young couples' mortgages.

The principal demographic factor affecting the demand for housing has for some years been the contraction of the 20–29 age group; this is the age at which new households are formed. In 1989, immigration doubled (to 24,000), as the Soviet Union opened its gates; it became the dominant factor and is expected to be so in the next few years as well, when much larger numbers are expected. Previous waves of immigration (such as that of the late 1960s) were housed by means of public construction and subsidized rent. Over the years, as immigration diminished and the proportion of immigrants from affluent countries grew, the methods of government housing intervention changed. Since the early 1980s, housing aid has been based on assisted purchase by means of

[13] Immigrant absorption is discussed in *Economic Policy during a Period of Immigration* (Bank of Israel Research Department, 1990; Hebrew).

Table 2.12
Housing Construction by Initiating Sector, 1970–89[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	21.7	18.7	3.0	19.9	16.4	3.5
1988	21.8	18.6	3.3	19.7	16.5	3.2
1989	19.3	15.7	3.6	21.9	18.2	3.7
1988						
I	6.5	4.7	1.7	4.3	3.7	0.6
II	5.1	4.4	0.7	4.7	4.0	0.7
III	4.9	4.5	0.4	4.7	3.8	1.0
IV	5.3	4.9	0.4	5.9	5.0	0.9
1989						
I	5.4	3.8	1.6	4.8	3.8	1.0
II	4.1	3.5	0.6	5.9	4.9	1.0
III	5.0	4.2	0.7	5.8	4.7	1.1
IV	4.8	4.1	0.7	5.4	4.8	0.6

[a] Calculated from less rounded figures.

SOURCE: Based on Central Bureau of Statistics data.

subsidized mortgages. Immigrants do not buy homes immediately. During their first year in the country they are entitled to a rent subsidy (up to a maximum) through the Ministry of Immigrant Absorption. The immediate result of this mechanism is to raise rents and the relative price of small apartments; it takes some time for new-housing demand to be affected. The private construction industry is not geared to meet the immigrants' housing demand with the speed and on the scale required, for several reasons:

1. The construction industry, particularly residential construction, is undercapitalized. Current operations are financed largely out of income from the sale of apartments in the initial stages of construction. With such a capital structure, the supply response to a sudden expansion of needs is delayed until the needs translate into demand.

2. There is considerable uncertainty as regards the volume of immigration, the housing demand it will generate, its geographical distribution, and its timing. Consequently, the industry has no immediate inducement to step up new construction.

Table 2.13
Indicators of Housing Demand, 1981–89

	1981–84	1985–86	1987–89	1988	1989
Thousands (annual average)					
Population increase					
Aged 20+	30	27	34	29	40[a]
20–29	–6	0	4	3	7
Annual change, percent					
Real disposable income	6	–2	6	4.4	7.0
Real wage per employee post	4	–1	4	5.9	–1.4
Relative price of housing[b]	2	–9	3	1.9	12.1
Percent					
Subsidy rate (minimum)[c]	7	10	7	8	4
Mortgage rate (minimum)[d]	22	25	26	28	24
Interest on mortgages (market rate)	8	13	10	10.7	7.6
Unemployment rate	5	7	7	6.4	8.9

[a] Provisional.
[b] Relative to average CPI.
[c] Subsidy embodied in assisted mortgages as percent of price of apartment.
[d] Assisted mortgages as percent of price of apartment.
SOURCE: Based on data of the Central Bureau of Statistics and the Ministry of Housing.

3. Private contractors specialize in relatively large, high-quality apartments, usually in districts where demand for land is high—two factors that contribute to the high prices of these dwellings. Consequently, their land reserves are also situated in high-price areas.

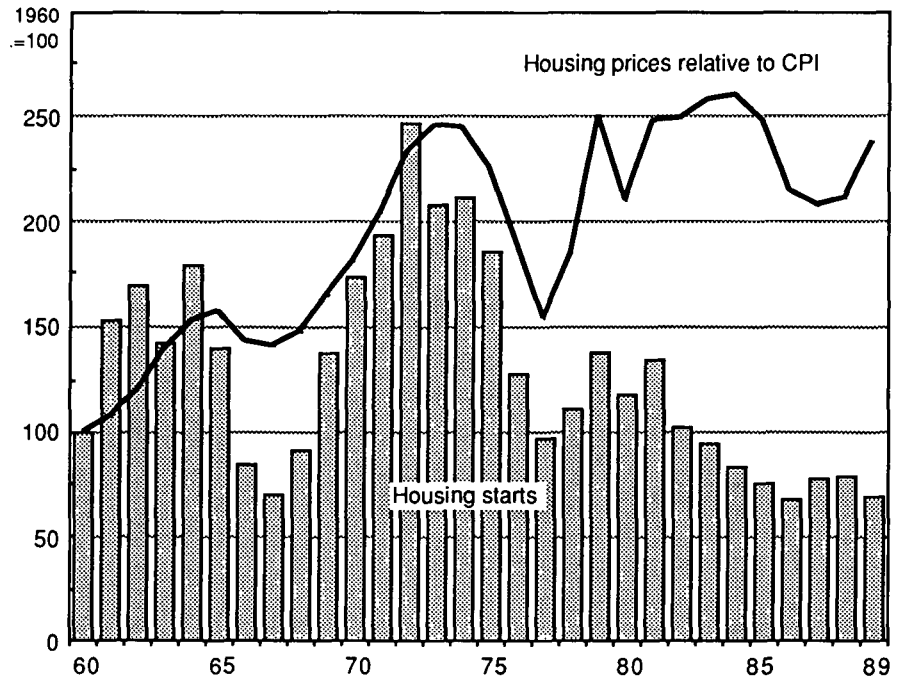
These factors explain why, even though immigration doubled this year and mass immigration is expected, there were no signs of revival in residential starts in 1989. If private contractors are to play their part, the government will first have to make extensive allocations of land for private construction, expedite approval procedures, and amend regional and town plans to allow greater density.

Other factors expanding housing demand in 1989 were the decline in interest rates on subsidized mortgages and abolition of the maximum on them. In mid-1985, the maximum interest rate on subsidized mortgages from bank resources was raised from 7.5 to 13 percent p.a. (CPI -indexed). In early 1987, the mortgages were extended from 10 to 20 years, and the interest rates fell, thus reducing monthly repayments. By late 1988, the interest had fallen to about 10 percent, and by the end of 1989 to 6 percent. The Bank of Israel gradually raised the ceiling on mortgages to single borrowers, finally abolishing it in 1989. Assisted housing loans were adjusted in mid-June and the interest rate reduced by 1 percent, triggering a run of purchases by young couples. Because most such purchases are of existing apartments, their effect on the new-apartment market emerged in the fourth quarter. The margin between market and subsidized interest rates

widened considerably in 1985, thus increasing the subsidy embodied in assisted mortgages. However, the weighted average interest rate on both types of mortgage increased at the same time, helping to slow down demand in 1985–86. Since 1987, there has been no significant change in the subsidized interest rate, while the market rate fell, especially in 1989, so that the rate of subsidy fell.

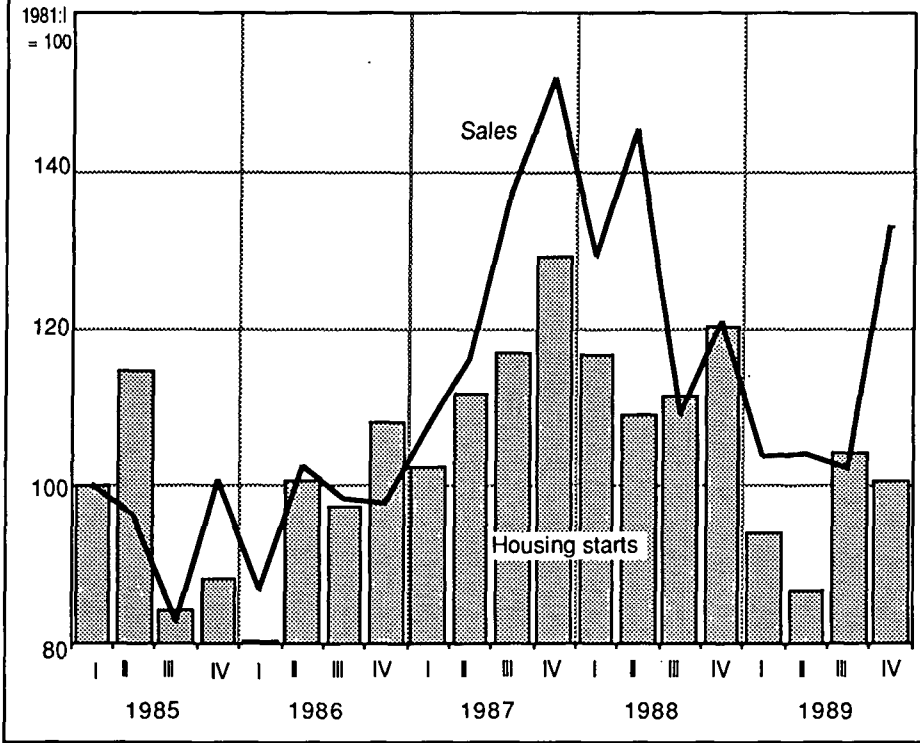
The 6 percent increase in real disposable income was caused mainly by reduced taxes

Figure 2.4
Housing Starts and the Relative Price of Housing, 1960–89



and does not seem to have stimulated housing demand. The change in distributive shares should also have a bearing on housing demand and the decline in real wages presumably depressed housing demand. The 12 percent decrease in residential starts reflected a 16 percent decline in private starts and a 9 percent increase in government-initiated starts. Construction input prices rose about as much as consumer prices; real wages contracted after growing substantially for three years. This was partly due to the decline in labor supply from the administered territories caused by the *intifada*. Short-term interest rates continued to fall, with a positive supply-side effect. However, because of its limited access to subsidized credit, the rates confronting the construction industry are among the highest in the economy.

Figure 2.5
Apartment Sales (24 towns) and Private Housing Starts, 1985–89



While private sales slumped in the first half of 1989 and recovered only in the fourth quarter, relative housing prices have been rising since mid-1988, at an annual average rate of 12 percent. This is due in part to expectations of substantial demand growth fueled by mass immigration. The price of housing reflects both the existing and the new stock of apartments:. A large proportion of apartments on the market are small compared with what is being built today. Young couples or immigrants enter the secondary housing market, and expectations of a massive increase in demand due to immigration have raised the prices of small apartments. Because of the lag between the initial demand and its effect on the large-flat market, sales of new apartments and private starts responded only toward the end of the year, as demand for large units stepped up. The proportion of unsold dwellings rose slowly in the first three quarters and fell by 56 percent in the fourth, suggesting that the rise in housing prices in the first half of 1989 did not appreciably affect the prices of large new units. This is borne out by the fact that, compared with smaller units, the relative prices of four-room and larger apartments decreased in the first half of the year and increased in the second half. The 1989 price rise may also have been a delayed supply-side response to events in the administered territories and previous years' wage increases in construction.

Transport and communications

Transport and communications output grew by 3 percent, after increasing by 1.5 percent in 1988 and 9 percent in 1987. Labor input contracted by 2 percent (whereas the national average rose), so that output per man-year rose by 5 percent. Real wages per employee post, among the highest in the country, decreased by 3 percent.

Developments within the industry were uneven. Civil aviation output increased as passenger transport recovered from the 1988 slump caused by the impact of the *intifada* on incoming tourism. Shipping output, which in the preceding two years grew much faster than international shipping, failed to increase in 1989, chiefly because of the slowdown in freight between foreign ports. Land transport output contracted because of the recession and diminishing use of public transport; the latter was due to a subsidy cut and to the fact that the cost of running and purchasing private cars has been declining for several years (relative to the CPI). The combination of these factors caused the motorization rate and utilization of private cars to increase slightly, thus aggravating the burden on the inadequate road system. Communications grew rapidly, reflecting rapid growth of telecommunications and a slight decrease in demand for postal services.

The by-industry pattern of productivity change was consistent with growth performance. Output per man-day rose in telecommunications and civil aviation and declined in bus services. Real wages fell in industries in which demand was down (buses, road haulage), and rose in communications, civil aviation, and railways. Prices of controlled services, such as public transport, ports and airports, rose markedly, because the bus subsidy was reduced and port fees were adjusted after several years without change.

Gross investment was down by 23 percent, reflecting a cyclical decline in investment in vehicles.[14] Excluding vehicles, investment grew by 7 percent (chiefly telecommunications, with roads investment rising by only 1.5 percent); this low rate does not alleviate congestion, failing to provide an adequate communications infrastructure.

Telephone installation still entails a considerable wait and, more important, traffic congestion has worsened. The sparsity of road investment during a recession marks a serious failure to exploit favorable circumstances. Additional road investment presumably has a higher yield than alternative investments, and its neglect is tantamount to resource misallocation. The situation may deteriorate further unless policy is modified in view of the expected immigration wave.

Roads

After years of underinvestment, the road network is woefully deficient in both mileage and maintenance. This 'saving' has been bought at the steep price of worsening traffic congestion—one of the country's major transport problems—and higher road maintenance costs. The scantiness of investment in recent times, of which the paltry 1989 growth of 1.5 percent is an example, is especially regrettable in view of the

[14] Motor vehicles, ships, and aircraft (excluding an estimate of cars purchased by households).

Table 2.14
Output of Transport and Communications, 1986–89[a]

	Percent of total		Annual percent change						
			Real output				Price		
	Product 1988	Output 1988	1986	1987	1988	1989	1987	1988	1989
Land transport	**47.9**	**30.6**	**0.7**	**4.2**	**–0.4**	**–3.5**			
Buses	14.4	10.7	–7.8	0.3	–3.2	–13.7	26.5	13.1	35.2
Taxis	4.5	2.4	2.0	5.9	1.0	3.6	34.0	8.0	22.0
Road haulage	26.8	16.9	3.2	6.5	1.0	2.2	23.0	15.0	10.0
Railways	1.3	0.6	6.7	1.9	–1.8	–10.4	10.5	8.7	19.9
Oil and gas pipelines[b]	0.9	–	–12.0	9.5	–1.1	3.4			
Shipping and ports	**14.7**	**19.4**	**1.5**	**8.4**	**9.3**	**–0.2**			
Shipping	9.9	15.3	-0.7	8.2	10.4	–0.1	7.2	–4.3	20.0
Ports	4.8	4.1	13.3	9.3	5.5	-0.6	8.9	1.3	23.0
Civil aviation and airports	**13.3**	**12.9**	**4.8**	**14.0**	**–4.8**	**9.3**	**4.3**	**12.7**	**19.5**
Civil aviation	9.9	11.5	5.2	13.6	–4.8	8.6	3.2	17.3	17.4
Airports	3.4	1.4	0.4	17.4	–4.4	15.2	4.2	7.7	34.6
Communications	**11.7**	**22.2**	**15.5**	**9.5**	**7.4**	**11.2**	**27.3**	**16.1**	**10.8**
Other[b,c]	12.4	14.9	–2.3	15.5	–7.6	2.7			
Total output		**100.0**	2.9	8.8	1.4	3.0			
Total gross product	**100.0**		1.9	8.3	0.1	1.6			
Gross fixed investment			16.2	37.3	7.9	–23.2			
Gross capital stock[d]			1.4	2.0	3.5	–3.3			
Employed persons			0.5	5.7	3.5	–1.8			
Labor input			0.5	7.5	1.4	–2.3			

[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.

excellent opportunity to improve the roads provided by the recession and the idle factors of production (labor and heavy equipment).

Since 1975, when traffic density was not a major problem, road mileage has grown by a mere 2.1 percent annually (Table 2.A9), a rate far exceeded by the increase in vehicles and mileage. Consequently, the density index (the ratio of vehicle/km to road area, see note to the table) has grown by 2.5 percent annually. Note that this density index presents a national average that takes account neither of rush hours nor of black spots, and certainly fails to reflect the gravity of the problem in the Tel Aviv conurbation.

The density index, which has grown by over 40 percent since 1980, understates the seriousness of the situation, since the harmful consequences of additional increases in density are exponential. Thus the economy pays dearly for the shortfall of infrastructure investment: more accidents, waste of travelers' and drivers' time and fuel, air pollution, and wear and tear of vehicles. Moreover, density reduces mobility and thereby encourages migration to urban centers, frustrating the population dispersion policy and impeding economic activity. Since infrastructure investment is an important factor in business sector growth, the scarcity of investment in the 1970s and 1980s presumably slows the growth rate.

Road investment has grown in the past three years, but on a level that falls far short of needs. An annual average of NIS 440 million (1989 prices) was invested in each of the past three years; we estimate that NIS 250 million are needed annually to prevent further deterioration and another NIS 500 million to accommodate the growth of traffic. An estimated NIS 2 billion are needed to eliminate the shortfall in expansion of road surface, and another NIS 1 billion for the rehabilitation of neglected roads (all at 1989 prices). These figures disregard the investment required for new public transport systems in the major cities. The latter item deserves separate attention (and may reduce the road investment requirement).

Tourism

Tourist arrivals increased by 6 percent, while dollar income from travel, as shown in balance-of-payments data, grew by 9 percent to reach $1,470 million.

The rate of increase of arrivals (Table 2.15) varied by country of origin, from 100 percent (Eastern Europe) to 6 percent (United States) and close to zero (Western Europe).

Sluggish world tourism, the weakening of the European currencies against the dollar,[15] and the *intifada* were among the factors that prevented this year's increase in tourism from compensating for last year's slump; the 1989 level was still 10 percent below the 1987 record. There was some recovery in the first two quarters, a slight downturn in the third quarter, and a fourth-quarter upturn that continued into the first quarter of 1990. The growth of tourism from the United States contrasts with the decline

[15] The weakening of European currencies against the dollar has a net moderating effect on tourism to Israel, since 60 percent of overseas tourists come from Europe, and 25 percent from the dollar area.

in the number of Americans traveling abroad. This may reflect pent-up demand from 1988, because a large proportion of American tourists visiting Israel are Jews who are not paying their first visit. Tourism from Germany was much lower this year, reflecting the downtrend in tourism from Germany, notably to Mediterranean countries. Tourism from Eastern Europe, half of it from the Soviet Union, has begun to develop in the past two years and evidently includes many visitors who are preparing to immigrate. Tourism from America and Europe is heavily affected by changes in the purchasing power of the currencies (Figure 2.6). This year's increase in the purchasing power of the dollar relative to the European currencies contributed to the strong increase in the number of American tourists.

Charter arrivals were down by 2 percent, but total arrivals increased because El Al opened new scheduled routes to several European countries, including Poland, Hungary, and Sweden. This was particularly noticeable in Eilat, where charter arrivals were down 3 percent while scheduled arrivals increased sharply.

Table 2.15
Tourism to Israel, 1986–89

	Thousands			Annual change, percent			
	1987	1988	1989	1986	1987[a]	1988	1989
Tourist arrivals	1,315	1,112	1,177	-14.1	22.7	-15.4	5.8
Cruise visitors	139	129	167	-50.1	46.9	-6.8	28.8
Total arrivals[b]	**1,454**	**1,242**	**1,343**	-18.8	24.7	-14.6	8.2
By selected countries of residence							
Europe	793	667	696	-1.7	26.2	-15.9	4.3
Western Europe	828	685	645	-1.8	25.1	-18.0	0.7
United Kingdom	150	138	135	3.6	16.2	-7.8	-2.7
France	155	122	132	-3.3	16.8	-21.3	8.2
West Germany	167	140	119	-4.5	30.9	-16.5	-14.5
Eastern Europe	11	26	50	6.7	256.2	130.4	93.4
United States and Canada	322	274	293	-40.7	36.4	-14.8	6.6
Asia and Africa[c]	90	102	113	6.7	15.6	14.3	10.0
South America	40	34	40	33.3	-17.9	-13.8	15.8
By mode of travel							
Air	1,151	979	1,033	-13.9	23.8	-14.9	5.6
Charter flights	240	209	205	-3.5	29.4	-12.8	-2.1
Scheduled flights	911	770	829	-16.1	22.4	-15.5	7.7
Direct to Eilat	81	84	87	39.6	26.5	3.7	3.1
Land	205	173	202	-7.2	33.3	-15.5	16.7
Sea	23	18	22	-6.2	26.8	-24.1	25.5

[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 territories, 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 there were connected with the war.

Figure 2.6
Tourism and Purchasing Power—Europe Relative to America, 1976–89

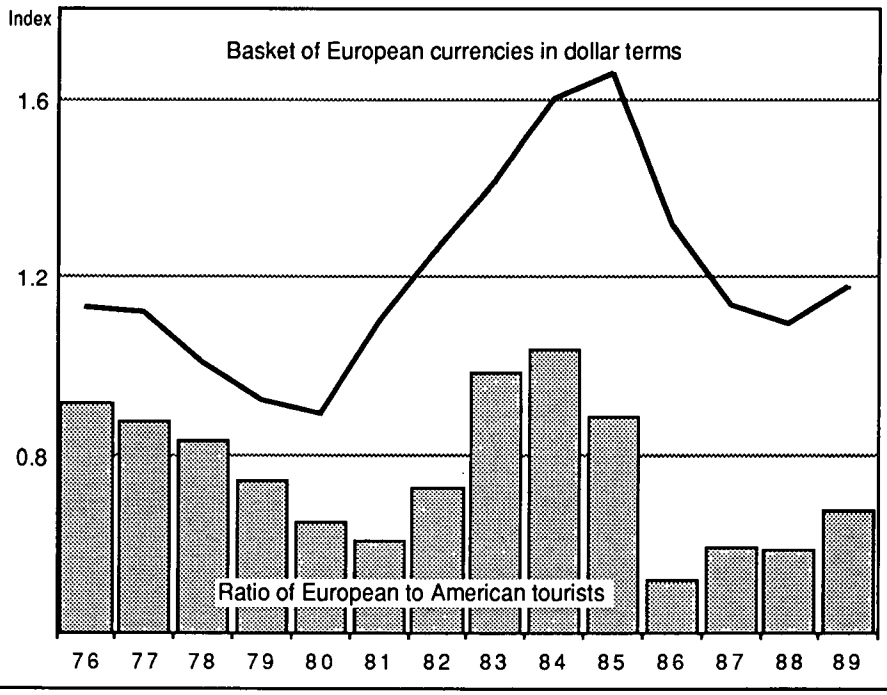


Table 2.A1
Resources and Use of Resources—Annual Data, 1981–89

(real annual change, percent)

	1981	1982	1983	1984	1985	1986	1987	1988	1989
Resources									
Gross domestic product	4.5	1.1	2.8	2.2	3.8	3.7	5.5	2.1	1.3
Imports of goods and services[a]	10.0	4.3	6.7	–1.0	–0.6	9.4	18.9	–2.6	–6.4
of which Civilian	7.9	11.9	11.4	–3.8	–3.7	15.9	11.3	–0.0	–1.1
Total resources[b]	6.6	2.3	4.3	0.9	2.1	5.9	10.1	0.4	–1.5
Use of resources									
Private consumption	13.0	8.0	8.7	–7.1	0.6	14.7	8.5	3.8	–1.0
General government consumption									
Total	6.5	–6.2	–4.0	5.9	4.0	–9.5	17.1	–1.8	–8.9
Excluding direct defense imports	2.1	3.1	2.2	1.4	–0.9	–2.4	3.1	3.5	0.4
Gross domestic investment									
Total	–5.2	14.8	10.0	–7.1	–10.6	10.0	2.9	–1.9	–2.7
Fixed	4.0	5.1	12.6	–11.3	–7.8	–0.6	13.5	–0.5	–5.5
Domestic use of resources[b]	6.0	7.9	7.3	–4.9	–2.1	9.1	6.2	2.7	–0.9
Exports[a]	4.9	–2.9	2.3	13.7	8.6	5.6	10.7	–2.1	4.6
Use of resources									
Excluding direct defense imports	5.7	4.8	5.9	–0.1	1.1	8.0	7.4	1.4	0.5
Total	6.6	2.3	4.3	0.9	2.1	5.9	10.1	0.4	–1.5
Gross product of business sector at market prices[c]	5.8	0.2	3.3	2.4	5.3	5.8	7.2	1.8	1.5

[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, 1986–89

	1986	1987	1988	1989
NIS million				
GNP at market prices	42,799	54,494	66,746	81,880
less Depreciation	7,137	8,811	10,301	12,938
less Net indirect taxes	5,186	6,681	7,343	9,607
less Indirect taxes on domestic production	*6,061*	*7,744*	*8,950*	*11,157*
Subsidies to domestic production	*875*	*1,063*	*1,607*	*1,550*
Subsidy element of government loans	626	790	702	571
National income	**31,102**	**39,792**	**49,804**	**59,906**
National income, excl. loan subsidy	**30,476**	**39,002**	**49,102**	**59,335**
Real annual change percent[a]				
GNP, at market prices	8.0	6.2	5.9	1.7
less Depreciation	3.0	3.0	1.1	4.1
less Net indirect taxes	38.3	7.5	–4.9	8.5
less Indirect taxes on domestic production	17.9	6.6	–0.0	3.3
Subsidies to domestic production	–37.0	1.3	30.7	–20.0
Subsidy element of government loans	–11.3	5.2	–23.1	–32.6
National income	4.9	6.7	8.2	–0.3
National income, excl. loan subsidy	5.3	6.7	8.9	0.2

[a] Deflated by implicit price index of private consumption.

SOURCE: Central Bureau of Statistics.

Table 2.A3
Private Consumption, 1981–89

(annual change, percent)

	NIS million 1989	Quantity						Price		
		1981–85	1986–87	1988–89	1987	1988	1989	1987	1988	1989
Goods for current consumption	21,936	4.6	10.2	1.2	10.8	2.9	–0.4	15.1	14.0	18.6
Food, beverages, and tobacco	14,086	3.8	6.1	3.1	7.2	5.8	0.5	16.2	16.4	21.1
Other	7,850	6.1	16.8	–1.5	16.4	–1.3	–1.8	13.6	10.1	14.3
Services[a]	14,126	3.6	7.2	1.8	8.4	1.8	1.8	27.5	19.3	18.8
Consumption by Israelis abroad	2,746	2.9	16.1	8.0	12.4	6.0	10.1	24.0	5.2	19.6
Consumption by foreigners in Israel (–)	3,170	2.0	–3.7	–1.3	17.7	–11.7	10.4	24.3	15.6	17.3
Subtotal	**35,637**	4.4	11.0	2.2	9.5	4.1	0.3	19.4	15.2	18.9
Durables	4,642	6.0	30.0	–4.9	12.9	4.9	–13.8	18.8	9.6	11.2
Services of private nonprofit institutions	1,363	1.0	3.7	1.4	4.6	0.6	2.3	27.3	21.6	22.3
Housing services	10,037	3.8	2.5	2.2	2.3	2.2	2.2	21.8	20.7	31.4
Total	**51,679**	4.4	11.6	1.4	8.5	3.8	–1.0	19.9	15.6	20.6
Total excluding durables	**47,037**	4.2	9.1	2.2	7.9	3.6	0.7	20.0	16.4	21.5

[a] Excluding housing services and services of nonprofit institutions.

SOURCE: Central Bureau of Statistics.

Table 2.A4
Gross Stock of Fixed Capital, by Industry, 1981–90[a]

(annual average rate of change, percent)

	1981–85	1986–87	1988–89	1989	1990
Total					
Agriculture	2.4	0.7	0.1	–0.1	–1.0
Water works	3.0	0.8	0.2	–0.3	–0.1
Industry	4.6	3.8	2.6	1.7	1.3
Construction equipment	–1.4	–6.4	0.3	0.5	–1.7
Electricity	6.8	4.0	4.9	5.8	5.2
Transport and communications	2.1	1.7	3.4	3.3	1.0
of which excl. vehicles	2.4	3.5	4.4	4.4	4.4
Private services	6.0	4.8	3.7	3.3	2.4
Subtotal: Business sector	3.5	2.5	2.7	2.4	1.3
Public services	3.5	3.4	4.0	4.0	3.8
Subtotal: Nondwelling stock	3.5	2.7	3.0	2.8	1.8
of which excl. vehicles	3.8	3.1	3.1	2.9	2.5
Dwellings	5.0	3.1	3.0	2.9	3.0
Total	4.1	2.9	3.0	2.8	2.3
Equipment					
Agriculture	3.0	1.2	0.8	0.3	–1.7
Water works	6.2	2.3	1.9	1.3	1.9
Industry	5.5	4.8	3.5	2.5	1.8
Construction equipment	–1.4	–6.4	0.3	0.5	–1.7
Electricity	8.6	4.6	5.9	6.9	6.3
Transport and communications	1.8	1.3	3.3	3.1	–0.9
of which excl. vehicles	2.1	10.7	9.1	8.4	8.5
Private services	8.1	6.7	5.0	4.3	2.9
Subtotal: Business sector	4.3	3.3	3.6	3.0	1.2
Public services	2.3	5.6	4.1	3.2	2.7
Subtotal: Nondwelling stock	4.1	3.4	3.6	3.1	1.3
of which excl. vehicles	5.1	4.7	4.0	3.4	2.6
Dwellings					
Total	4.1	3.4	3.6	3.1	1.3
Structures					
Agriculture	2.2	0.5	–0.2	–0.3	–0.8
Water works	2.6	0.6	–0.1	–0.6	–0.4
Industry	1.5	0.1	–0.7	–1.3	–0.9
Construction equipment					
Electricity	4.1	2.9	3.2	3.8	3.0
Transport and communications	2.4	2.2	3.4	3.5	3.5
of which excl. vehicles	2.4	2.2	3.4	3.5	3.5
Private services	3.5	2.1	1.7	1.7	1.5
Subtotal: Business sector	2.5	1.4	1.5	1.4	1.3
Public services	3.7	3.0	4.0	4.2	4.0
Subtotal: Nondwelling stock	2.9	2.0	2.4	2.5	2.4
of which excl. vehicles	2.9	2.0	2.4	2.5	2.4
Dwellings	5.0	3.1	3.0	2.9	3.0
Total	4.1	2.6	2.8	2.7	2.7

[a] Beginning-of period stock.

SOURCE: Based on Central Bureau of Statistics data.

Table 2.A5
Private Disposable Income and the Saving Rate, 1986–89

	1986	1987	1988	1989
NIS million				
National income	31,102	39,792	49,804	59,906
less General government income from property	701	528	589	985
Depreciation (private sector)	6,391	7,838	9,167	11,561
Gross private income from economic activity	**36,792**	**47,103**	**58,382**	**70,482**
less Direct taxes	9,807	12,002	14,568	16,094
Income tax	*7,091*	*8,814*	*10,795*	*11,600*
National Insurance contributions[a]	*2,715*	*3,188*	*3,773*	*4,494*
less Fees, levies, and fines	430	328	364	470
less Net compulsory loans[b]	–321	–252	–955	–1,511
Net transfer payments	3,562	4,568	5,735	7,483
Interest on the domestic public debt	3,387	3,871	4,366	5,796
Gross private disposable income				
With nominal interest				
From domestic sources	**33,826**	**43,464**	**54,505**	**68,709**
Private transfers from rest of world	1,607	2,201	1,849	3,141
From all sources	**35,433**	**45,665**	**56,354**	**71,850**
With real interest[c]				
From domestic sources	**33,714**	**42,882**	**52,571**	**67,057**
Private transfers from rest of world	1,607	2,201	1,849	3,141
From all sources	**35,321**	**45,083**	**54,420**	**70,198**
Private consumption	**27,732**	**36,071**	**43,284**	**51,679**
Saving rate (percent)				
With nominal interest				
Out of domestic income	18.0	17.0	20.6	24.8
Out of total income	21.7	21.0	23.2	28.1
With real interest				
Out of domestic income	17.7	15.9	17.7	22.9
Out of total income	21.5	20.0	20.5	26.4

[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.A6
Rate of Change of Private Disposable Income, 1986–89[a]

(real annual change, percent)

	1986	1987	1988	1989
NIS million				
National income	4.9	6.7	8.2	–0.3
Public sector income from property	203.7	–37.2	–3.5	38.6
Depreciation (private sector)	2.2	2.3	1.1	4.6
Gross private income from economic activity	3.1	6.8	7.2	0.1
Direct taxes	9.5	2.1	5.0	–8.4
Income tax	11.5	3.7	5.9	–10.9
National Insurance contributions	4.6	–2.1	2.4	–1.3
Fees, levies, and fines	17.0	–36.3	–4.0	7.0
Net compulsory loans				
Net transfer payments	16.7	7.0	8.6	8.2
Interest on the domestic public debt	8.6	–4.7	–2.5	10.1
Gross private disposable income				
With nominal interest				
From domestic sources	3.6	7.2	8.5	4.5
Private transfers from rest of world	36.2	14.2	–27.3	40.8
From all sources	4.7	7.5	6.7	5.7
With real interest				
From domestic sources	5.0	6.1	6.0	5.7
Private transfers from rest of world	36.2	14.2	–27.3	40.8
From all sources	6.1	6.5	4.4	6.9
Private consumption	14.7	8.5	3.8	–1.0

[a] Deflated by the implicit price index of private consumption. See also notes to Table 2.A5.

SOURCE: Central Bureau of Statistics.

Table 2.A7
Gross Income from All Sources and Gross Saving, 1986–89[a]

(NIS million)

	Effective exchange rate calculation				Official exchange rate calculation			
	1986	1987	1988	1989	1986	1987	1988	1989
NIS million								
GNP at market prices	42,799	54,494	66,749	81,880	45,861	58,534	71,097	85,473
Net unilateral transfers from rest of world[b]	7,038	6,647	6,098	8,358	6,370	5,976	5,473	7,723
Gross income from all sources	**49,837**	**61,142**	**72,843**	**90,239**	**52,231**	**64,510**	**76,569**	**93,196**
Private consumption	27,732	36,071	43,284	51,679	27,732	36,071	43,284	51,679
General government consumption[c]	11,775	15,048	18,802	23,067	11,775	15,048	18,802	23,067
Direct defense imports[d]	3,042	3,076	2,889	2,886	2,753	2,775	2,597	2,667
Total consumption	**42,549**	**54,195**	**64,975**	**77,632**	**42,260**	**53,894**	**64,683**	**77,413**
Gross saving								
National	7,288	6,947	7,868	12,607	9,970	10,616	11,886	15,783
Private	7,589	9,012	11,136	18,519	7,589	9,012	11,136	18,519
General government (residual)	–301	–2,065	–3,268	–5,911	2,381	1,605	750	–2,736
Percent								
Gross saving/total income								
National	14.6	11.4	10.8	14.0	19.1	16.5	15.5	16.9
Private[e]	15.2	14.7	15.3	20.5	14.5	14.0	14.5	19.9
General government	–0.6	–3.4	–4.5	–6.6	4.6	2.5	1.0	–2.9

[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.A8
Industrial Production, Exports, and Investment, 1988–89[a]

(real percent change over preceding period)

	1988			1989			Weight in index of	
	Production	Exports	Investment	Production	Exports	Investment	Industrial production	Industrial exports
Mining and quarrying[b]	–2.0	–9.2	–14.6	–3.9	0.5	–12.4	7.0	4.5
Food, beverages, and tobacco	0.1	–8.3	–10.2	–3.5	10.7	–7.2	13.0	8.1
Textiles, apparel, and leather	–11.5	–10.1	–30.9	–5.9	1.8	–15.7	7.6	9.1
Paper, printing, and publishing	–3.0	9.2	–16.7	0.7	–1.5	–30.8	6.0	0.7
Wood and wood products	–0.8	–12.2	–50.7	–3.4	5.7	0.9	3.2	0.7
Rubber and plastics	–9.9	–5.0	–43.9	2.2	8.1	–15.5	6.4	4.5
Chemicals and petroleum	0.9	5.3	7.1	5.8	9.3	11.1	11.7	18.1
Base metals	4.8	47.9	–45.2	–5.2	13.9	–54.4	1.6	1.6
Metals and machinery	–1.2	12.1	–16.8	–4.6	3.9	–19.5	21.6	13.5
Electronic and transport equipment	–6.1	8.2	–16.3	–1.6	14.9	18.9	19.2	30.5
Other	2.9	12.4	–31.8	7.11	11.8	18.3	2.9	8.8
Total industry	–3.0	3.9	–16.7	–2.0	8.1	–2.8	100.0	100.0

[a] Two-digit aggregation. Excludes diamonds.
[b] Including nonmetallic minerals.
SOURCE: Based on Central Bureau of Statistics data.

Table 2.A9
Indicators of Road Traffic Density, 1980–89

	Road area	Motor vehicles	Mileage	Weighted vehicle/km[a]	Density index[b]	Vehicles/ road area
Index, 1975 = 100						
1980	118.0	128.6	115.3	112.4	95.3	109.1
1985	129.4	185.1	152.6	147.6	114.1	143.0
1986	130.6	195.3	156.1	150.8	115.4	149.5
1987	131.9	210.2	160.0	160.0	121.3	159.5
1988	132.9	227.2	170.5	176.3	132.6	170.9
1989	133.8	234.4	189.3	188.6	140.9	175.2
Average annual change, per cent						
1975–86	2.5	6.3	4.1	3.8	1.3	3.7
1987–89	0.8	6.3	6.6	7.8	6.9	5.4
1975–89	2.1	6.3	4.7	4.6	2.6	4.1

[a] Vehicle/km by type of vehicle, weighted as follows: buses, 2, trucks, 2.5 (passenger cars = 1).
[b] Weighted vehicle/km *divided by* road area.
SOURCE: Based on Central Bureau of Statistics data.

Table 2.A10
Purchasing Power of Selected Currencies, 1988–89[a]

(annual change, percent)

Country of origin	Country of destination						
	France	Spain	Sweden	Italy	United States	Switzerland	Israel
1988							
United States	0.3	–6.4	–5.0	–0.6		0.2	–10.3
United Kingdom	10.2	2.8	4.3	9.2	9.8	10.0	–1.5
France		–6.7	–5.3	–0.9	–0.3	–0.1	–10.6
West Germany	0.0	–6.7	–5.3	–0.9	–0.3	–0.1	–10.6
Israel	11.9	4.4	5.9	10.9	11.5	11.7	
1989							
United States	8.5	–0.3	3.6	4.0		13.6	4.5
United Kingdom	2.6	–5.7	–2.0	–1.7	–5.4	7.4	–1.2
France		–8.1	–4.5	–4.1	–7.8	4.7	–3.7
West Germany	–0.7	–8.7	–5.1	–4.8	–8.4	4.0	–4.3
Israel	3.8	–4.6	–0.8	–0.5	–4.3	8.7	

[a] Each cell of the table gives the change in relative purchasing power of the currency of country of origin (row) in the country of destination (column). Calculated as

$$\left\{\left(\frac{I_{er}}{I_p}\right)_{or} \Big/ \left(\frac{I_{er}}{I_p}\right)_{de} - 1\right\}100,$$

where the I_{er} is the exchange rate ($ per local currency unit) in country of origin (*or*) or destination (*de*), and the I_p are the corresponding consumer price indexes.
SOURCE: Based on data of the IMF.