6

THE PRINCIPAL ECONOMIC SECTORS*

A. The Business Sector: Main Industries

1. MAIN DEVELOPMENTS

The business sector product,[1] which in 1986–87 had expanded by an average
5.6 percent a year, failed to grow in 1988. The annual averages shown in Table
6.1 seem to indicate a sharp change in economic activity, but actually its slow-
down became apparent already in the second half of 1987. The slowdown be-
came sharper in 1988, due to special factors which affected the various sectors.
The stagnation of the business sector product was primarily the result of cumu-
lative factors which impaired its profitability—rising labor costs against a pol-
icy of keeping the exchange rate stable, the high level of the real interest rates,
and the heavier taxation of non-wage income (see Table 6.2). In addition, eco-
nomic activity in 1988 was affected by a change of trend in private domestic
demand (for consumption and investment), and by the uprising in the territo-
ries, the main economic impact of which was to contract the demand for Israeli
goods by residents of the territories and to reduce tourism.

   Developments in the various industries were uneven. The year saw a
particularly sharp contraction in industry, the economy's principal tradeable
sector, which accounts for nearly a third of the business sector product. The

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* The format of this chapter has been changed this year. Starting with the present An-
nual Report, this chapter will each year present a more extensive analysis of one eco-
nomic sector, both in regard to subjects and the period covered. The other sectors will
be discussed more briefly than has so far been the practice in the Bank's Annual Re-
ports. This year, industry has been selected for a more extensive discussion; see Part B
of this chapter. As throughout the Annual Report, the English version is abridged.

   [1] In this chapter, the business sector product is estimated directly from the product of
the various industries. For most years, this measurement differs slightly from the na-
tional accounts estimates (see Chapter 2), but in the last two years the two estimates are
nearly identical.

industrial product contracted by some 3 percent[2] and pulled down overall economic activity. An exceptional shrinkage of 6.6 percent was also recorded in agriculture, due to particularly severe natural damage. Services and commerce, which also account for a third of the business sector product, continued to expand, albeit at a slower rate than in the preceding two years. This slower growth was mainly due to a steep drop in tourism. The product of the construction industry grew only slightly, in contrast to the large expansion of 1987. This development primarily reflects the sharp fall in the labor input from the territories on one hand, and the increase in the number of Israeli workers and the rise in labor productivity on the other.

The 1988 developments in production factors were the result of the slowdown in economic activity and the disparate changes in the various economic sectors. Total labor input in the business sector increased minimally, by 0.3 percent, as a result of the contraction in the labor input from the territories and an increase in the Israeli labor input (a substitution which had considerable implications for the labor market; see Chapter 4). The combined result of stagnation in the product and a meagre increase in labor input was that labor productivity remained unchanged—a typical consequence of contraction in economic activity.

The changes in the labor input of the various sectors corresponded with their diverse development. In industry, the labor input contracted by 4 percent and the growth of labor productivity slowed, while the expansion of commerce and services led to a 6 percent increase in their labor input.[3] The capital stock also grew more slowly than in the preceding year. It increased during 1988 by only 2 percent, against an average annual growth of 3 percent in the 1980s (see Chapter 2). Total productivity, measured as the difference between product growth and the increase in the labor and capital input, weighted by their respective share in GDP, declined by about 1 percent, against an average annual increase of 2.8 percent in 1986 and 1987. The large rise in total productivity in these two years seems to have been exceptional, representing first results from the curbing of inflation and a temporary acceleration of business activity due

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[2] This is the third real contraction of industrial output since the 1960s. The first absolute decline was in 1967, in the recession of the late 1960s, and the other in 1980, when economic policy curbed domestic demand.

[3] In the services, labor productivity seems to have fallen. It should, however, be kept in mind that the measurement of product in the services is subject to many inaccuracies; the labor productivity derived from these product estimates is therefore unreliable.

TABLE 6.1

Indicators of Business Sector Activity, 1960–88

(annual average real change, percent)

	1960–1965	1966–1972	1973–1979	1980–1985	1986–1988	1985	1986	1987	1988
GDP at market prices	9.1	9.2	3.9	2.4	3.7	2.9	4.1	7.0	0.1
Labor input, man-hours[a]	4.6	2.7	0.8	1.1	2.1	0.1	2.2	3.8	0.3
Capital stock, beginning of year	10.1	7.4	6.3	3.8	2.7	3.3	2.6	2.4	3.0
Capital/output ratio, level	2.3	2.4	2.5	2.7	2.6	2.7	2.7	2.6	2.7
Capital/man-hour	5.3	4.6	5.5	2.7	0.6	3.2	0.4	–1.4	2.7
Labor productivity[b]	4.3	6.4	3.1	1.3	1.6	2.8	1.8	3.1	–0.2
Total productivity[c]	2.8	5.1	1.4	0.4	1.4	1.7	1.8	3.6	–1.1
Investment	8.6	7.6	2.6	–0.7	4.6	–6.7	1.2	15.8	–2.4
Financing[d]					–9.1	18.1	16.6	–6.0	–12.1
Exports[e]			9.1	4.8	4.3	7.6	4.9	10.7	–2.3

[a] Man-hours actually worked; source—Labor Force surveys.

[b] Product per man-hours.

[c] Product per weighted unit of capital and labor. The average weight of labor is 68 percent.

[d] Medium- and long-term credit flows, including renewal of credits.

[e] Merchandise and services; excludes capital services.

to a surge in demand. In contrast, the influence of the slower processes of basic changes in resource allocation, and a long-term rise of productivity growth, has not yet become apparent.

As stated earlier, the stagnation in business activity followed the falling profitability present since the stabilization program was adopted in 1985. Profitability eroded unevenly in the various sectors. Prices of tradeable goods were most affected by the stabilization of the exchange rate (see Chapter 3), eroding profitability in the tradeables sector, particularly in industry. In industry, the fall in the return to capital—an indicator of the profit rate—was steeper than average for the business sector as a whole (see Table 6.2). The average decline in the return to capital reflects a relatively moderate decrease in agriculture, a stable return in transport and communications, and a rise in construction, after a sharp contraction in 1985. In general, it appears that the more a sector is exposed to foreign trade, the greater was the erosion of its profitability.

The key factor in the drop of profitability was the rise in labor costs, against a backdrop of a stable exchange rate (see Chapter 4). In the nontradeable sectors, and primarily in commerce and services, the expansion of demand in 1986–87 (and in 1988, albeit at a slower rate), led to above-average wage and price rises. Employers in these industries had no difficulty in paying wage increments determined by market conditions, collective wage agreements and

TABLE 6.2

Indicators of Business Sector Profitability,[a] 1982–88

	1982	1983	1984	1985	1986	1987	1988	1982-1984	1986-1988
				Indexes, 1986 = 100					
Labor cost per man-hour in the business sector, product prices	88.9	96.4	87.8	88.5	100.0	105.3	109.3	91.0	104.9
Industry	84.3	90.5	87.8	89.2	100.0	106.9	112.1	87.5	106.3
Construction	86.9	86.2	83.3	93.3	100.0	97.1	105.2	85.5	100.8
Commerce and personal services	91.5	100.8	83.1	86.6	100.0	106.6	106.0	91.8	104.2
Labor cost per unit of business sector product	92.9	100.0	92.0	90.3	100.0	102.3	105.8	95.0	102.7
Industry	89.9	95.4	91.1	89.2	100.0	102.9	106.5	92.1	103.1
Construction	84.2	89.5	87.4	98.7	100.0	96.3	95.6	87.0	97.3
Commerce and personal services	92.3	101.8	87.9	89.0	100.0	103.8	105.5	94.0	103.1
				Percent					
Return to gross capital in business sector[b]	13.4	11.4	13.7	13.6	10.3	10.1	9.3	12.8	9.9
of which: In industry	13.6	12.2	13.8	12.7	8.6	7.8	6.6	13.2	7.7
Real interest rate on short-term credit in business sector[c]	–	7.9	32.8	17.5	6.9	16.2	11.6	–	11.5
Industry	–	4.7	33.6	11.7	1.4	10.1	6.3	–	5.9
Construction	–	5.4	36.3	45.4	21.2	27.4	19.3	–	22.6
Agriculture	–	–0.4	27.6	24.0	12.1	20.1	14.2	–	15.4
Real marginal interest rate on overdraft facilities	4.2	–0.7	62.3	94.7	34.7	38.4	25.4	25.1	32.8
Real yield to maturity of 10-year bonds	1.8	2.0	3.5	6.3	6.4	5.3	4.5	2.4	5.4
Taxation rate on non-wage income	28.0	28.2	18.4	27.5	33.3	31.9	32.2	24.9	32.5
Net rate[d] of taxation on non-wage income	11.9	13.8	6.9	19.5	26.5	24.7	25.6	10.9	25.6

[a] The share of labor in GDP is 2.4 times that of capital, and has tended to rise in recent years.

[b] Includes imputed labor input of self-employed in each sector, at hourly wages equal to those of wage earners in the same industry.

[c] The differences between interest rates reflect the differences in the shares of the various kinds of credit in each industry.

[d] After deduction of credit subsidies and capital transfers to business firms; includes taxes on salaries of managers, which are classified as non-wage income.

the cost-of-living allowance agreement. In the tradeables sector, particularly in industry, the situation was different: because of foreign competition, prices could not be raised significantly more than they rose abroad. The result was a cut in profitability. Nevertheless, these industries also paid wage increases (albeit smaller than in the nontradeables sector, but higher than price rises in the tradeables sector). Producers apparently hoped that the fall in profitability would be temporary, and that the government would not maintain its stable exchange rate policy. The expectation was that corrective policy measures, similar to those of 1987, would be taken. The excessive real wage increases therefore aroused no apprehensions of unemployment. Instead, they generated expectations of devaluation and a price shock which would at least temporarily correct labor costs. But the government took no corrective action in 1988. The economy therefore paid a real price in loss of output, with no significant decline in inflation. At the same time, the cumulative damage of excessive wage increases combined with the economic developments in 1988 to stimulate changes in management patterns (unprofitable lines of production were closed down, and in wage determination greater emphasis was given to economic considerations)—changes which contributed to moderating wage rises during the year.

TABLE 6.2(A)
The Short-Term Financing Burden[a]

	1983	1984	1985	1986	1987	1988	1986–88
Industry	1.4	9.1	3.7	0.5	3.8	2.7	2.3
Agriculture[b]	−0.1	6.4	6.3	4.2	9.9	9.9	8.0
Construction	0.4	3.0	5.1	3.3	4.9	4.1	4.1
Business sector	1.8	6.6	4.0	1.7	4.4	3.6	3.2

[a] Interest and linkage differentials on average credit balances relative to the industry's product.
[b] Due to problems of classification these estimates do not cover agriculture alone.

Source: Bank of Israel calculations.

The development of interest rates completes the profitability picture. As a result of the structure of Israel's capital market, there is a wide spread between the effective interest rates facing different industries. This diversity is primarily due to differences in the availability of directed credit. In industry, a sector which benefits from relatively cheap directed credit, the real short-term interest rate declined in 1986, after the stabilization of the exchange rate. This interest rate rose slightly in 1987, and fell again in 1988. In contrast, in

construction and agriculture, where most of the credit is nondirected and in local currency, the real short-term interest rate declined only slightly, and remained at a high level relative to that prevailing before the exceptional rises of 1984 (see Table 6.2).

The financing burden, which reflects the real interest rate, the measure of dependence on credit (which is sometimes due to a large accumulation of debt in earlier periods, particularly in agriculture), and changes in relative prices of the various sectors, has increased considerably, mainly in the sectors which depend primarily on nondirected local currency credit. In construction, the financing burden declined slightly, but in agriculture it remained high. The sector's inability to repay debts incurred earlier led to an involuntary rise in credit dependence. In early 1989, the debt of the kibbutzim was rescheduled. In industry, the financing burden decreased, moderating the fall in profitability.

Analysis shows that recent years' financial crises in the industrial branches, which became more severe in 1988, apparently were not a result solely of the financing burden. Other causal factors were wage movements, difficulties in adapting the functioning of enterprises to the post-stabilization conditions, and management errors.[4] There is, however, no doubt that in agriculture, the increase of the financing burden contributed to the aggravation of the financial crises.

Two additional factors added to the loss of output by slowing demand growth (see Chapter 2)—the decline in the demand of residents of the territories for Israeli products (see below), and a tapering off of the rise in private consumption. Following the rapid expansion of private consumption in 1986 and 1987, with a greater impact on GDP than from supply-side factors, the trend of private consumption changed in 1988. The annual average still showed a rise, but during the year private consumption tended to remain stable or perhaps even decline.

The changes in private consumption were uneven, and demand for the products of the various branches was therefore affected at different rates. Consumption of food, beverages, and tobacco continued to rise, by 4.7 percent, but other current consumption contracted by 1.2 percent. The consumption of foreign visitors in Israel dropped precipitously. Investment in locally produced

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[4] However, within the industrial sector there is also a wide spread of effective interest rates confronting different firms. Firms mainly oriented towards the local market are compelled to pay high interest rates because the proportion of directed credit in their credit basket is small.

equipment sagged by 7.3 percent, depressing demand for the products of the metal, equipment, and electronics branches.

The continued influence of supply-side factors combined with the change of trend in consumption and the fall in demand from the territories to throttle back economic activity.

Nondwelling investment, particularly in industry, dropped in the year under review. Since the start of the stabilization program, the share of nondwelling investment in total GDP has been lower than in past years. The decline in economic activity, the increase in uncertainty, and the higher cost of capital serv-ices described in Chapter 2—all are causes of lower investment and potential future growth. But the emphasis here is on the fall in business sector profitabil-ity. Since 1985, the return to the gross capital stock has eroded by some 30 per-cent (see Table 6.2). The long-term interest rate, as reflected in the yield to maturity of long-term bonds, is high relative to the early 1980s, despite its de-cline in 1988 (the change in the system of subsidizing investment also raised its cost; see Chapter 2). Short-term interest rates also remain high, despite their downward trend, and the current cost of working capital has therefore re-mained high in comparison with the pre-stabilization period. This primarily hurt new enterprises and small firms, which do not benefit from access to the cheaper directed credit lines. Increases in the rate of taxation of non-wage in-come (see Table 6.2) also seem to have affected the fall in investment. The principal cause of this increase is the decline in the inflation rate and its effect on credit subsidies and investment grants to the business sector (see Chapter 5), which caused the net taxation rate to rise steeply.

The year under review saw some improvement in infrastructure investment, mainly in road building and development works of the local authorities. In the 1980s, these investments had lagged considerably. The improvement of the last two years still leaves a need for a substantial boost in this area in order to eliminate bottlenecks, improve the functioning of the business sector, and fa-cilitate its future growth.

The Economic Sectors

The industrial sector, which had expanded substantially in 1986–87, contracted in 1988. This shrinkage was aggravated by the closing down of the 'Lavie' project, causing a 20 percent fall in the transport equipment sector's output. Over and above its direct impact on the sector, the folding up of the Lavie project was a signal of a fundamental change in the government's

decisions regarding industry—a signal with favorable implications for future resource allocation. The year's contraction in industry was accompanied by a steep fall in total productivity and a modest rise in product per worker. In the post-stabilization years, particularly in 1987, activity in the sub-branches of industry (at the 72-branch classification) displayed uneven growth rates. The increase in this variance, which serves as an indicator of structural change, was due to the sharp changes in the macro-economic environment—the fall in the inflation rate, the change in the government's attitude to bail-outs of losing firms, and the shift to a relatively stable exchange rate together with a steep rise in the rate of taxation. The increase in the variance of growth rates was also affected by changes in world demand conditions, particularly the changes in foreign cross rates. Industries exporting mainly to destinations where the currency had weakened were hurt, and vice versa (see Chapter 7). These factors had varying degrees of impact on different branches, even on different firms. For example, the textile industry, which benefited in 1986 and 1987 from favorable market conditions: its considerable expansion seemed to suspend the contraction expected in this industry in the long run. When domestic demand for this industry's products declined in 1988, and prices in its European markets ceased to rise, the industry's activity shrank and its export growth slowed. An opposite example is the electronics industry, in which the defense establishment's domestic demand has contracted since 1985, product decreased and exports expanded impressively (see Chapter 7). The industry's restructuring was accelerated in those of its sub-branches which had run into financial crises. In various sub-branches, enterprises were closed down, and new patterns of business management were forged.

In 1988, the variance of growth rates in the branches of industry decreased substantially.[5] The spread of the rates of change in product per worker was also smaller than its typical level in the 1980s. A breakdown of sub-branches by their 1988 growth rates compared with earlier years reveals no pattern that would permit generalization or help to identify the processes which industry as a whole underwent in 1988. It would therefore seem that each case was individual, and the damage incurred by various enterprises depended largely on the timing of the change and the specific business state of each enterprise. Apparently, even efficient enterprises encountered difficulties (mainly in the electronics industry), while other firms which in accordance with long-term trends

[5] Taking as the base (=100) the 1980–84 average standard deviation of the rate of change in the product of the 72 industrial sub-branches, the standard deviations for 1986, 1987 and 1988 are found to be 115.4, 152.6, and 97.5, respectively.

should have contracted, may have had less difficulty. The increase in the diversity of rates of change in 1987, and its decline in 1988, means that the influence of factors common to industry as a whole became more pronounced (mainly the erosion of profitability).

The decline in industry had an impact on the activity of the other sectors, because it reduced demand for business and transportation services at home and abroad. Other interrelations prominent in 1988 were the effect of the drop in tourism on the various commerce and services branches, and the impact of the fall in agricultural output on industry, commerce and services.

One of the more remarkable developments after the 1985 stabilization was the increase in the labor input of the commerce and services branches. The cumulative increase in the labor input was 15.6 percent, reflecting a 20 percent increase in the number of employees in personal and business services, as against a cumulative increase of 9.9 percent in the employment of the business sector as a whole during this period. This seems to express a rise in the demand for commercial and other services, which continued into 1988, albeit at a slower rate, due to the decline in tourism. The growth of demand affected the prices of services, which rose at a higher rate than the prices of tradeable goods (see Chapter 3). The expansion of demand contributed to raising the demand for workers and a steeper wage increase than in other sectors.[6]

Another noteworthy development was the rise in productivity in the construction industry—by an average of 4.8 percent per year since 1986, in contrast to a steady decline since 1973. In 1988, productivity rose by 7.9 percent, reflecting a steep fall in the labor input from the territories and a rise in the labor input by Israeli workers. This substitution apparently led to a rise in the industry's labor costs, and perhaps also to some improvement in its techniques.

The transport and communications industries continued to expand in the year under review. This growth largely reflects an increase (in shipping) in freight hauling between foreign ports, and an increase in the communications branch.

The vegetal branches of agriculture this year suffered a shrinkage of some 9 percent, due to natural damage. The principal crops damaged were citrus, avocado, bananas, and wheat. The sharp drop in the agricultural product was paralleled by a steep 7.8 percent decline in the sector's employment, reducing its share of total employment to 4.6 percent.

[6] Real wages per employee post in the commerce, restaurant, financial, business and personal services branches rose in 1986, 1987 and 1988 cumulatively by 27, 26.5 and 43.4 percent, respectively. This contrasts with an average 18.8 percent rise in industry in this period.

TABLE 6.3
Gross Domestic Product at Factor Cost, 1960–88
(Percent)

	Agri-culture	Industry	Transport and com--munications	Electricity and water	Construction	Commerce and Services	Total, busi-ness sector
Composition of GDP by sectors, 1986 prices							
1970–73	6.3	30.8	13.7	3.6	17.4	28.2	100.0
1980–83	7.9	31.4	14.3	3.9	12.3	30.3	100.0
1985–88	7.9	31.8	15.0	4.0	9.0	32.3	100.0
Percent change in GDP over preceding period							
1960–88	5.5	6.8	6.7	6.3	3.4	5.6	5.8
1960–65	6.7	13.4	10.3	10.2	11.1	4.6	9.1
1966–72	6.4	10.3	10.8	9.1	7.9	9.0	9.2
1973–79	5.9	4.8	4.9	5.1	−1.7	4.8	3.9
1980–85	5.4	2.2	2.8	3.0	−1.8	3.1	2.4
1986–88	0.6	2.4	3.3	3.4	3.4	6.1	3.7
Percent change over previous year							
1970	5.4	9.5	13.5	10.2	16.2	7.8	10.4
1971	10.3	10.5	14.7	9.9	12.9	12.5	12.0
1972	7.2	11.9	13.0	12.0	15.2	10.6	12.0
1973	−0.3	4.5	4.7	3.9	3.9	3.9	3.9
1974	10.1	5.1	4.3	4.2	0.4	3.6	4.0
1975	8.9	3.1	−1.6	4.9	3.3	0.3	2.1
1976	8.0	7.6	6.3	5.6	−11.7	4.7	3.2
1977	8.0	5.2	8.7	5.6	−13.9	3.2	2.5
1978	4.9	5.0	6.6	6.3	−0.2	11.7	6.5
1979	2.4	3.4	5.9	5.2	8.1	6.6	5.3
1980	5.2	−2.3	−3.9	−0.8	5.8	−1.6	−0.8
1981	10.0	2.3	5.5	5.9	0.8	7.2	4.7
1982	11.0	0.3	−0.2	3.4	−2.4	5.2	2.3
1983	3.6	4.0	7.9	3.0	−1.2	4.7	4.1
1984	−1.4	5.4	5.2	2.4	−7.1	−0.9	1.3
1985	4.7	3.9	2.7	4.1	−6.3	4.3	2.8
1986	0.8	4.8	1.9	4.4	−1.1	7.0	4.1
1987	8.2	5.5	8.3	5.6	8.6	7.3	7.0
1988	−6.6	−2.9	0.0	0.2	3.0	4.0	0.1

TABLE 6.4

Labor Productivity and Total Productivity in the Business Sector, 1960–88

(Average annual change, percent)

	1960–1965	1966–1972	1973–1979	1980–1985	1986–1988
Labor productivity (product per man-hour)					
Agriculture	8.2	8.6	8.0	4.1	3.7
Industry	6.3	6.6	3.2	2.0	1.8
Transport and communication	3.5	7.0	5.2	3.0	0.2
Electricity and water	10.2	9.5	1.6	3.3	−4.5
Construction	3.5	2.6	−0.9	−1.3	4.8
Commerce and services	−0.2	6.2	3.0	0.1	1.1
Total, business sector	4.3	6.4	3.1	1.3	1.6
Total productivity					
(product per unit of weighted labor and capital input)					
Agriculture	5.9	6.8	5.9	3.7	2.6
Industry	6.2	6.0	1.1	0.4	0.7
Transport and communications	1.3	4.7	3.3	2.2	0.5
Electricity and water	6.3	7.4	0.8	0.8	−2.5
Construction	2.5	3.1	−1.7	−1.4	5.2
Commerce and services	−3.8	4.0	1.4	−0.7	1.3
Total, business sector	2.8	5.1	1.4	0.4	1.4

B. Industry: Development, Structure, and Policy

1. OUTLINES OF ISRAEL'S INDUSTRIAL DEVELOPMENT

A. *Introduction*

The volume of production fell in 1988 in nearly all branches of industry. Only twice before in the last thirty years had there been an absolute contraction of real industrial product—in the 1967 recession, and in 1980. The 3 percent fall of 1988 followed a handsome annual increase[1] of 5 percent in each of the preceding two years, following the stabilization program launched in mid-1985. In all, the average growth rate of industrial product, excluding diamonds, has been lower the post-stabilization period than it was in 1980–85, the years of galloping inflation.

Falling profitability as a result of high real wage increases was the principal feature marking developments in industry in the last three years, and it continued in 1988. Deep underlying crisis surfaced this year in several large industrial enterprises and concerns. This crisis may be rooted in the distant past—the result of mounting inflation, increased government involvement in the capital market, direct subsidies to capital in the 1970s, a continuing policy of bailing out failing firms, and the high interest rates since 1984. The change in economic policy in 1985 and the fall in the inflation rate, from hundreds of percent to less than 20 percent a year, apparently stimulated an entirely new attitude of firms to production and efficiency, different patterns of business conduct and planning, and fuller disclosure of their real economic and financial position. The transition to higher efficiency may have begun in 1986–87. But in view of the 1988 deterioration, it is a moot question whether proper advantage has been taken of the opportunities created by the stabilization. Adjustment processes are by nature lengthy; if the new policy is maintained,, encouraging structural change and higher efficiency, industrial product growth is likely to be resumed.

In certain respects, the year under review was unique for industry. Important external factors had a greater impact on the industrial sector than on others in the business sector. The first was the uprising in the territories, which spread general uncertainty in the economy, cut deeply into exports to Judea-Samaria and Gaza, and disrupted the function of workers in unskilled-labor-intensive

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[1] Including diamonds.

branches. Second was the winding up of the Lavie aircraft project. The combined impact of these two factors is estimated at 4 percent of industrial product. Although world trade expanded considerably in 1988, the growth rate of industrial exports slowed significantly. This slowdown may be seen as a result of increasing real daily wages while the exchange rate remained stable, causing further decline in the profitability of exports, and of production in general.

Developments in industry in recent years can be understood only through analyzing earlier long-run trends—changes in productivity, profitability, and production costs, as well as structural changes in the destination of products and production processes. These will be reviewed, before returning to current developments in 1988 and in recent years.

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Industry is the leading sector of Israel's economy. It has a far-reaching impact on economic activity in the other sectors, and is itself affected by its close inter-relations with the business sector as a whole. The rate of industrialization since the establishment of the State of Israel has been rapid. But it has been subject to sharp fluctuations, partly due to the business cycle, and has been affected by macro-economic policy—monetary, fiscal and, of course, industrial. The real-term share of industry in the business sector has hardly changed over time, especially since 1965 (see Table 6.5).

TABLE 6.5
The Share of Industry in the Business Sector, Selected Years
(Percent)

	1965	1975	1985	1988
Share in product (value added)[a]	26	29	30	29
Share in employment	30	33	31	32
Share in capital stock[a]	28	25	30	30

[a] At constant prices.

A similar picture is shown by the development of product per man-hour (labor productivity) in industry, relative to the business sector as a whole (see Figure 6.1a). Industry accounts for only 30 percent of the business sector, but its labor productivity paralleled that of the business sector as a whole, although it was quicker or slower in some particular periods. The key phenomenon of recent years, falling profitability and its rate of decline, is common to industry and the business sector as a whole.

Figure 6.1-a
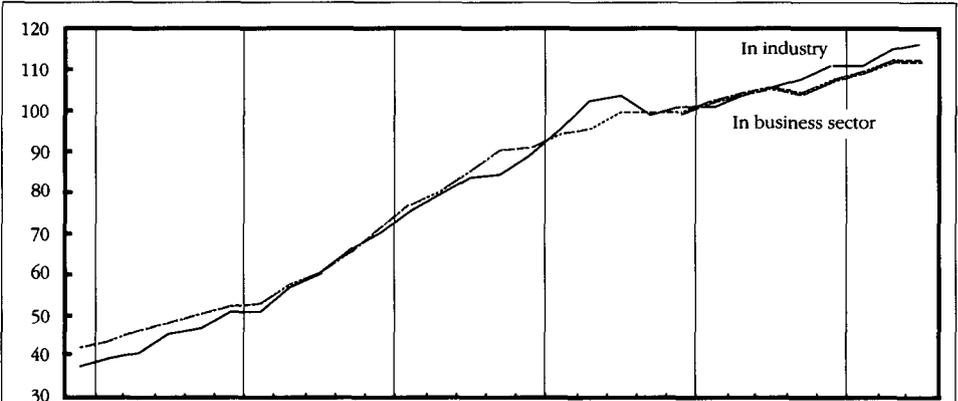**Product per Man-hour, 1960–88** *(Index, 1980 = 100)*

Figure 6.1-b
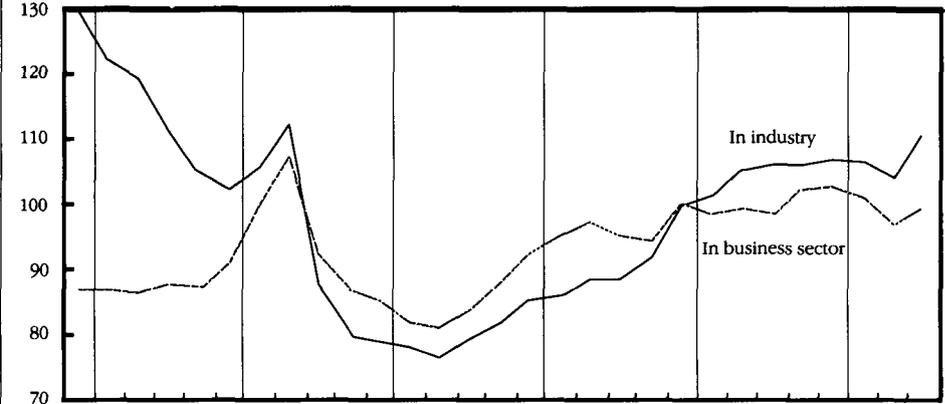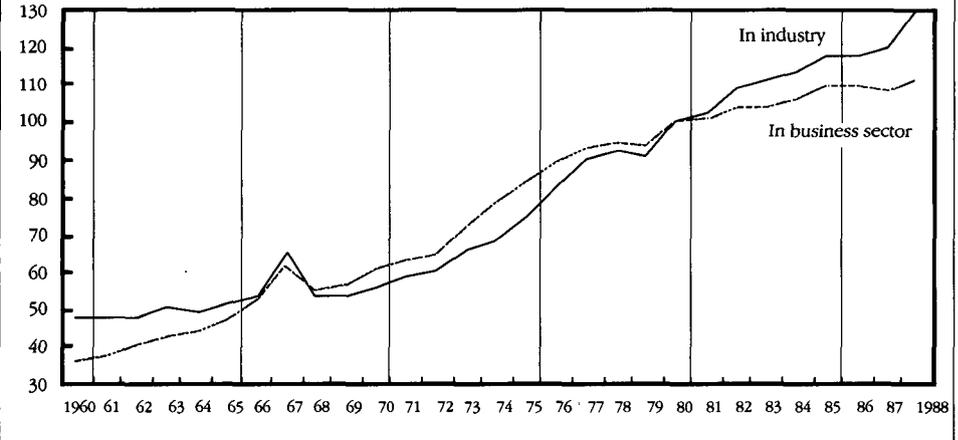**Capital per Unit of Product** *(Index, 1980 = 100)*

Figure 6.1-c
Capital per Man-hour *(Index, 1980 = 100)*

Industrial development moved with the business cycle, according to the following pattern:[2] After 1965, a recession became apparent in most sectors of the economy, deepening steadily to its low point in mid-1967. But a rapid and very steep boom immediately followed the Six-Day War. Industrial production, both civilian and military, expanded at an unprecedentedly high rate (on average, 15 percent a year). Growth continued more or less steadily until 1973. A slight downturn of economic activity occurred already before the Yom Kippur War, accelerating considerably after 1975. From that time until mid-1985, the economy in general and industry in particular grew at an extremely low rate, productivity growth slowed remarkably, and inflation accelerated rapidly. The oil crises and the changes in the prices of imported inputs also seem to have affected the growth of the economy and industry. But their effect was weaker than in most industrialized countries, where a rapid growth of industrial product began from 1982. Other factors, stronger than those operative in other countries, affected industrial growth in Israel, and are described below.

B. From Traditional to High-Tech Industry

Industry's share of the business sector changed little in the period under review, but there was considerable structural change. The most prominent change was in the destination of industry's products. There was a steep rise in the share of exports in industrial product, and a rise in the weight of public consumption. Correspondingly, the share of products destined for private consumption and investment decreased (Table 6.6).

TABLE 6.6
Destination of Derived Industrial Product[a] by Final Uses, Selected Years
(Percent)

	1965	1975	1985	1988
Private consumption	46	25	23	25
Public consumption	7	19	15	14
Investment	27	19	13	11
Exports	20	37	49	50
Total uses	**100**	**100**	**100**	**100**

[a] Includes the estimated product of intermediate goods. The estimates are based on input-output tables for 1958, 1965/66, 1977/78, and 1982/83. Includes diamonds.

[2] For further detail, see Bregman A., *Industry and Industrial Policy in Israel, Main Issues, 1985–85,* chapters 1 and 2; Bank of Israel Research Department.

The steep rise in the share of public consumption reflects the increase in the defense burden, which became heavier in years of war, and subsequently remained at the higher level for many years. At the same time, the share of public consumption reflects the expansion in the local production of defense goods, and its decline in recent years, as a result of cuts in defense budgets.

The substantial growth in the share of exports was accompanied by rapid technical progress in production and marketing—a typical feature of industrialized economies. Exports grew with particularly speed in high-skill industries,[3] which also accounted for most of the investment in research and development (see Table 6.24). A study on the early 1980s[4] showed that about 70 percent of industrial exports (excluding diamonds) came from high-tech industries, which have a high proportion of skilled labor, modern capital equipment, and R&D. These firms have a high level of productivity and relatively high returns to labor and capital. Expenditure on civilian R&D doubled during the 1970s, and by 1985 reached 6 percent of the industrial product at factor cost.

It can be said that, in recent years, the R&D intensity of Israel's industry has reached the level of the most advanced industrialized countries (this includes military R&D, which in Israel has a heavy weight[5]).

The increase in the weight of high-skill export industries was accompanied by a rise in physical capital intensity. In the last twenty years, these branches have accounted for a major part of the investment in equipment and structures, and for most of the R&D. This created the capital stock infrastructure necessary to facilitate continued growth of export-oriented production.

A full explanation of the integration of Israel's industry in world markets requires thorough research, and is beyond the scope of this survey. But available information indicates that the domestic development of Israeli industry has generally been similar to that of other industrialized countries, side by side with developments in world demand. The differences in growth rates and productivity between Israel and the other industrialized countries since 1973 are discussed briefly below.

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[3] See Baruh, J., "Factor Proportions in Israel's Manufacturing Trade, 1965–82," *Journal of Development Economics,* 24 (1), November 1986.

[4] Bregman, A., Fuss, M., and Regev, H., *High-Tech Firms in Israeli Industry,* Bank of Israel, Research Department Discussion Paper (forthcoming).

[5] See the annual reports of the National Council for Research and Development.

TABLE 6.7

Structural Change: Advanced and Traditional Industries,[a] 1965–88

	High-skill industries	Traditional industries	Total, industry
Human capital stock per employee, NIS thousands[b]			
1965–66	20	14	17
1980–81	32	20	26
1985–86	36	23	28
Distribution of product, percent			
1965–66	35	65	100
1980–81	47	53	100
1986–88	48	52	100
Distribution of capital stock, percent			
1965–66	28	72	100
1980–81	40	60	100
1986–88	46	54	100
Distribution of labor input, percent			
1965–66	31	69	100
1980–81	39	61	100
1986–88	40	60	100
Share of exports in output, percent[c]			
1965–66	18	19	19
1980–81	40	32	36
1986–88	46	33	40

[a] Classified according to the stock of human capital per employee. Industries with much human capital are: transport equipment, electrical and electronic equipment, chemicals and petroleum products, paper, printing and publishing, machinery, and miscellaneous. Excludes diamonds.

[b] Cumulative investment in workers' eduction, weighted by years of schooling, according to relative prices in 1971. The amounts are at 1985 prices.

[c] Excluding diamonds and exports to the territories. The share of exports in derived output includes direct and indirect exports. See note *a* to Table 6.5.

C. Growth and Productivity

(1) Background, 1965–85: The main developments in industry during these two decades, and in sub-periods, are shown in Table 6.7 and Figure 6.1. All indicators show clearly that in 1973 there was a break of trends. The growth rate of industrial product, which had reached an average 15 percent a year in the boom period, fell in the following decade to a mere 4 percent. In that decade there was nearly no change in labor input, which in the boom years had in-

creased by an annual average of 9 percent. In recent years, the growth of the capital stock has also slowed.

These processes are brought out clearly in the estimates of labor productivity and total productivity (product per unit of capital and labor combined). In the 1968–72 boom years, product and productivity rose at rates high by any standard—relative to other sectors, or in comparison with other industrialized countries. But the fall from these steep growth rates was equally precipitous, declining to a productivity growth of no more than 1 percent in the first half of the 1980s. The slight recovery in productivity after 1985 was cut off in 1988.

Most of the steady technical progress in industry is reflected in productivity growth—that part of product expansion which does not come from an increase in the primary production factors, capital and labor. In Israel and many other countries this technical progress has been found to be related to changes in the stock of human capital (the level of education and vocational skill of the workers), and the proportion of expenditures for R&D and acquisition of know-how. Technical progress seems to have been steady, and did not slow even when product and productivity growth slowed down.[6]

TABLE 6.8
Indicators of Industrial Development,[a] 1965–88
(Real annual percent changes)

	1965– 1967	1968– 1972	1973– 1979	1980– 1985	1986– 1987	1988
Product	-2.6	16.3	3.9	2.7	4.3	-3.1
Labor (man-days)	-6.4	9.8	0.3	0.4	1.0	-4.6
Gross capital stock, beginning of year	4.0	6.8	7.5	4.9	3.9	3.5
Product per unit of labor	4.0	5.9	3.6	2.3	3.2	1.6
Total productivity[b]	1.3	7.2	1.9	1.2	2.6	-0.4
Exports	12	17	11	8	8	4

[a] Excludes diamonds.

[b] Product per weighted unit of labor and capital (in the 1980s, the weight of labor has been 76 percent).

The post-1973 adverse developments in productivity must be seen against the background of the oil crises of 1973 and 1979. But in Israel, the steep rise in the world prices of imported inputs had a weaker impact on productivity than in other countries (see Figure 6.2). In 1973, the relative price of imports of

[6] See Bregman, A., *Technological Progress, Structural Change and Productivity in Industry: The Case of Israel*, Bank of Israel, Research Department Discussion Paper (forthcoming), 1989.

intermediates was only 9 percent higher than the price of domestic inputs (Figure 6.2), apparently because the world price increases were passed on to consumers only partially (through changes in taxes). The decline of productivity growth in Israel may be explained by the combined effect of three factors: a) the rapid acceleration of inflation to hundreds of percent per annum; b) economic policy, especially regarding taxes and subsidies (both of which increase uncertainty); and c) the significant change in the composition of demand, which required changes in production factors, manufacturing processes, and marketing. Studies have shown that inflation, government subsidies to capital (primarily under the Law for Encouragement of Investment), and changes in demand substantially depressed productivity growth.

The impact of subsidies and demand changes is reflected in great measure in the decline of capital utilization.[7] Substantial subsidies to investment, which swelled during the 1970s, were the principal factor in the decline. These subsidies, in the form of grants and cheap loans granted at a negative real interest rate, increased as inflation accelerated and the capital grants were increased. Cheap capital, at a cost of less than half its value, caused overinvestment and an only partial utilization of machinery and equipment. A statistically significant negative correlation was therefore found between the rate of subsidization of capital and the estimated rates of utilization. The effect of subsidies to current industrial production was also found to be significantly negative (see the studies cited in notes 2 and 6).

[7] Direct estimates of capital utilization are not available. The ratio of electricity consumption to the capital stock of industrial enterprises serves as an approximation of the · rate of capital utilization. This ratio was also affected by the changes in electricity prices which followed the oil crisis. But since the expenditure on electricity, and energy in general, in most industrial enterprises is small (generally, between 2 and 4 percent of total production costs), there seems to have been no significant process of substituting energy-saving equipment. The ratio used accords with another indicator of capital utilization—the extent of shift work. In the two years when this was measured, 1970 and 1979, capacity utilization fell by 7 percent, while the ratio of electricity use to capital stock declined by 9 percent.

A rough estimate of the subsidies embodied in investment grants[8] and cheap loans alone,[9] as an average percentage of gross investment in industry is as follows (gross investment, of course, includes investments which received no subsidies and were not 'approved enterprises'):

1965–69	5
1970–74	19
1975–79	31
1980–84	20
1985–88	16

The slowdown in Israeli industry, unlike other countries, was not due to a shortage of fixed investment or expenditure on R&D. On the contrary, the rise in capital intensity in 1973–85 was more rapid than in 1965–72 (see Figure 6.1c). This was the main cause of the 2–3 percent annual increase in product per man-hour. But the other two principal factors—inflation and government involvement—clearly influenced the decline in total productivity growth in Israel more than it did in other countries. This seems to be the reason why growth and productivity slowed more sharply in Israel.

Developments in the two years following the fall in the inflation rate, 1986–87, (when the rate of capital subsidization was also reduced) also lend support to this hypothesis. Total productivity growth, in fact, rose slightly—to 2 percent, from about 1 percent in the first half of the 1980s. The year 1988 was exceptional.

[8] The benefits embodied in development loans were calculated on the assumption that the future inflation rate expected by investors equals the actual inflation rate in the year of the investment. The net present value of the flow of benefits was therefore summed over the term of the loan. This means that the benefit depends on the size of the loan and the difference between its rate of interest and the nominal market interest rate.

[9] There are other benefits and subsidies to investment which are not included in the estimates presented here. For an overall estimate of the rate of subsidization in the 1970s, see Litwin, U., and Meridor, L., "An estimate of the 'Gift' Embodied in the Encouragement of Investments in Israel," *Bank of Israel Economic Review*, No. 54, February 1982. This study estimates the rate of subsidization in 1970–74 at 27 percent, and 50 percent in 1975–79. The findings of this study apply also to tourism and agriculture. The subsidies include exchange rate insurance and indexation differentials.

(2) The Post-Stabilization Period, 1986–88: Developments in 1988 were very different from those of the two preceding years, particularly 1987. Industrial product, labor input, total productivity, and investment, all fell in 1988, after expanding considerably in 1987 (see Table 6.9).[10] But although the average growth rate of the last three years was lower than in previous years (mainly because of the effect of 1988), labor productivity (product per man-hour) and total productivity were not significantly different from what they were in the early 1980s. This means that the increase in the input of production factors slowed parallel to the slowdown in product growth. Labor input declined by an average of nearly 1 percent a year, and the input of capital slowed from 4.7 percent a year in 1980–85 to 3.7 percent in 1986–88. The overall picture described by these changes is an apparent adjustment by most enterprises of the quantity of their production factors (principally, labor, but also investment) to the deceleration of output. This enabled at least partial maintenance of efficiency levels.

A key factor influencing 1988 developments was, doubtless, the three-year decline in profitability. Together with unique factors external to the sector, that trend impaired industrial production. A rough estimate of the effect of the uprising in the territories amounts to a 3 percent loss of industrial product. According to estimates based on input-output tables, the 40 percent drop in industrial exports to the territories accounted, by itself, for 1 percent of the decrease in derived product, as against a positive contribution of half a percent in the two preceding years. More difficult to estimate is the influence of the decline of investment in construction, including the disruptive effect of frequent absenteeism of workers from the territories, and the delays in supplies of building materials from that area. Input-output analysis indicates a contribution of half a percent to the decline, caused by the contraction in total fixed investment. The fall expresses itself in the output of the branches supplying inputs to construction—joinery, cement, stone quarries, and other building materials. The uprising also caused disruptions in enterprises relying heavily on unskilled labor, such as the food industries, and exporting enterprises which relied on sub-contracting work of workshops and self-employed in the territories, some of them in the textile industry. It may be said that, but for the impact of the uprising and the uncertainty it caused, industrial production would not have fallen at all.

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[10] These indicators levelled off during 1987, and the decline started in 1988, with the outbreak of the uprising in the territories.

An additional special factor was the winding up of the Lavie project, which directly reduced the industrial product by some 1.5 percent (the R&D expenditures on the Lavie were part of the industrial product of previous years). The end of the Lavie also had indirect effects on enterprises which had supplied intermediate goods for the project.

The considerable slowdown in the growth of domestic demand—private and public consumption, and investment—led to a decrease in the industrial product derived from these uses. The slowdown in the 1988 expansion of private consumption (see Chapter 2) reduced its contribution to the growth of industrial product to less than half a percent, in contrast to a 3 percent contribution in each of the two preceding years. The cuts in the defense budget were, in the final account, reflected in a 4 percent decline in the industrial product derived from public consumption purchases, and amounted to a negative contribution of two-thirds of one percent to industrial production as a whole. The fall in total investment (fixed investment and stocks) added another 1 percent to the the fall of industrial product, as shown in Table 6.9 (A) below.

TABLE 6.9 (A)
Contribution of Final Uses to Derived Industrial Output,[a] 1986–88[b]
(Percent)

	1986	1987	1988
Private consumption	3.4	2.9	0.4
Public consumption	0.2	1.5	–0.6
Investment	–0.2	0.3	–0.9
Exports	2.1	3.4	1.1
Exports to the territories	0.5	0.2	–0.9
Total uses	6.0	8.3	–0.9

[a] Excluding diamonds.
[a] For statistical reasons, changes in derived product (from input-output tables) are not identical to the changes in product obtained from indexes of production.

The combination of decelerating domestic demand growth and expanded world trade might have led to a substantial expansion of industrial exports, and of industrial production as a whole. (The product derived from exports is about half of total industrial product, including diamonds.) But the supply-side factors which hurt the sector (wage increases, higher taxation, and lower profitability) combined to arrest the rapid growth of export. The growth was 4 percent in 1988, compared to about 9 percent in 1987—the same rate, on average, since the beginning of the 1980s. The decline in exports of many products, and

slow expansion in others, is probably related to the cumulative fall in export profitability caused by a frozen exchange rate (see also Chapter 7).

D. Profitability and Production Costs

Profitability is among the determinants of fixed investment and the accumulation of capital. In the final account, the profitability of enterprises determines, directly and indirectly, the growth rate of product and exports. Regrettably, there are no current data on profits and profitability of industry. The estimates of returns to capital (value-added less labor costs) are also no more than indirect estimates of residuals, obtained with great delay and suffering from errors and omissions in all components of the estimate. It is, nevertheless, possible to see clearly the main directions of this crucial variable in recent years, by examining the quantitative changes and, more importantly, prices of output and production factors—capital, labor, and intermediates.

The returns to capital and the total rate of return to capital declined, on average, in the last three years to below their level in the 1965–67 recession and the period of 1973–85. The profitability of industry from the perspective of the economy as a whole,[11] as distinct from the viewpoint of the individual entrepreneur, reached its peak in the 1968–72 boom period, and has fallen substantially since 1973.[12] It is noteworthy that the decline in returns in industry of the last three years (by about a third compared to 1983–85) was slightly steeper than in the business sector as a whole (see Table 6.2).[13]

[11] The total rate of return (interest and profits) on the total assets of firms, at their cost to the economy rather than their cost to the individual entrepreneur, who benefited from subsidies to capital.

[12] Total returns to capital were calculated after deduction of (unrealized) capital gains from holding stocks of goods and materials, a feature typical of times of high inflation. The national accounts, as estimated throughout the world, also do not include such gains in profits. An adjustment of prices therefore makes it possible to estimate the 'true' return to productive activity (see Table 6.10).

[13] It should be pointed out that the definitions and sources of the data in Table 6.2 are slightly different from those used here to estimate the rates of return. The main differences are in the definition of capital: In Table 6.2, capital is defined as physical assets alone, while here it includes current assets, such as the stock of materials and goods in the firm. The sources of the data here are the Industry Surveys of the Central Bureau of Statistics, and in Table 6.2—the national accounts.

TABLE 6.9

Main Indicators of Industry, 1980–88

(Percent change over preceding year)

	Average 1980–85	1986	1987	1988	Average 1986–88
Total industrial production	2.2	4.8	5.5	−2.9	2.5
Excluding diamonds	2.7	3.6	4.9	−3.1	1.6
Labor input	0.4	2.0	0.0	−4.6	−0.9
Number of wage employees	0.9	0.9	2.0	−3.5	−0.2
Product per man-day	2.3	1.7	4.8	1.6	2.7
Gross capital stock[a]	4.9	4.1	3.2	3.5	3.6
Capital per man-day	4.5	2.3	3.3	8.5	4.7
Total productivity	1.2	1.1	4.1	−0.4	1.4
Gross fixed investment[b]	5.8	−5.2	6.7	−13.4	−4.0
Industrial exports[c]	8.6	5.7	9.3	3.9	6.3
Real wages per unit of product[d]	−0.4	16.7	−0.2	3.0	6.1
Output prices relative to input prices	−0.4	−0.1	−3.1	−0.2	−1.1

[a] Beginning-of-year stock.

[b] At constant prices.

[c] At constant prices; excludes diamonds and exports to the territories.

[d] Index of total wage bill, deflated by the CPI and divided by the index of industrial production (excluding diamonds).

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

It should be pointed out that after-tax profitability declined even more than shown by the data of Table 6.10, because the average rate of taxation in industry rose after the stabilization program (see Chapter 5).

Wage costs are the prime determinant of profitability. In two periods, real wages per man-day rose in excess of productivity growth—during the 1966–67 recession, when product growth slowed and unemployment rose temporarily, and in the last three years, when the economy was partly in recession and suffered from considerable unemployment. The increases of real wages per unit of product in the last three years may also be seen as compensation for their decline in 1984–85. But this explains only about a quarter of the increase, and certainly does not explain the rate of their subsequent rise, until 1988 (see also Table 6.11 and Figure 6.2). In 1988, real unit wages rose by 3 percent, and by over 6 percent per year in 1986–88. We therefore have not witnessed a one-time wage rise in a single year, or a gradual correction for an earlier decline, since in 1980–85 real wages rose at a rate similar to that of productivity (about 2 percent). It should be noted that in industry the cost of hired labor is about two-thirds of gross product at factor cost (value-added), and therefore has a

decisive effect on profitability. It is difficult to understand how real wages rose significantly in excess of productivity growth, in a year of slowdown, slackening demand, and crises and business failures in many enterprises. This wage increase may reflect the combined effect of downward wage rigidity in losing firms, and substantial wage increases in enterprises where output and profits rose, contrary to the general trend.

TABLE 6.10

Estimated Return to Capital,[a] Capital/Product Ratios, and Returns to Capital, 1965–88

(Percent)

	Return to capital in product (1)	Capital/product ratio (2)	Rate of return to capital (1:2) (3)
1965–67	33	2.8	12
1968–72	41	2.3	18
1973–79	27	2.9	9
1980–85	21	2.5	8
1986–88	16	2.6	6

[a] Excludes imputed wages to owners and their family members employed in the enterprise. Estimated from revised data, after adjustment for stocks (i.e., without capital gains on stocks, and at uniform average prices for each year).

Such a phenomenon is only possible when trade unions and enterprise works committees have much power, and the cost-of-living allowance agreement and wage contracts (national or industry-wide) serve as the floor for determining wage increases in each enterprise. This conduct can only be based on expectation of government or other public funded assistance in case of failure. It may be assumed that, from the beginning of 1988, producers also expected devaluation, to compensate them for the rise in labor costs (see also Chapter 4).

The 1986 enactment of the minimum wage law may also have played a considerable role in the exceptional three-year wage rise, already indicated in 1987 by partial data on steep wage rises, in the lowest wage brackets. Especially notable was the increase of real wages per employee in the food and textile industries, which employ much unskilled labor. Wages in these industries have in recent years risen by an average of 45 percent more than in industry as a whole (see Table 6.12). In summary, the impact of higher wage costs on profitability is revealed by the 20 percent increase, since 1986, in the share of wages in the industrial product, which nearly halved the overall rate of return to capital in 1985–88.

TABLE 6.11

**Real Labor Cost Per Day, Labor Productivity
and Wages per Unit of Product, 1965–88**

(Average annual change, percent)

	Real labor cost per man-day[a]	Product per man-day	Wages per unit of product[a]
1966–67	5.2	4.5	0.7
1968–72	3.0	5.5	−2.3
1973–79	3.6	4.2	−0.6
1980–84[b]	1.0	1.8	−0.8
1985–88[b]	7.9	2.7	5.1

[a] Deflated by the price index of industrial product.

[b] For this table, different sub-periods were chosen in order to present the real wage increases of 1986 and 1987 as partially offsetting the decline in wages following the 1985 stabilization program.

TABLE 6.12

Real Wages[a] and Product per Man-Day,[b] by Sub-branches of Industry, 1986–88

(Annual percent change)

	Wages per man-day						Product per man-day
	Average[c] 1981– 1985	1985	1986	1987	1988	Average 1986– 1988	1986– 1988
1. Food, beverages & tobacco	3	−10	12	21	3	12	3.0
2. Textiles, apparel and leather	2	−2	17	18	7	14	0.4
3. Wood, paper, printing & publishing	0	1	11	9	8	9	2.4
4. Quarrying and non-metallic minerals	1	−6	16	11	3	10	4.4
5. Chemicals, rubber and plastics	4	−7	9	16	4	10	2.7
6. Metals and machinery	2	−1	10	12	5	9	1.5
7. Electronics & transport equipment	6	−2	9	15	9	11	2.5
Total, industry	**4**	**−3**	**9**	**13**	**5**	**9**	**2.5**

[a] Deflated by output prices. The price index of industrial production was calculated from two indexes—the wholesale price index of industrial production for the local market, and the index of export prices, weighted by the proportion of exports in the output of each branch.

[b] Product per man-day in each branch.

[c] Based on National Insurance Institute data on wages per employee post. The data for 1986–88 are from the index of industrial production of the Central Bureau of Statistics.

Real financing costs amount to only 4 percent of the industrial product, but vary widely among firms. Thus, for example, the real cost of total credit to the diamond industry is negative (in recent years, between 3 and 5 percent), while the real cost of credit in other highly export-oriented industries averages 5 per-

cent, and 8 percent in local-market industries (see Table 6.13). The spread of financing costs within sub-branches is much greater, and depends on the composition of each firm's credit basket. In 1987, the real cost of nondirected credit to industry was about 27 percent, while the interest on directed credit and loans from earmarked deposits was negative, between −1 and −4 percent. In firms entitled to directed credit, the greater proportion of such credits corresponded to lower interest paid. In enterprises relying mainly on nondirected short-term credit, interest rates were high by any local or international standard, and could cause substantial losses. This is evidence of discrimination against production of import substitutes, in comparison to production for exports.

In general, the data show that the average cost of credit for industry as a whole did not change in 1988. In the last two years, real interest on fixed-term credit (deflated by the CPI) remained at an average 9–10 percent, after having been negligible in 1986. In view of its low share in production costs, and its stability, interest had no significant influence on overall profitability in industry in 1988.

TABLE 6.13
Credit and Financing Costs in Industry, 1986–88
(Percent)

	End-of-year balances,[a] average weight 1986–88	Average real cost of credit basket[b]		Of which: Short-term credit[c]	
	1986–88	1987	1988	1987	1988
Credit to:					
Diamond industry	7	−3	−4	−3	−4
Export-oriented firms[d]	48	5	4	8	8
Local-market firms	45	8	8	13	12
Total	100	6	5	8.7	8.4
Real financing costs, percent of industrial product		4.4	4.2		

[a] Includes nondirected credit in local and foreign currency, directed credit, loans from earmarked deposits, and credits directly taken up abroad.

[b] The average cost of credit is deflated by the CPI (as an approximation of product prices, which are not available in the necessary detail. In the last two years there has been no significant difference between the two indexes).

[c] Nondirected and directed credit only.

[d] Export-orientation was determined according to the share of exports in total revenue. Includes mining and quarrying, chemicals, electric and electronic equipment, transport equipment, apparel, and miscellaneous.

SOURCE: Bank of Israel Monetary Department.

Figure 6.2
Product, Real Wages and Relative Prices of Inputs, 1965–88
(Indexes, 1972 = 100)
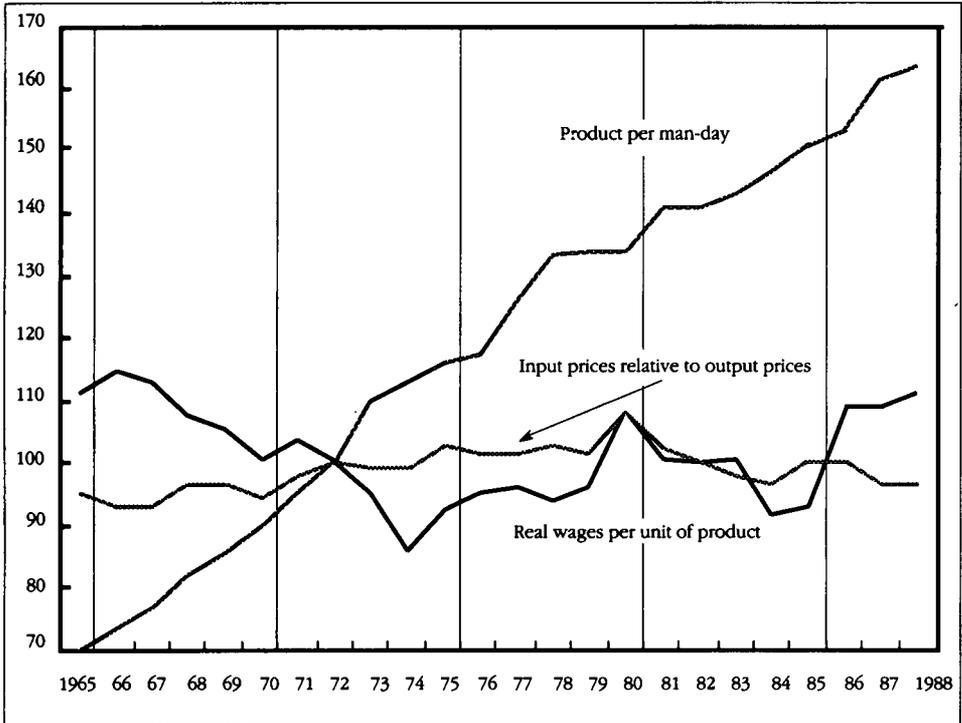
Industry's terms of trade (prices of purchased inputs relative to output prices) remained unchanged in 1988, and in the last three years, improved on average by about 1 percent (Table 6.9 and Figure 6.2). The improvement was due to a relative decline in prices of imported inputs in 1987.

To conclude: In the year under review, a continuing crisis in some large industrial enterprises came to the surface as, for example, in the "Koor" conglomerate. The main cause of the crisis was the failure of firms to adapt to the new circumstances following the significant curbing of inflation and the implementation of the new economic policy. Difficulties were aggravated by enterprises' erroneous wage policy, government involvement in industry, the high real interest rates on short- and long-term credit, and exchange rate policy. As the combined result of these factors, the fall in product spread over nearly all sub-branches of industry.

E. Investment and Capital Stock, and their Financing

Gross investment—the gross increment to the capital stock—depends on a number of factors. Among them are the physical depreciation and obsolescence of firms' capital assets, the price of capital they face, profitability, and expectations of future growth. Analysis in all the preceding sections of this survey indicates that, in recent years, all these factors had an adverse effect on investment in industry (see also Chapter 2, the section on investment). Relatively high interest rates, cuts in the rate of government support, considerable wage increases and the consequent steep fall in profitability, together with the rise in uncertainty (particularly in 1988), combined to upset the expectations of growth which began to emerge in 1987. It is therefore no surprise that in 1988, investment in industry shrank by 15 percent, and in the last three years, by a total of 4 percent. These changes in investment expressed themselves in capital intensity (capital per man-hour), the capital/product and product/man-hour ratios (Figure 6.1). Capital intensity evidently depends not only on the capital stock, but also on the labor input. The growth of the capital stock per unit of labor, which had been rapid in the 1970s, tapered in the 1980s as growth slowed down, uncertainty increased as inflation accelerated, and profitability declined. (The 'jump' in capital per man-hour in 1988 was the result of a 4.6 percent decrease in the labor input.) Product per man-hour (Figure 6.1a) is greatly influenced by the quantity of capital goods at the disposal of workers; therefore, as the growth of capital intensity slowed, the increase in product per man-hour was throttled back even more sharply.

Industrial production depends not only on the quantity of the capital stock and its composition, but also on its quality and utilization rate. New equipment is more efficient than obsolescent capital goods, and apparently also embodies the know-how and results of R&D of the countries where it is produced. The average age of industrial equipment in Israel has been rising in recent years (by about 20 percent since 1977).[14] The proportion of modern equipment—and with it, efficiency—consequently declined.

The principal component of the net financing sources of investment (after repayment of debts) is equity capital. On average for the entire last two decades this amounted to 40 percent (Table 6.14), albeit with sharp annual fluctuations related to special credits from abroad and changes in business profita-

[14] The average age of equipment in industry (as estimated by the Bank of Israel Research Department) was 5.68 years in 1977, 6.08 years in 1980, 6.67 years in 1984, and 6.84 years in 1989.

bility. In general, it seems that the share of equity in the financing of industrial investment in Israel was similar to that of other industrialized countries.

Government financing of investment contracted since 1983 from one-third to no more than 20 percent. This decline reflects the choice given to investors to substitute foreign credits for development loans. In addition, the Law for Encouragement of Investment was amended, and investment loans were replaced by grants with a value equal to the subsidy embodied in the previous loans (see also Chapter 2, Investment). As a result, the development loans financed only 10 percent of 1986 investment, while grants increased by 2 percent, and continued to rise in 1987.

Capital raised by floating securities was generally negligible in the financing of investment. Bond issues—including dollar-linked bonds issued under the direction of the Ministry of Finance—financed 2 percent, on average. Since the start of the capital market reform, in the wake of the 1985 stabilization program, there has been an increase in capital issues, amounting to 7 percent of industrial investment in 1986, and about 11 percent in 1987 (of which 6 percent were stock issues of industrial firms). Capital issues contracted again in 1988, as a result of the recession and the higher risk in business sector investment.

It is important to point out that bond issues have recently also been floated abroad, following earlier capital issues by some big industrial firms on the U.S. capital market. In 1987, this source of financing amounted to 11 percent of total industrial investment (2 percent in the form of stock issues, and 9 percent in bonds).

TABLE 6.14
Sources of Long-Term Net Finance[a] of Industrial Investment, 1979–86
(Percent)

	1979–82	1983–86
1. Total net credit	37	36
of which: Development loans	19	11
2. Development grants	13	11
3. Capital issues in Israel and abroad	12	12
of which: Bond issues	2	5
Stock issues	10	6
4. Equity (residual)	39	42
Total fixed investment	**100**	**100**
Government sources	32	21
Sources abroad	12	20

[a] After deduction of repayments of outstanding loans. The estimate of repayments in industry is based on total loan repayments in the business sector.

TABLE 6.A-1

Indicators of Agricultural Activity, 1979-88[a,b]

(Real annual change, percent)

	Averages			Change over previous year	
	1979–1981	1982–1986	1987–1988	1987	1988
Total output[c]	2.9	2.7	1.4	7.9	−4.8
Inputs, purchased and intermediates	1.8	1.6	2.1	7.6	−3.1
Gross product	4.8	4.2	0.5	8.2	−6.6
Total income from agriculture[d]	5.8	0.8	−8.6	−3.0	−13.8
Factor input					
Labor[e]	−0.3	0.8	−3.4	1.9	−8.4
Capital stock[f]	3.6	2.1	0.2	0.2	0.3
Capital-labor ratio[f]	3.9	1.3	3.7	−1.7	9.5
Productivity					
Product-labor ratio[g]	5.1	3.4	4.0	6.2	2.2
Total productivity[h]	3.3	2.8	2.5	6.9	−1.9
Exports[i]	−0.1	4.1	−12.7	−7.1	−18.0
of which: Citrus	−1.9	−6.8	−10.9	1.1	−21.5
Other	1.6	12.7	−13.6	−10.4	−16.7
Prices[j]					
Output prices[k]	108.3	174.8	12.4	9.9	14.9
Prices of purchased inputs	112.0	174.7	15.2	11.3	19.2
Terms of trade[l]	−1.8	0.0	−2.4	−1.3	−3.6

[a] Until 1986, agricultural years; from 1987, calendar years. Comparisons between 1987–88 and previous years should take this into account.

[b] Output and productivity in 1982/83 were estimated at April prices for each year. From 1984/85 the estimate is at the annual average price of the agricultural year.

[c] At producer prices; including inputs to agriculture.

[d] At constant prices; deflated by the consumer price index; includes wages and the entire gross return to capital—profit, interest and rent.

[e] Calculated from figures in millions of man-hours. Includes residents of Judea-Samaria and Gaza employed in Israel.

[f] Gross capital stock at constant prices (beginning of year).

[g] Per man-hour.

[h] Product per unit of factor input (the average weight of labor is 59 percent).

[i] Based on export data in 1980 dollars; does not include exports to Judea-Samaria and Gaza. Based on the data of the foreign trade department in the Central Bureau of Statistics.

[j] Annual rates of change, percent.

[k] Producer prices; excludes inputs to agriculture.

[l] Ratio of output prices to prices of purchased inputs.

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

TABLE 6.A–2
Current Account of Agriculture, 1979–88[a]

	NIS million		Average percent change over previous period					
			Quantity				Price	
			Averages[b]					
	1987	1988	1979–1981	1982–1986	1987	1988	1987	1988
1. Gross output at producer prices[c]	4,519	4,944	2.9	2.8	7.9	–4.8	9.9	14.9
2. Inputs[d]	2,379	2,747	1.8	1.6	7.6	–3.1	11.3	19.2
3. Gross product[e] (1–2)	2,140,	2,197	4.8	4.2	8.2	–.6.6	8.3	9.9
4. Depreciation	405	478	–0.7	–0.7	–0.5	0.8	20.6	17.2
5. Net product[d]	1,735	1,719	5.8	4.4	10.1	–8.4	5.7	8.1

	NIS million						Change in value, percent	
Net product[e]	1,735	1,719					16.5	–0.9
7. Compensation for damage of nature and war	18	38					–4.7	112.2
8. Total income (6+7)	1,753	1,757					16.2	0.2
9. Wage bill of hired labor	546	590					34.2	8.1
10. Total returns to capital and own work (8–9)	1,207	1,167					9.6	–3.3
11. Change in CPI[f]							19.9	16.3

[a] See note *a* to Table 6.5.
[b] Agricultural years, from autumn to autumn, at average prices of agricultural year.
[c] At average prices of agricultural year.
[d] Purchased and intermediates of own production.
[e] At producer's prices.
[f] Average change in CPI for agricultural year.

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

TABLE 6.A–3
Agricultural Production, 1982–88[a]
(Percent)

	Percent of output			Change over previous year, percent		
	Average[b]			Quantity		Price
	1982–86	1987	1988	1987	1988	1988
Field crops	16.0	11.4	11.7	8.7	–6.0	19.4
Cotton (fiber)	7.4	3.0	3.0	–14.7	8.2	–1.7
Vegetables, potatoes and melons	11.0	12.4	14.0	2.4	1.8	21.6
Fruit, excl. citrus	12.3	16.1	13.5	10.1	–11.5	4.0
Avocados	2.2	3.3	1.4	98.1	–73.4	71.6
Flowers, seedlings, seeds and miscellaneous	5.8	7.3	7.6	5.1	–2.1	16.5
Subtotal, vegetal output, excl. citrus	**45.1**	**47.1**	**46.8**	7.0	–5.2	14.6
Citrus	13.3	13.1	11.0	11.3	–22.1	17.8
Total, vegetal output	58.5	60.2	57.7	7.9	–8.9	15.2
Livestock for meat	19.9	20.5	20.0	10.3	–0.3	6.9
Milk	11.1	10.0	12.0	4.1	5.3	24.6
Eggs and breeding materials	7.7	6.2	6.7	2.7	0.7	18.7
Fish	1.8	2.1	2.7	11.7	11.0	24.8
Total animal products	**41.5**	**39.8**	**42.3**	7.8	1.5	14.4
Total	**100.0**	**100.0**	**100.0**	7.9	–4.8	14.9

[a] See note *a* to Table 6.5.
[b] Agricultural years 1982/83–1985/86.

SOURCE: Central Bureau of Statistics.

TABLE 6.A–4
Subsidies to Agricultural Production, 1987–88[a]

	NIS thousand		Subsidy as percentage of producer's price[b]	
	1987	1988	1987	1988
Eggs	44,628	61,645	24.1	27.5
Broilers	110,218	127,118	27.6	29.3
Milk	104,588	211,925	22.7	35.8
Total animal products[c]	259,479	402,214	14.3	19.3
Total vegetal products	2,697	2,402	0.1	0.1
Total subsidies to production	262,176	404,616	5.8	8.2

[a] Excludes subsidies to inputs (feeding stuff, water, credit, etc., and excludes compensation for damages of nature and war.
[b] The proportion of the subsidy in the producer price is obtained by dividing the amount of the subsidy in each branch by its total output, both translated into average prices for the year.
[c] Includes other livestock.

SOURCE: Centreal Bureau of Statistics.

TABLE 6.A–5

Agricultural Production for Direct Exports, 1982–88

	Percentage of exports in total output, current prices			Percent of income from exports			Percent change over preceding year[a]			
							Quantity		Price	
	Average[b] 1982– 1986	1987	1988	Average[b] 1982– 1986	1987	1988	1987	1988	1987	1988
Field crops and crops for industry	38.7	31.4	29.5	23.1	15.9	17.8	–8.4	2.2	25.1	3.1
of which: Cotton	87.0	90.1	91.2	19.6	12.2	14.0	–10.7	8.4	30.2	–0.6
Vegetables, potatoes and melons	21.3	13.7	12.0	9.0	7.5	8.7	–10.5	–13.2	44.7	24.8
Fruit, excl. citrus	28.8	21.7	14.9	13.7	15.5	10.4	46.5	–54.1	–6.5	37.6
of which: Avocados	89.9	82.0	86.6	8.4	12.0	6.1	71.0	–70.3	–11.9	62.4
Flowers, seedlings,										
vegetable seeds and miscellaneous	65.4	62.0	62.3	15.2	20.1	24.5	0.6	–2.1	15.2	17.1
Subtotal vegetal, excl. citrus	**35.2**	**28.2**	**25.4**	**61.0**	**59.0**	**61.4**	7.4	–16.0	13.7	16.5
Citrus	65.6	62.2	58.2	30.5	36.1	33.0	7.1	–17.4	18.2	3.8
Total vegetal	**41.7**	**35.6**	**31.6**	**91.5**	**95.1**	**94.4**	7.3	–16.5	15.3	11.7
Livestock, total	5.1	2.8	2.6	8.5	4.9	5.6	63.9	–6.8	22.0	15.5
Total agricultural exports	**26.0**	**22.5**	**19.3**	**100.0**	**100.0**	**100.0**	9.0	–16.0	15.7	11.9

[a] See note *a* to Table 6.5 These data differ considerably from those of Table 6.5. From 1986, exports to Judea-Samaria and Gaza are not included. Differences are due to the use of different definitions, methods of estimation, and sources. The data in this table are at producer's prices.

[b] Agricultural years 1982/83 to 1986/87.

SOURCE: Central Bureau of Statistics.

TABLE 6.A–6
Indicators of Construction,[a] 1968–88

	Absolute figures		Percent annual change					
	1987	1988	1968–1972	1973–1979	1980–1986	1986	1987	1988
Output, 1986 NIS million	5,321	5,479	17.4	−1.8	−1.8	−1.1	8.6	3.0
of which: Residential	2,255	2,267	30.1	−2.9	−2.8	−5.9	6.6	0.5
Nonresidential	1,523	1,617	11.1	−2.4	−3.6	6.0	19.2	6.2
Other[b]	1,543	1,595	7.5	2.0	1.8	0.2	2.3	3.3
Building starts, million m²	4,340	4,810	25.8	−5.6	−6.6	−4.9	17.9	10.8
of which: Residential	3,230	3,410	31.0	−5.8	−6.5	−2.3	19.0	5.6
Nonresidential	1,110	1,400	15.7	−5.1	−6.9	−11.5	15.0	26.1
Dwelling units, thousands								
Starts	21	22	28.5	−8.0	−9.6	−9.8	14.0	3.7
Completions	22	21	11.2	−6.5	−4.7	−12.3	−1.1	−4.1
Duration of dwelling construction, months[c]	24	20	...	3.8	2.9	1.3	0.0	−13.9
Employed persons, thousand	117	128	15.3	−1.0	−1.4	−8.1	9.5	8.9
of which: Israelis	68	74	9.7	−2.6	−4.0	−14.5	9.5	9.0
From territories	50	54	...	3.9	3.2	2.5	9.5	8.7
Stock of construction equipment, NIS 1986 mill.[d]	1,152	1,153	2.3	4.1	−0.6	−7.2	−5.6	0.1
Output per worker, NIS '000	45	43	1.8	−0.8	−0.3	7.5	−0.8	−5.4
Total productivity			1.0	−1.7	−0.6	5.5	3.0	6.8
Price index of residential construction inputs	2,419	2,903	8.7	42.7	153.1	46.6	25.6	20.0

[a] Rates of change were calculated from less rounded figures.
[b] Includes defense construction and a Bank of Israel estimate of maintenance and renovations.
[c] In private construction.
[d] Beginning-of-year stock.

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

TABLE 6.A–7

Output of Transport and Communications, 1985–88

| | Weight in total: | | Percent change over preceding year | | | | | | |
| | Gross product[a] | Income | Real output | | | | Price | | |
	1987	1987	1985	1986	1987	1988	1986	1987	1988
Land transport	50.4	32.0	0.6	0.7	4.2	–0.9			
Buses	13.7	6.3	–1.0	–7.8	0.3	–3.2	75.9	26.5	13.1
Taxis	4.5	2.8	2.0	2.0	5.9	–1.2	67.0	34.0	8.0
Trucks	28.5	22.0	0.6	3.2	6.5	0.0	58.0	23.0	10.0
Railways	2.6	0.8	8.5	6.7	1.9	–7.8	41.4	10.5	8.7
Oil and gas pipelines	0.9	0.1	21.0	–12.0	9.5	–1.3			
Shipping and ports	13.1	29.6	–4.7	1.5	8.4	11.8			
Shipping	8.9	22.2	–3.8	–0.7	8.2	12.6	28.0	7.2	–2.1
Ports	4.2	7.4	–8.8	13.3	9.3	8.3	28.1	25.5	1.3
Civil aviation and airports	12.8	18.1	2.1	4.8	14.0	–4.8	34.0	3.4	16.1
Civil aviation	10.0	16.2	2.2	5.2	13.6	–4.8	34.4	3.2	17.3
Airports	2.8	1.9	0.5	0.4	17.4	–4.4	33.0	4.2	7.7
Communications	10.7	10.8	4.4	15.5	9.5	7.4	45.0	27.3	16.1
Other[b]	13.0	9.5	13.1	–2.3	15.5	–8.1			
Total output at market prices		100.0	1.7	2.9	8.8	2.4			
Total gross product at 1982/83 prices	100.0		2.7	1.9	8.3	–0.1			
Gross fixed investment			–18.3	16.2	37.3	7.9			
Gross capital stock at beginning of year[c]			2.4	1.4	2.0	3.5			
Employed persons			–3.6	0.5	5.7	3.5			
Labor input			–4.8	0.5	7.5	1.4			

[a] At 1982/83 prices.

[b] Includes warehouses, cold storage, parking lots, terminals and transport services n.e.s. Estimates are based on input-output tables.

[c] At constant prices.

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

TABLE 6.A–8

Revenue from Maritime Freight Transport, 1985–88

	NIS million			Percent of total			Percent change over preceding year			
	1987	1988	1985	1986	1987	1988	1985	1986	1987	1988
Import cargoes	431	428	32.8	33.9	32.4	29.2	4.5	4.2	3.9	0.8
Export cargoes	252	250	18.3	18.9	18.9	17.1	8.9	2.3	6.8	2.2
Haulage between foreign ports	648	788	48.9	47.2	48.7	53.7	–11.6	4.9	11.7	23.6
Total	1,331	1,466	100.0	100.0	100.0	100.0	–3.8	–0.7	8.2	12.6

SOURCE: Central Bureau of Statistics.

TABLE 6.A–9

Indicators of Activity in the Communications Industry, 1985–88

	NIS million, current prices		Percent change over preceding year			
	1987	1988	1985	1986	1987	1988
Income, NIS million, current prices[a]	1,770	2,207	4.4	15.5	9.5	7.4
of which: Telephone service	1,516	1,902	11.4	13.1	11.5	8.8
Post and telegraph services	187	238	–37.0	20.0	17.6	1.7
Telephone service (thousands)[b]						
Capacity of exchanges, lines	1,668	1,791	8.2	8.1	10.2	7.4
Direct lines installed	1,393	1,472	8.3	9.0	8.6	5.7
New telephones installed during year	108.2	93.6	56.5	6.6	3.2	–13.5
Pending applications[c]	103	74	–23.7	–32.1	–21.4	–28.2

[a] Includes philatelic service and miscellaneous.

[b] End of year.

[c] Includes applications for new telephones and transfers.

TABLE 6.A-10

Indicators of Commerce and Services, 1982-88

	Product[a]			Employed persons				
	Percent of total[b]	Quantitative increase		Percent of total[b]	Quantitative[c] increase			
	1982	1982–85	1986–88	1982	1982–85	1986	1987	1988
Retail and wholesale commerce	30	2.1	5.1	31	2.5	4.7	10.7	4.0
Restaurant and hotel services	5	7.5	4.8	10	3.8	10.7	1.9	17.1
of which: Restaurant services	2	11.1	8.4	5	5.4	12.5	–0.4	16.2
Hotel services	3	2.8	–1.4	5	1.4	7.9	5.5	18.6
Legal and commercial services	14	4.9	3.1	15	7.7	3.9	2.9	14.4
Data processing	2	8.1	1.5	2				
Financial services	34	3.5	7.3	17	1.2	0.0	–2.0	2.9
of which: Banking services	28	3.7	5.8	13	1.0	3.1	–3.6	1.3
Insurance	6	3.3	9.5	4	1.8	–9.3	3.4	7.9
Personal services	8	–0.1	4.1	17	4.4	–0.1	–0.6	8.5
Garages	3	4.0	5.2	4	9.4	–1.5	8.0	11.5
Commercial health and education services	4	3.0	9.1	4				
Total commerce and commercial services	100	3.4	6.1	100	3.9	3.2	4.3	8.1

[a] Rates of changes estimated from the derived output from final uses, according to input-output tables for 1982/83, i.e., on the assumption of fixed production coefficients.

[b] Based on the 1982/83 Commerce and Services Survey of the Central Bureau of Statistics.

[c] Based on the Labor Force Surveys of the Central Bureau of Statistics.

TABLE 6.A–11

Tourism to Israel, 1985–88

	Thousands			Percent change over preceding year			
	1986	1987	1988	1985	1986	1987	1988
Arrivals, total[a]	**1,196**	**1,517**	**1,299**	**14.1**	**–16.7**	**26.9**	**–14.4**
Tourists	1,101	1,379	1,170	15.5	–12.9	25.2	–15.2
Cruise visitors	95	139	130	4.8	–45.1	46.5	–6.3
By mode of travel							
Air	930	1,151	979	15.3	–13.9	23.8	–14.9
of which: To Eilat	64	81	84	63.7	39.6	26.5	3.7
Charter flights	185	240	209	6.4	–.3.5	29.4	–12.8
Scheduled flights	744	911	770	17.5	–16.1	22.4	–15.5
Land	154	205	173	17.6	–7.2	33.3	–15.5
Sea	18	23	18	7.7	–6.2	26.8	–24.1
By selected countries of residence							
Europe	665	840	712	6.3	–1.7	26.2	–15.3
United Kingdom	134	156	146	–1.5	3.6	16.2	–6.4
France	136	159	125	12.5	–3.3	16.8	–21.4
West Germany	139	182	155	8.9	–4.5	30.9	–15.1
United States and Canada	240	328	280	–7.6	–40.7	36.4	–14.5
Asia and Africa[b]	80	92	105	–10.8	6.7	15.6	14.3
Latin America	50	41	35	10.7	33.3	–17.9	–13.5

[a] Excludes persons arriving from Lebanon without a tourist visa (residents of southern Lebanon, U.N. military personnel, and diplomats), foreign tourists in transit to Judea-Samaria and Gaza, and visits by holders of Israeli passports residing abroad. From May 1985, includes tourists arriving after a stay of one week or less in Sinai.

[b] Excluding Lebanon. The annual fluctuations in 'tourism' from that country were related to the Lebanon war and its aftermath.

TABLE 6.A–12

Relative Purchasing Power of Different Currencies in Selected Countries, 1987–88

(Percent change over preceding year)[a]

		Country of destination					
		France	Spain	Sweden	U.S.A	Switzerland	Israel
1987:	U.S.A.	–13.0	–13.2	–11.5	–	–15.3	–7.4
	U.K.	–2.5	–2.7	–0.8	12.1	–5.1	3.8
	France	–	–0.3	1.7	14.9	–2.7	6.4
	West Germany	1.8	1.5	3.5	16.9	–0.9	8.3
	Israel	–6.0	–6.3	–4.4	8.0	–8.5	–
1988:	U.S.A.	0.3	–6.4	–5.0	–	0.2	–10.3
	U.K.	10.2	2.8	4.3	9.8	10.0	–1.5
	France	–	–6.7	–5.3	–0.3	–0.1	–10.6
	West Germany	–0.2	–6.9	–5.9	–0.5	–0.3	–10.8
	Israel	11.8	4.4	5.9	11.5	11.7	–

[a] The figures in the table are the percent change over 1986 in the purchasing power of the currency of the countries of origin (listed in the rows) in the countries of destination (listed in the columns), relative to its purchasing power at home. Thus, for example, the purchasing power of the U.S. dollar in France (row 1, column 1) declined in 1987 by 13 percent compared to 1986.

SOURCE: International Monetary Fund and Bank of Israel calculations.

TABLE 6.A–13

Product, Production Factors and Productivity, 1981–88

(Real percent change over preceding period)

	Product		Labor input[a]		Capital stock		Product per man-day		Total productivity		Share in: Product	Exports	Exports/Output,
	1981–1985	1986–1988	1981–1985	1986–1988	1981–1985	1986–1988	1981–1985	1986–1988	1981–1985	1986–1988	1986–1988	1986–1988	%[b]
Food, beverages and tobacco	4.9	8.1	3.0	4.9	3.4	2.7	1.9	3.0	1.8	3.9	13	8	19
Textiles, apparel & leather	1.0	−0.4	−1.3	−0.8	−0.2	1.0	2.4	0.4	2.1	0.1	8	10	43
Wood, paper, printing publishing and miscell.	4.9	4.5	2.2	2.1	3.1	5.4	2.7	2.4	2.6	2.1	12	9	36
Quarrying, mining and non-metallic minerals	−0.5	3.2	−3.5	−1.2	3.7	0.1	3.1	4.4	0.6	4.0	7	5	37
Chemicals, rubber and plastics	5.7	3.6	0.8	0.9	5.7	4.0	4.9	2.7	2.9	1.5	16	22	45
Metal and machinery	2.9	2.0	0.5	−3.5	3.9	3.0	2.4	5.7	1.7	4.1	20	16	43
Electronic and transport equipment	5.2	−4.3	3.4	−5.8	10.7	8.4	1.8	1.5	0.4	−2.0	24	30	50
Total industry	**4.0**	**1.6**	**1.2**	**−0.9**	**4.7**	**3.7**	**2.7**	**2.5**	**2.0**	**1.4**	**100**	**100**	**40**

[a] Man-days.

[b] Proportion of direct and indirect exports in output, average for 1987–88, calculated from input-output tables; excludes diamonds and exports to the territories.

TABLE 6.A–14

Revenue, Employment, and Capital Intensity in Industry, by Branches, 1987

	Revenue (1)	Employed persons (2)	Stock of physical capital (3)	Stock of R&D capital (4)	Capital per worker (5)	Product per worker (6)
Food, beverages, tobacco	7,020	53.1	2,655	97	52	27
Textiles, apparel, leather	3,562	55.1	2,554	32	47	17
Wood, paper, printing, publishing & miscell.	4,247	44.9	2,135	362	56	28
Quarrying, mining and nonmetallic minerals	1,838	12.8	4,031	45	318	54
Chemicals, rubber & plastics	5,329	33.4	5,868	732	198	55
Metal, electronic and transport equipment	11,518	119.8	10,633	4,397	125	43
Total, excl. diamonds	**33,514**	**319.1**	**27,876**	**5,665**	105	35
Diamonds	3,274	11.6	188	–	16	42
Total, industry	**36,788**	**330.7**	**28,064**	**5,665**	**102**	**36**

DEFINITIONS OF COLUMNS:

(1) NIS million, average 1987 prices.

(2) Thousands.

(3) Capital stock, fixed assets, beginning-of-year, current NIS million.

(4) Cumulated value of R&D expenditures from 1974 to March 1986, NIS million at 1987 prices.

(5) Total capital—fixed assets and R&D capital, NIS thousand per worker.

(6) Value-added at factor cost per worker, NIS thousands.

TABLE 6.A–15

Returns to Production Factors in Industrial Sub-branches, Selected Years

	Returns to		Wages	Rate of return to capital	R&D/product percent
	Labor	Capital			
	1985/86		1986/88	1983/85	1985
	Percent		*NIS '000*	*Percent*	
	(1)	(2)	(3)	(4)	(5)
Food, beverages, tobacco	59	41	14	14.8	0.3
Textiles. apparel, leather	78	22	12	–2.6	0.2
Wood, paper, printing, publishing and miscell.	68	32	18	11.3	2.3
Quarrying, mining and non-metallic minetals	52	48	21	13.7	0.3
Chemicals, rubber & plastics	47	53	21	16.0	2.9
Metal and machinery	68	32	20	11.6	1.8
Electronic and transport equipment	81	19	30	5.1	16.9
Total, excl. diamonds	**68**	**32**	**19**	**9.4**	**5.8**

DEFINITIONS OF COLUMNS:

(1), (2) Distribution of 1985/86 gross product, at factor cost. Does not include imputed wages to self-employed.

(3) Annual; wage per employee, 1986–88 average (gross, including fringe benefits; NIS thousands, at 1987 prices).

(4) Total rate of return on capital stock (fixed assets and stocks of materials and goods in process). The rate of return was calculated as the difference between the value added at factor cost and total labor cost. The rates are averages for 1983–85, after deduction of capital gains on stock of materials and goods (see also note *b* to Table 6.6).

(5) The proportion of total R&D expenditure in the value-added of the branch (refers to 1985/86 only).

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

TABLE 6.A–16

Real Change in Product, Production Factors and Productivity, 1988

(Percent)

	Product	Labor input (man-days)	Gross capital stock (1985 prices)	Product per man-day	Total productivity
Food, beverages, tobacco	–1.5	–0.1	3.4	–1.4	–2.5
Textiles, apparel, leather	–11.8	–9.6	1.2	–2.4	–4.1
Wood, paper, printing, publishing and miscell.	–0.3	–1.4	6.1	1.	0.1
Quarrying, mining and non-metallic minerals	–1.6	–2.0	0.3	0.4	–0.4
Chemicals, rubber & plastics	–2.6	–3.0	4.8	0.3	–2.7
Metal and machinery	–0.8	–4.5	2.4	4.8	2.9
Electronic and transport equipment	–4.8	–7.3	5.9	2.7	0.0
Total, excl. diamonds	**–3.1**	**–4.6**	**3.5**	**1.6**	**–0.4**