Chapter 2
Output and Demand

The pace of economic expansion slowed in 1996 in comparison with the growth rates evident since the beginning of the decade. The slowdown was expected in view of a certain easing of the positive effects of the absorption of immigrants, but its intensity exceeded expectations for several reasons. There was a relatively large number of security incidents; the rate at which world trade expanded slowed; uncertainty increased; and there was a cumulative decline in profitability. GDP grew by 4.4 percent, compared with 7.1 percent in 1995, and business-sector product rose by 5 percent, vis-à-vis 8.9 percent in 1995. The slowdown in economic activity encompassed all the principal industries.

The decline in business-sector product growth on the supply side exceeded both that resulting from the moderation of the increase in factors of production, and that on the demand side. The failure of supply to respond to the level of demand was reflected by the significant rise in the share of the import surplus in GDP. The combination of the latter with the slowdown was due to a large extent to the policy mix—expansionary fiscal policy and the ensuing monetary restraint designed to attain the inflation target.

1. MAIN DEVELOPMENTS

In 1996 the rate of economic growth moderated.

The pace of economic growth slowed in comparison with the rates evident since the beginning of the decade. Some easing of expansion was expected in view of the falling-off in the initial benefits derived from the influx of immigrants, but it was sharper than expected, for reasons that were unique to 1996. GDP grew by 4.4 percent, compared with 7.1 percent in 1995, and business-sector product rose by 5 percent, after 8.9 percent in 1995 (Table 2.1).[1] The slowdown in economic activity encompassed all the principal industries, and was accompanied by greater uncertainty.

The slower rate of expansion of business-sector product on the supply side than on the demand side was reflected by a significant increase in the share of the import surplus in GDP.

The slower increase in the demand for output was led primarily by the slowdown in the rates at which exports and investment rose. The fall in demand was due to four main factors: first, a relatively large number of security incidents, which harmed

[1] According to *The National Budget, 1996–98*, prepared in October 1995 by the Prime Minister's Office, the Ministry of Finance, and the Bank of Israel, GDP was expected to grow by 5 percent and business-sector product by 5.8 percent.

Table 2.1
Indicators of Economic Activity, 1986–96

(rate of change, percent)

	1986–89	1990–94	1995	1996	Jan-Jun 1996[a]	July-Dec 1996[a]
GDP	3.9	5.8	7.1	4.4	3.9	2.1
Per capita GDP	2.2	2.0	4.3	1.7	1.5	0.4
Business-sector product	4.9	7.0	8.9	5.0	3.7	1.4
Index of industrial output	0.9	7.1	8.4	5.4	5.7	2.2
Unemployment rate	7.1	9.8	6.9	6.7	6.6	6.8

[a] Annual rate of change, seasonally adjusted.

economic activity (mainly in tourism); secondly, the leveling off of the beneficial effects derived from the absorption of the influx of immigrants; thirdly, the slowing of the rate at which world trade expanded; and fourthly, increased political and economic uncertainty. The slower pace at which business-sector product expanded on the supply side went beyond the reduction justified by the fall in the factors of production and also beyond the slowdown on the demand side. The failure of supply to meet demand was reflected by a significant increase in the share of the import surplus in GDP. The latter, combined with the economic slowdown, was due to a great extent to the policy mix—expansionary fiscal policy and monetary restraint intended to attain the inflation target.

The combination of the economic slowdown with the rise in the import surplus was the result of the policy mix.

Several indicators attest to the significant slowing of economic activity in 1996. The rate at which business-sector product expanded moderated substantially (Table 2.1), and in the last quarter was only 1 percent; the rate at which industrial production rose also eased significantly during the year.

The rate at which exports rose slowed significantly due to domestic and international factors.

The rate at which goods and services exports increased slowed appreciably, too, growing by only 4.6 percent in 1996, after an annual average of 12 percent since 1992 (Table 2.A.1). The slowdown is due to the (expected) moderation in the rate at which world trade expanded—6.7 percent in 1996 after 8.9 percent in 1995. The effect of the slowdown in world trade was offset to some extent by an improvement in the terms of trade. A series of security incidents harmed mainly the export of tourism and allied services. These were apparently supplemented by nominal rigidities, as a result of which the slight nominal depreciation of local currency—for the second year in succession—prevented the more rapid expansion of production of import substitutes and exports. In addition, the persistent decline in the rate of return on capital had a cumulative effect, expressed most notably in the slowdown in 'traditional' exports, where profit margins are small (see Chapters 4 and 6).

The slowdown in the rate at which investment grew also served to check the expansion of demand. Domestic investment rose by 7 percent in 1996, compared with 11 percent in 1995 (Table 2.A.1). This slowdown reflects a steep drop in the rate at which construction investment increased, due to the easing of the demand pressures associated with the influx of immigrants, and a fall in the share of inventory in investment. Investment in plant and equipment increased substantially, on the other hand, so that the capital stock/employee ratio in the business sector began to rise again, after falling in the wake of mass immigration.

The rate at which investment grew reflected the slowdown in investment in construction and inventory.

Public consumption (excluding direct defense imports), which constitutes the main component of public-sector demand, rose by 3.5 percent in 1996 (2 percent in 1995), contributing to the expansion of demand for domestic output. Expansionary fiscal policy also contributed indirectly to the increase in demand—through the real decline in net direct tax revenues (direct taxes net of transfers), which increased households' disposable income. This is the mirror-image of the government's large (NIS 6.8 billion) deviation from the deficit target. Although the increase in public consumption reduces households' permanent income because of the future taxes which will be required to finance it, Israel's experience has shown that households are more influenced by current income, so that the decline in net taxes was predominant in increasing private consumption. Private consumption excluding durables did in fact rise in 1996—by 5.5 percent (Table 2.A.5).

Fiscal policy contributed to the expansion of demand through the real reduction in direct taxes, which led to an increase in private consumption.

The stock of durables has risen considerably since 1990, in response to the needs of the immigrants. The slower pace of durables purchases in 1996 is one indication that the beneficial effect of the absorption of immigrants is declining. The rate at which private consumption rose was apparently also affected by developments in the capital market, one of the most prominent being the crisis in the provident funds. Withdrawals from the latter were expected primarily to increase durables purchases, but these rose more moderately than in 1995. The reason for this would appear to be that money was diverted to other financial assets, since the public's financial wealth did not shrink in 1996 (see Chapter 7).

The supply of actual business-sector product (see Box 2.1) rose by 5 percent in 1996, on the basis of an 8.2 percent increase in gross physical capital stock and 3.7 percent growth in labor input (Table 2.3). The rate at which the labor input of Israelis rose was below that of the working-age population and above that of the civilian labor force, both of which are gradually becoming an effective constraint on the expansion of the labor input of Israelis. This means that economic expansion will be accompanied by upward pressure on wages, and this in turn will slow the growth rate of GDP in comparison with recent years, when unemployment was relatively high. Total factor productivity fell slightly in 1996 as a result of two conflicting forces. There were initial indications that the potential embodied in the immigrants' human capital, as well as in the technological innovations of the extensive investment of the

The 5 percent growth of business-sector product was based on the 8 percent rise in physical capital stock and the 3.7 percent increase in labor input.

last two years, was starting to be realized, serving to increase productivity. The security incidents and the moderate rate of nominal depreciation had an adverse effect on capacity utilization, however.

Aggregate demand for GDP expanded beyond the growth in supply. The failure of supply to meet demand in full was reflected by a significant rise in the share of the civilian import surplus in GDP alongside real appreciation. The inability to respond fully to demand is partly explained by the short-term effect of monetary policy, which acted to check the acceleration of price increases in the wake of the expansionary fiscal policy, also by slowing the rate of nominal depreciation.

The real exchange rate, measured by the increase in export prices relative to that in business-sector product prices (including housing services), indicates that there was real appreciation of about 4 percent, which is above the long-term average (Table 2.5). This occurred even though the marked rise in the number of foreign workers and the slowdown in construction exerted pressure for real depreciation. Over and above its trend, real appreciation derived from the combination of expansionary fiscal policy with tight monetary policy, which led to moderate nominal depreciation, as well as from capital inflow and the improvement in the terms of trade as prices abroad declined.

The national saving rate declined because public saving fell, though this was partly offset by the rise in private saving.

The national saving rate continued to fall, for the fourth consecutive year, and in 1996 was 17.1 percent of national income. This reflects the continuation of the decline in public saving and of the rise in private saving. The expansionary fiscal policy and the easing of the effect of mass immigration on durables purchases were the main reasons for the increase in private saving.

The decline in the saving rate required the expansion of the current-account deficit in order to finance the high level of domestic investment. The current-account deficit was 4.6 percent of total national income (at current prices) in 1996 (5.1 percent of GDP) after 4.0 percent (4.5 percent of GDP) in 1995. This is considered to be high in comparison with both the past and international standards, and can increase economic vulnerability.

The large current-account deficit was due mainly to the expansionary fiscal policy of the last two years.

The main cause of the large balance-of-payments deficit was the expansionary fiscal policy of the last two years. This was expressed in a NIS 6.8 billion deviation from the budget deficit target (for the second consecutive year)—caused by the government. Although most of the deviation was due to the shortfall in tax revenues, this does not minimize the negative role played by fiscal policy, as the level of expenditure authorized by the government was too high from the outset, and was based on an over-optimistic forecast of tax receipts. The year began with a large balance-of-payments deficit brought over from 1995, and while a responsible fiscal policy was required in order to reverse the trend, the policy adopted merely exacerbated it.

The effect of monetary policy on the balance-of-payments deficit was not unequivocal.

Monetary discipline, intended to attain the inflation target and combat the departure from it during the year, did not have an unequivocal effect on the balance-of-payments deficit. On the one hand, high short-term interest rates acted to moderate demand for consumption and investment to some extent, thereby reducing the import surplus. The stylized facts of Israel's economy imply that this effect is small. Opening the economy to capital flows further weakens the effect of domestic interest rates on demand for consumption and investment. On the other hand, the moderate rate of nominal depreciation in the last two years has contributed to the rise in the import surplus.

Economic uncertainty increased in 1996, causing some economic agents to adopt a 'wait and see' policy, even though the economic effect of this is hard to measure. A series of terrorist attacks in the first half of the year raised doubts concerning the success of the peace process. The change of government brought about by the elections held in the middle of the year created political uncertainty. Nonetheless, there were indications that the new government was continuing with the peace process. The economic uncertainty associated with the change of regime was intensified in view of the large deviation from the deficit target evident already in the first half of 1996. Immediately after the election, the new government decided to reduce the 1997 deficit, but it did nothing to reduce the 1996 deficit, and for a long time it was not clear if the Knesset would approve the deficit reduction in the 1997 budget. In addition, towards the end of 1996 it transpired that the deviation from the 1996 deficit target was being aggravated, so that for the year as a whole it was far greater than had previously been assumed. The lack of fiscal restraint during 1996 had adverse economic effects, especially in light of the large balance-of-payments deficit.

2. AGGREGATE DEMAND

Domestic use of resources rose by a real 5.4 percent.

The rate at which aggregate demand grew slowed in 1996, as indicated by domestic use of resources, which increased by a real 5.4 percent, compared with 7 percent in 1995 (Table 2.A.1).

The slowdown in the rate at which exports grew played a pivotal role in the slowing of GDP growth.

The slower pace of expansion of goods and services exports—4.6 percent in 1996 after 11 percent in 1995—played a crucial role in moderating the expansion of demand. Total exports excluding tourism rose by 5.9 percent in 1996 (Table 2.2), which is lower than the rate of expansion of world trade. The relatively moderate growth of exports reflects the uneven development of its components. Goods exports (excluding diamonds) rose by 7.9 percent, similar to the 1995 rate. High-tech exports accelerated, as a result of processes set in motion in previous years, i.e., the investment surge that came in the wake of the mass immigration, economic liberalization, the peace process,

Table 2.2
Use of Resources, 1986–96

(rate of change, percent)

	1986–89	1990–94	1995	1996
Exports	4.6	7.4	10.9	4.6
Excluding tourism	3.8	8.7	10.1	5.9
Gross domestic investment	6.8	13.3	10.6	7.4
Investment in principal industries	7.1	14.3	4.2	7.1
Private consumption	4.8	7.8	7.3	5.5
Public consumption[a]	3.1	2.8	2.0	3.5

[a] Excluding direct defense imports.

Goods exports grew by 7.9 percent, mainly because of the acceleration of demand in high-tech industries.

and regional and world geopolitical developments. All these prepared the ground for increasing the share of Israel's exports in world markets *inter alia* by penetrating new markets. The rate at which traditional exports expanded slowed, however, as these industries are gradually being exposed to competing imports and are characterized by small profit margins. Real appreciation also contributed to this trend.

There was a real decline in exports of tourism services in the wake of security incidents.

Services exports stagnated in 1996, after a 14.5 percent increase in 1995. The growth rate of services exports, especially tourism, generally fluctuates more widely than that of goods exports. The large number of security incidents in 1996 had an adverse economic effect, in particular on tourism, which experienced a real decline in exports.

The fall in tourism eased the pressure on economic resources, however, freeing factors of production for other industries, and also for export. Although the inter-industry mobility of existing capital stock is not great, there was no need to reduce capital stock in tourism but simply to moderate its growth rate in order to prevent economic activity in general from being impaired, since Israel's economy grew in real terms.

There is considerable flexibility in the movement of employees from tourism to other industries, so that the contraction of tourism could contribute to the expansion of other industries producing exports and import substitutes, thereby offsetting the decline in tourism. The extent of this depends on tourism firms' assessments of the duration of the crisis (if it is perceived as short term there will be little offsetting). In 1996 the number of employees in hotel services, which constitutes an indicator of tourism employment, fell by 6 percent, compared with a 2 percent rise in business-sector employment. The combination of this fact with the fall in unemployment shows that some of the factors of production that were released in tourism were utilized by other industries.

Tourism firms had to decide whether to invest efforts in attracting some of the outgoing tourism (creating import substitutes), thereby limiting the damage caused by the decline in incoming tourism. The substantial increase in imported tourism services in 1996 indicates that although this possibility existed, it was not realized in full: Israelis' consumption of tourism services abroad rose by 10 percent in 1996, and imports of foreign travel and allied services grew by 11 percent.

Another factor helping to limit the expansion of demand was the slowing of investment growth. Gross domestic investment increased by over 7 percent in 1996, compared with about 11 percent in 1995 (Table 2.2). The various investment components developed differently than in 1995; inventory investment fell in 1996, after rising in 1995, the expansion of residential construction slowed, after accelerating in 1995, and investment in nonresidential and other construction stagnated, after expanding impressively in 1995.

The slowdown in investment growth contributed to the slower rate at which demand rose.

Investment in residential construction rose by a rapid 11.5 percent in 1996, but less significantly than in 1995, when it increased by 20 percent (Table 2.A.3). The slower expansion of construction also attests to a falling off in the effect of the influx of immigrants.

The slower increase in construction investment was another expression of the declining effect of the influx of immigrants.

Investment in nonresidential construction stagnated in 1996, after rising by 14 percent in 1995 (Table 2.A.3). The main cause of this sharp change appears to have been the capacity constraint in the principal industries. Investment in plant and equipment continued to grow at an impressive pace, on the other hand, and for the first time capital stock per employee passed its level before the influx of immigrants (Figure 2.3). Nonetheless, capital stock per employee has not yet reverted to the trend line it displayed for many years before 1989.

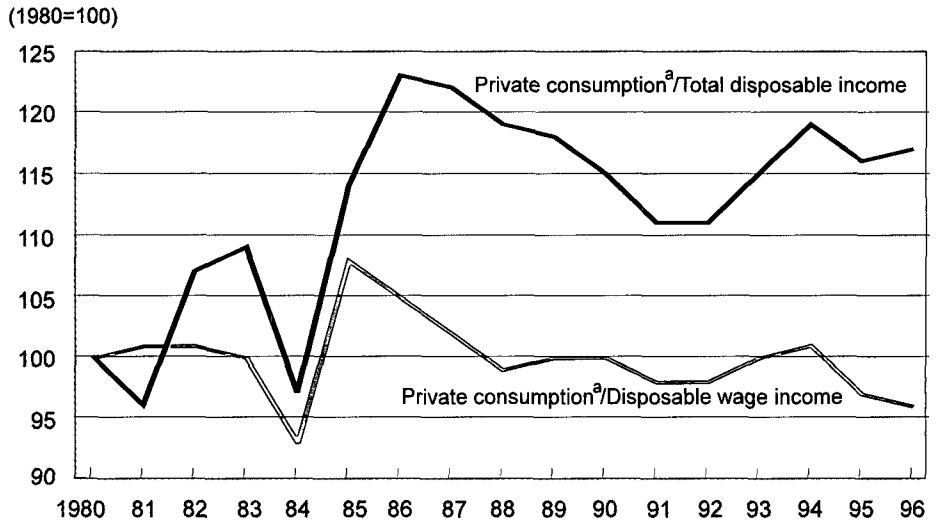
Because of the persistent increase in investment in plant and equipment, for the first time capital stock per employee surpassed its level prior to the influx of immigrants.

In view of the appreciable increase in investment in the principal industries, it seems that in 1996, too, high domestic interest rates did not have a significant direct effect on investment. According to empirical evidence, short-term interest has relatively little effect on investment demand. Moreover, implicit capital imports of the private sector were $ 6 billion in 1996 (see Chapter 7), serving to offset the negative effect of domestic interest rates on investment and private consumption.

The increase in private disposable income, due *inter alia* to the decline in government tax revenues, contributed to the continued expansion of private consumption, which rose by 5.5 percent in 1996, after 7.3 percent in 1995 (Table 2.2). Consumption expanded more slowly than disposable income, apparently because part of the decline in tax receipts was temporary. The government's deviation from the inflation target in the last two years makes it more likely that part of the adjustment of the budget deficit path will be attained by increasing net taxes. In fact, in July the government decided to reduce the 1997 budget deficit by some NIS 5 billion; it also decided on a NIS 2 billion budget cut towards the end of 1996, partly by raising net taxes and partly by reducing public consumption.

Private disposable income rose following the reduction of taxes, leading to a 5.5 percent increase in private consumption.

Figure 2.1
Private Consumption[a] as a Proportion of Total Disposable Income and Disposable Wage Income, 1980-96



[a]Excluding durables.
SOURCE: Based on Central Bureau of Statistics data.

The openness of the economy to international capital markets weakened the effect of domestic interest rates.

High short-term domestic interest rates, which make saving more worthwhile, acted to check the expansion of consumption.[2] Empirical evidence indicates that this effect is not strong. The extent to which the economy is open to international capital markets further weakens the effect of domestic interest rates.

Durables consumption rose by a relatively moderate 5.3 percent in 1996, as the new immigrants' period of acquiring durables showed signs of coming to an end. This is indicated by the substantial increase in recent years in durables inventory, which has doubled since the beginning of the decade. The inventory enables a high level of durables services consumption in the next few years—even at the current level of purchases. Developments on the capital market—especially withdrawals from provident funds—also operated in the background. However, the increase in the public's financial assets implies that the money withdrawn from the provident funds was directed to other financial channels rather than to durables purchases.

3. AGGREGATE SUPPLY

Supply rose more slowly than did factors of production.

After the impressive expansion of business-sector product in 1995, its growth rate moderated to 5 percent in 1996, after 9 percent in 1995 and an annual increase

[2] This policy has another effect: if households believe that the real exchange rate is below equilibrium they will tend to increase current consumption before prices rise. This would be expressed primarily in durables purchases and foreign travel. The latter did indeed rise appreciably, but the former moderated, as explained above.

Table 2.3
Supply of Business-Sector Product, 1986–96

(rate of change, percent)

	1986–89	1990–94	1995	1996
Business-sector product	4.9	7.0	8.9	5.0
Gross physical capital stock	2.7	4.3	8.5	8.2
Labor input	2.0	6.3	8.2	3.7
Civilian labor force	2.6	4.8	3.5	2.2
Civilian labor force *plus* non-Israeli workers[a]	2.6	5.2	6.6	3.4
Total factor productivity	2.6	1.3	0.5	−0.2
Rate of return on capital	10.3	13.7	12.7	11.7

[a] Growth rate of civilian labor force *plus* growth rate of labor input of workers from the Autonomy and the administered areas, and foreign workers.

of 7 percent since 1990 (Table 2.3). The slowdown in the rate of increase was greater than that at which factors of production fell.

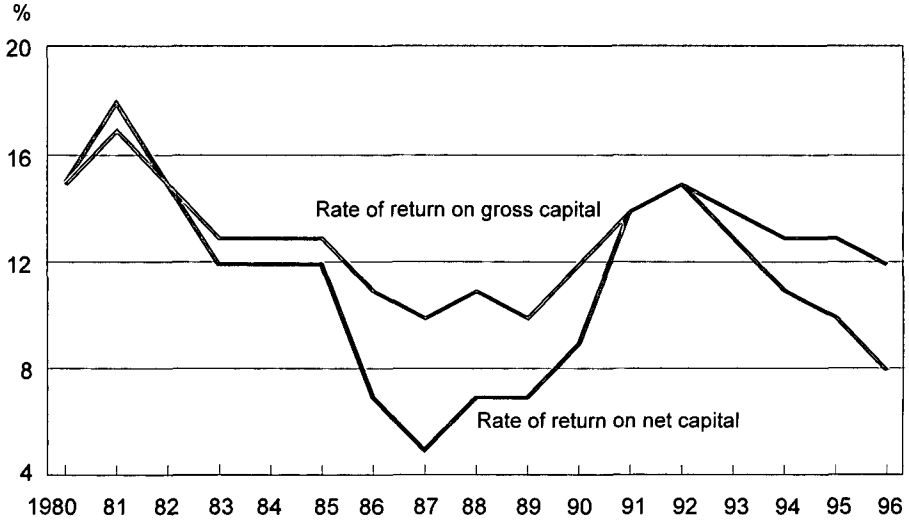
According to a rough estimate, the rise in potential output in 1996 was between 5.7 and 7.5 percent, compared with a rate of between 6.7 and 9.8 percent in 1995 (Box 2.1). The growth rate of potential output reflects the possibility of expanding supply given almost full employment. The fact that the unemployment rate was below 7 percent for the second year in succession seems to be a rough indicator of the inability of the Israeli labor supply to grow in 1996. However, the marked increase in the number of foreign workers means that output can be increased beyond that level, and the calculation above takes that into account.

Gross business-sector capital stock at the beginning of 1996 rose by 8 percent, similar to its rate in 1995. The stock of plant and equipment in industry increased by 9 percent, and that of industrial structures by 15 percent. Business-sector net capital stock grew by 10 percent. Despite the rapid increase in total capital stock, capital stock per employee was below its trend line, which stopped rising as the mass immigration began (Figure 2.3).

The rate of growth of the civilian labor force moderated in 1996, rising by 2.2 percent compared with 3.5 percent in 1995. This growth rate is still higher than the rate of natural increase, because about 70,000 immigrants are continuing to arrive each year.

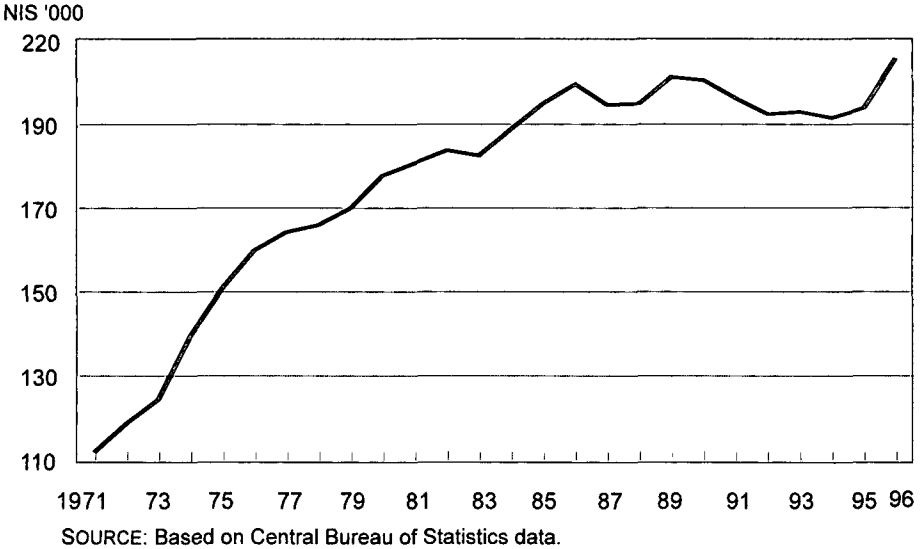
The increase in the civilian labor force (of the working-age population) reflects the potential expansion of the Israeli labor supply in the long term; in the short term,

Figure 2.2
Rates of Return on Gross and Net Capital, 1980-96



SOURCE: Based on Central Bureau of Statistics data.

Figure 2.3
Capital Stock per Employee, 1971-96



SOURCE: Based on Central Bureau of Statistics data.

Box 2.1: The Estimate of Potential Output

A comparison of actual economic performance with potential expansion is generally considered to indicate the efficiency of factors of production. In practise, this is done by comparing the actual rate of expansion of business-sector product with that of potential output. This involves making several assumptions, regarding some of which there is no general consensus. For example, the calculation of potential output does not take changes in capital utilization and in the levels of employees' education into account, and this gives rise to estimation difficulties. The entry into Israel of foreign workers in the last few years has created another problem—lack of clarity regarding the potential labor supply and its efficiency (in the past the incremental supply of foreign workers was simply ignored). The estimate of potential output is based on the growth rates of the factors of production—physical capital stock and the labor supply—plus total factor productivity. Gross physical capital stock at the beginning of the year rose by 8 percent (Table 2.3), and its specific contribution to the expansion of business-sector product was 2.6 percentage points (its share in production is 32 percent). The labor supply was calculated in two ways. The first was based on the civilian labor force (the working-age population can also be used for the calculation). This indicates the potential labor supply of Israelis, disregarding the contribution of workers from the Autonomy and the administered areas and of foreign workers. The second method involves taking the civilian labor force together with the labor input of non-Israeli workers. This implies that as regards quality, non-Israeli workers are perfect substitutes for Israelis. The civilian labor force grew by 2.2 percent in 1996, and calculated in the first way its specific contribution to the expansion of supply was 1.5 percent (its share in production is 68 percent). According to the second method, the civilian labor force *plus* the labor input of workers from the Autonomy and the administered areas and of foreign workers rose by 3.4 percent, its specific contribution to the expansion of supply being 2.3 percent. To the increase in the factors of production we add the assumption that total factor productivity rose by between 1.6 percent (in accordance with its growth rate in the last ten years) and 2.6 percent (a range which reflects the fact that productivity is currently below the long-term average). On the basis of the first method, the supply of potential output rose by between 5.7 and 6.7 percent in 1996, while according to the second one it went up by between 6.5 and 7.5 percent. A calculation based on the growth rate of net (rather than gross) capital stock would yield a larger rate of increase.

There were indications of a labor-supply constraint in certain industries.

however, the labor supply might grow faster than this—by an increase in hours worked per employee, a reduction in the unemployment rate, or the employment of foreign workers. The first two possibilities have been almost fully utilized: the number of hours worked per employee remained virtually unchanged in 1996, and the actual unemployment rate appears to have almost reached the natural unemployment rate. There are indications that there was a capacity constraint in certain areas (Chapter 4), while the number of foreign workers continued to rise steeply. The share of foreign workers in the business sector is relatively large, and is apparently approaching the point where the authorities will be obliged to limit the number of permits and intensify law enforcement in order to prevent the rapid increase in their number and halt the expansion of the number of illegal workers. The growth rate of the civilian labor force (or the working-age population) is thus becoming an ever more effective constraint on the expansion of the labor supply. Continued economic growth will thus inevitably give rise to upward pressure on real wages, which in turn will act to moderate the rate at which output increases in comparison with the years when the unemployment rate was higher.

Given a labor-supply constraint on GDP growth, continued economic expansion will exert upward pressure on real wages.

Total factor productivity

Labor productivity was affected by the process of immigrant absorption and fluctuations in the composition of labor inputs.

A number of processes have been operating on total factor productivity in the last few years, and their effect was notable in 1996, too. These include the absorption of mass immigration alongside the rapid rise in capital stock, ongoing interruptions in the employment of workers from the Autonomy and the administered areas, and the entry of foreign workers (Box 2.2). Cyclical demand factors—with mainly a short-term effect and associated more with capital stock utilization—have also been at work.

Security incidents had an adverse effect on productivity, particularly in tourism.

Several short-term factors operated to check supply in 1996. First, as mentioned earlier, the security incidents impaired productivity that is temporary in nature by causing a decline in capital stock utilization, particularly in tourism. Business-sector product would have risen by another 0.3 percentage points had exports of tourism services risen in line with the increase in world trade. However, this is an overestimate of the damage that would have been incurred had factors of production been released by the tourism industry. On the other hand, the estimate does not take into account the damage caused to industries closely associated with tourism. Assuming that the upward and downward biases are similar, we find that had it not been for the security incidents, business-sector product would have increased by 5.3 percent.

The moderate rate of nominal depreciation of the last two years has had a cumulative effect.

Secondly, the moderate rate of nominal depreciation in the last two years, as well as the decline in profitability, which were due *inter alia* to the policy mix, had a cumulative effect, impairing the competitiveness of the traded sector providing there are nominal rigidities in other (nontraded) industries. This can be translated into a

reduction of demand for factors of production in the traded sector, and/or a decline in its factor utilization, captured by the decline in total factor productivity. The persistent fall in the rate of return in the business sector, due also to the moderate rate of depreciation, acted to reduce supply.

The damage incurred as a result of the slower rate of nominal depreciation may be partly temporary—if firms do not expect the slope of the exchange-rate band to change in the near future. If that is the case they will try to avoid dismissing employees since this means losing specific human capital and incurs costs associated with worker mobility (the motive for labor hoarding). The absence of complete mobility of factors of production between industries is generally accompanied by relatively low total factor productivity.

A positive contribution was made by the improvement in the terms of trade alongside the reduction of foreign prices, but this improvement followed a larger deterioration in 1995. This effect is not very significant, nor does it greatly influence firms' behavior since it is at least in part unexpected.

Box 2.2: Total Factor Productivity

Total factor productivity is defined as the rise in output per employee (per labor input) beyond the increase in capital stock per employee (per labor input). The slow growth in total factor productivity since 1992 (Table 2.A.9) requires explanation considering Israel's success in absorbing previous influxes of immigrants,[3] as indicated by the rapid growth of output based on the rise in total factor productivity. This is especially the case since the level of human capital of the latest influx of immigrants is extremely high. Although total factor productivity rose at the beginning of the current influx (1990–91), this mainly reflected increased demand, which was met in part by raising factor utilization.

Population and Productivity: A Long-Term View, 1962–96

(rate of change, percent)

	1962–71	1972–81	1982–89	1990–96
Population growth rate	3.4	2.5	1.7	3.4
Productivity growth rate	4.3	1.8	0.9	1.0

[3] Yoram Ben-Porath, "The Entwined Growth of Population and Product, 1922–1982," and Jacob Metzer, "The Slowdown of Economic Growth: A Passing Phase or the End of the Big Spurt?" in Yoram Ben-Porath (ed.) (1986), *The Israeli Economy; Maturing Through Crises*, Harvard University Press, place the responsibility for the high productivity of the 1950s and 1960s *inter alia* on the successful absorption of mass immigration and its long-term effect.

Three factors have been operating on total factor productivity in recent years: the absorption of immigrants in the production process alongside a fall in capital stock per employee, interruptions in the employment of workers from the Autonomy and the administered areas, and the entry into Israel of foreign workers.

At the first stage of the influx of immigrants, most of the newcomers found employment that did not match their original professions. As a result, their wages (serving as an indication of their productivity) were lower than those of the established population, and this had a negative effect on productivity. As time went by, the immigrants adapted to economic conditions in Israel, and progressed to employment commensurate with their original occupations. The table below shows the negative contribution of the more recent labor-force entrants among the immigrants (whose wages were lower than those of the established population), as well as the positive contribution of the immigrants whose advancement in employment acts to increase productivity and whose wages rose by more than those of the established population. The first factor predominates in the initial stages of immigrant absorption, and the second at the later stages.

Ratio of Immigrants' Hourly Wage to that of Established Population in Business Sector, 1990–95

Year of immigration	1990	1991	1992	1993	1994	1995
1990	0.48	0.53	0.51	0.60	0.59	0.71
1991		0.48	0.45	0.52	0.49	0.66
1992			0.37	0.43	0.48	0.56
1993				0.45	0.42	0.55
1994					0.37	0.51
1995						0.41

At the same time, the rapid expansion of capital stock that is required in order to increase the capital/employee ratio—which shrank as a result of the sharp increase in the number of employees—involves expenditure in the short term. This process operates to the detriment of productivity in the short term, but embodies technological advances which have a positive effect on total factor productivity in the long term.

The interruptions in the arrival of workers from the Autonomy and the administered areas caused by security problems had an adverse effect on total factor productivity. In the short run these interruptions prevented other factors of production—especially in construction and agriculture—from functioning, harming economic activity in those industries. This provided an impetus for the entry into Israel of foreign workers, thus solving the problems of both security and the irregular supply of labor.

Some 110,000 workers from the Autonomy and the administered areas and 2,000 foreign workers were employed in Israel in 1990. In 1996 the numbers were 39,000 and 125,000 (the latter including illegal workers) respectively. The replacement of workers from the Autonomy and the administered areas, and the notable increase in the number of foreign workers (even exceeding the replacement requirement) makes a period of adjustment necessary for both employees and employers, with a consequent impairment of total factor productivity. Some foreign workers may be less skilled than those from the Autonomy and the administered areas they replaced; consequently, their wages were lower, so that diminished total factor productivity did not necessarily reduce profitability.

4. DEMAND, SUPPLY, AND THE REAL EXCHANGE RATE

Business-sector uses of resources, constituting an indicator of the increase in demand, rose by 6.5 percent in 1996 (Table 2.4), surpassing the actual expansion of business-sector product. This was reflected by the steep rise in the share of the civilian import surplus in business-sector product—from 20.7 percent in 1995 to 22.3 percent in 1996. The shift abroad of demand indicates the inadequate response of domestic supply to demand.

Alongside background factors (see below), monetary and fiscal policy also operated to prevent supply from expanding more rapidly. These factors probably also caused real appreciation.

The real exchange rate, measured by the relative prices of business-sector product (including housing services) and exports (excluding diamonds), appreciated by 4.1 percent in 1996, compared with 2.7 percent in 1995 (Table 2.5). When measured by the relative prices of imports (excluding diamonds) and business-sector product (including housing services), the real exchange rate appreciated by 6.6 percent in 1996—compared with depreciation of 1.6 percent in 1995—and appreciation has

Although there was pressure for real depreciation in 1996, the rate of appreciation outstripped the long-term trend.

Table 2.4
Demand for and Supply of Business-Sector Product, 1986–96

(rate of change, percent)

	1986–89	1990–94	1995	1996
Actual business-sector product	4.9	7.0	8.9	5.0
Business-sector use of resources	4.5	9.4	8.5	6.5
Share of import surplus[a]	11.3	19.6	20.7	22.3

[a] Share of civilian import surplus in business-sector product, at constant prices.

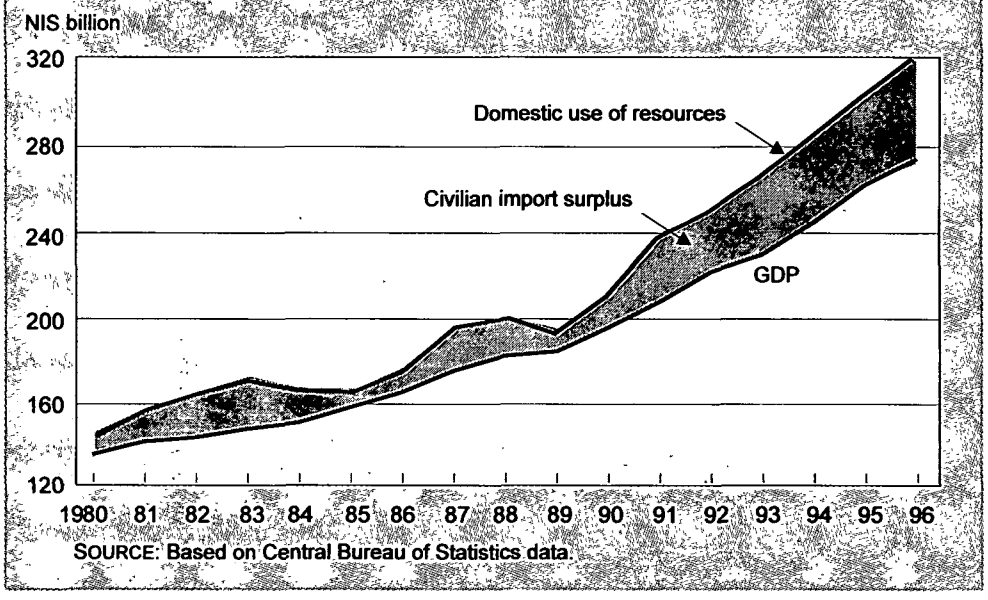
been evident since the late 1970s (Figure 2.5). This trend is explained by the country's economic growth, based on a relative increase in productivity in the traded sector and a relative rise in demand for nontradable goods. The rate of appreciation in 1996 exceeded this trend, however. This should be seen in the context of four main forces that were operating in 1996—over and beyond the effect of fiscal and monetary policy: (1) the rapid expansion of demand for high-tech products and the fall in demand for the output of traditional industries (Chapters 4 and 6) should have given rise to real depreciation; (2) the slowdown in construction, which is the leading nontraded industry, should have exerted pressure for real depreciation; (3) the continued rapid expansion in the number of foreign workers, who are employed mainly in the nontraded sector, exerted downward pressure on wages in that sector, also tending to cause real depreciation; (4) capital imports that are neither due to the interest-rate gap nor intended for investment contribute to real appreciation.

Expansionary fiscal policy and contractionary monetary policy moderated nominal depreciation, exerting pressure for real appreciation.

Fiscal policy, which was expansionary, exerted pressure for real appreciation. This caused tight monetary policy to be adopted in an attempt to keep inflation down. In addition, the exchange-rate policy enabled market forces to affect the exchange rate within the band, thereby bringing about moderate nominal depreciation against the currency basket. The nominal exchange rate of the sheqel against the currency basket rose by an annual average of 3.5 percent in 1996, compared with 4.6 percent in 1995 (Table 2.5). During 1996 it rose by 3 percent, compared with 5.8 percent in 1995 (the slope of the band was 6 percent during both years). The rate at which nominal wages rose, which outstripped nominal depreciation for the second year in succession, prevented the more rapid expansion of the production of import substitutes as well as of exports. This obtains when there are nominal rigidities in conjunction with imperfect mobility of factors of production, and explains the combination of the inadequate supply reponse with real appreciation that outstripped the trend.

Even though changes in the nominal exchange rate have little effect in the short run, nominal downward rigidities make the real exchange rate more responsive to

Figure 2.4
Domestic Use of Resources, GDP, and the Civilian Import Surplus, 1980-96



SOURCE: Based on Central Bureau of Statistics data.

nominal appreciation than to nominal depreciation. Despite the moderate rate of nominal depreciation in 1996, nominal business-sector wages rose by 12.7 percent, compared with 10.7 percent in 1995. Prices of the nontradable items in the CPI rose (on average) by 12.6 percent in 1996, compared with 11.5 percent in 1995. These developments, which had begun in 1995, affected the rate at which product rose in the traded sector, and this was a modest 3 percent in 1996, after 8 percent in 1995 (Table 2.5). These facts indicate that nominal rigidities played a part in converting nominal into real appreciation. This is also borne out by the development of civilian imports, which rose by 7 percent in 1996, after 9.4 percent in 1995. Assuming constant coefficients (from uses of resources), imports could have been expected to grow by less. The rate at which civilian imports rose is in line with the decline in their relative price (i.e., real appreciation), which increases demand for imports beyond what is derived from the use of resources.

Furthermore, the rate at which high-tech exports rose was, as stated, far higher than that of the traditional industries (Chapters 4 and 6). If this process is the dominant factor, it should have been accompanied by a reduction in the share of the import surplus in GDP and by increased profitability. In fact, the import surplus rose in 1996, and the rate of return on capital continued to fall. This further bolsters the assessment that real appreciation went beyond what was required by real economic forces alone.

Nonetheless, the moderate rate of nominal depreciation did not reflect a change in an important parameter of exchange-rate policy: the slope of the band did not change,

Table 2.5
The Real Exchange Rate and the Traded Sector, 1986–96

(rate of change, percent)

	1986–89	1990–94	1995	1996
Exchange rate (export terms)[a]	-5.0	-3.6	-2.7	-4.1
Exchange rate (import terms)[b]	-6.6	-3.8	1.6	-6.6
Nominal exchange rate against currency basket		10.2	4.6	3.5
Traded business-sector product[c]	3.0	5.4	8.2	3.1
Traded business-sector use of resources[c]	4.1	9.5	7.6	6.7
Terms of trade[d]	1.7	0.2	-4.2	2.7

[a] Ratio of export prices (excluding diamonds) to business-sector product prices (including housing services).
[b] Ratio of import prices (excluding diamonds) to business-sector product prices (including housing services).
[c] See Table 2.A.7.
[d] Ratio of export prices (excluding diamonds) to import prices (excluding diamonds).

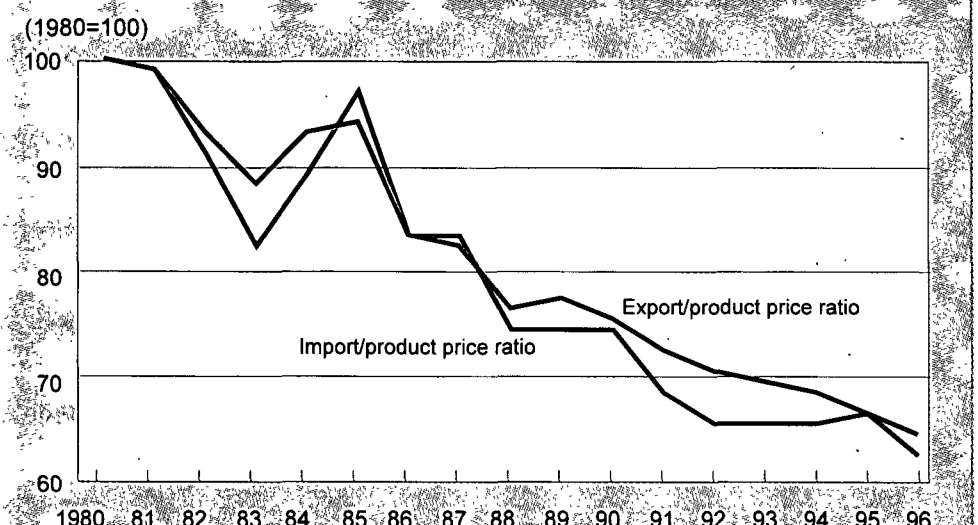
remaining, as stated, at 6 percent. Thus, alongside the rise in the variance of the real exchange rate there was no change in its average. The extensive use of instruments for hedging against exchange-rate fluctuations, which impose costs on firms, is in line with the rise in the variance. There is no evidence for concluding that the traded sector (which includes production of exports and import substitutes) is more sensitive to variance in the exchange rate than in interest rates. However, this might be the case because this sector has relatively easy access to the international credit market.

Monetary restraint should be evaluated in light of long-term considerations (assuming that policy does not divert the economy from its long-term target path). The long-term objective of monetary policy is to attain macroeconomic stability by gradually closing the gap between the inflation rates in Israel and its trading partners. Success in achieving this goal will create favorable conditions for the expansion of the traded sector and for sustainable economic growth.

Fiscal policy cannot be blamed for the inadequate short-run response of supply to demand.

Data for the public sector show that its deficit grew: the total (current-account) public-sector deficit rose from 2.1 percent of GDP in 1995 to 3.1 percent of GDP in 1996. Although fiscal policy contributed to the increase in demand, particularly for nontradables, both directly (by enlarging public consumption) and indirectly (by reducing net tax receipts), and thus caused real appreciation and the sharp increase in the import surplus in 1996, it cannot be held responsible for the failure of supply to respond adequately to demand.

Figure 2.5
Implicit Price Index of Business-Sector Product (including Housing) Relative to Import and Export Prices (excluding Diamonds), 1980-96



SOURCE: Based on Central Bureau of Statistics data.

The improvement in the terms of trade in 1996 generated conflicting effects. Empirical evidence indicates that the forces for real appreciation predominate in Israel. The improved terms of trade also affected the real exchange rate by reducing the relative price of raw materials. This had a positive effect on supply, and hence caused real depreciation. Alongside the improved terms of trade, the rate at which foreign prices rose moderated, and if nominal rigidities exist this also generates real appreciation.

5. SAVING, INVESTMENT, THE CURRENT ACCOUNT, AND INTEREST

The national saving rate fell in 1996 for the fourth successive year, and stood at 17.1 percent, after 17.8 percent in 1995 (Table 2.A.16), reflecting a fall in public saving and a rise in private saving.

The decline in public saving was due mainly to the government's policy, reflected by the significant deviation from the 1996 deficit target.

The reduction in public saving mainly expresses government policy, which involved a significant departure from the 1996 deficit target. Setting a low budget deficit target for 1996 indicated cautious policy intended to protect the economy from problems arising from balance-of-payments difficulties. In fact, the government's domestic deficit was 4.7 percent of GDP (cash basis), compared with a target of 2.8 percent.

The persistent balance-of-payments deficit, together with continued capital inflow, makes the economy more vulnerable, and could have negative repercussions on economic activity.

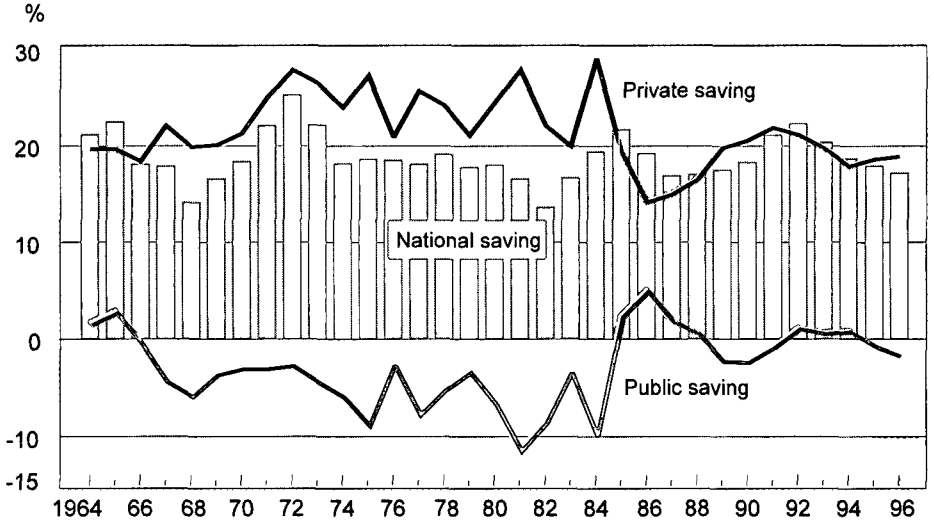
The response of private saving did not fully offset the decline in public saving, so that the national saving rate continued to decline.

The response of private saving did not fully offset the decline in public saving, so that the saving rate continued to fall. The private saving rate was 18.8 percent in 1996, compared with 18.5 percent in 1995. Experience shows that private and public saving offset one another to some extent (Figure 2.6). As stated, the fall in public saving reflects a decline in tax receipts, some of which is temporary. Households may have expected the deviation from the budget to be partly corrected by higher taxes and partly by a cut in public expenditure. Alternatively, they may have interpreted the deviation from the budget as indicating a policy shift away from fiscal restraint. Either possibility explains the relatively moderate rise in private saving in response to expansionary fiscal policy.

The decline in the national saving rate exceeded that in investment, and this was reflected in the large current-account deficit —4.6 percent.

The share of gross domestic investment in total income was 22 percent in 1996, compared with 22.1 percent in 1995. This slight decline reflects the stagnation of nonresidential construction and almost imperceptible rise in merchandise inventory. The fall in the national saving rate surpassed that in the total investment rate, and this was reflected by the persistently high level of the current-account deficit and upward pressure on real interest rates. The current-account deficit was 4.6 percent (current prices), after 4 percent in 1995, a rate which is high in comparison with both the period following the 1985 economic stabilization program (ESP) and international levels.

Figure 2.6
Gross National Saving Rate, by Sector, 1964-96[a]



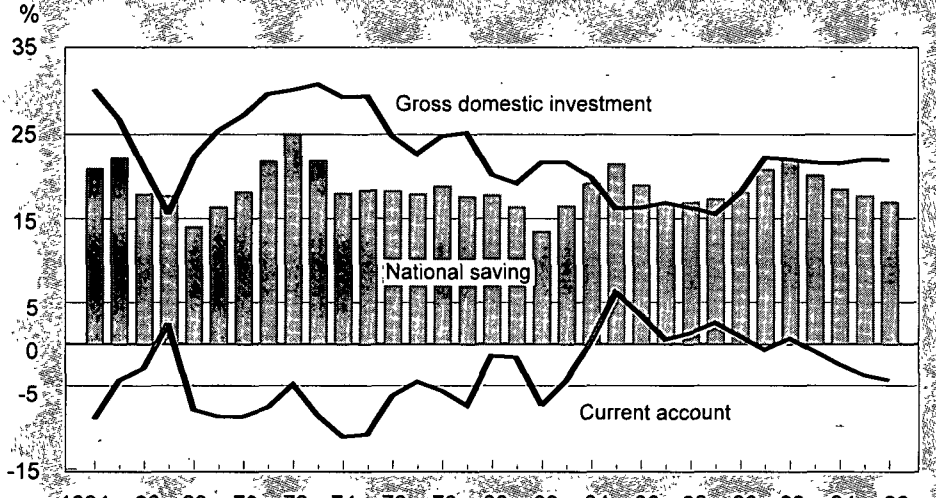
[a]Percentage of total income, at official exchange rate.
SOURCE: Based on Central Bureau of Statistics data.

In principle, a balance-of-payments deficit indicates the smoothing of consumption over time, which in itself is positive, so that the question that arises is why is the level of Israel's deficit regarded with alarm? In the short term, a high balance-of-payments deficit increases the chances of a financing constraint and/or a significant rise in the real interest rate. A rise in the foreign debt will eventually raise interest payments on it and reduce national income. On the other hand, when investments mature, this will give rise to faster growth, making it possible to pay for debt servicing. There are, however, three kinds of government intervention which may give rise to a financing problem. First, the Encouragement of Capital Investments Law grants over-generous incentives to investment in the principal industries; secondly, the government borrows under the US government guarantees and makes some of the money available to the private sector; thirdly, restrictions on the movement of capital could create differences between foreign and domestic interest rates.

Domestic long-term interest rates were in line with international rates in 1996.

The international real marginal interest rate for investors and savers, based on the cost of borrowing under the US government guarantees, is estimated at 4.7 percent.[4] In 1996 the real yield to maturity on long-term (10-year) government bonds was 4.7 percent, and the interest on mortgages was 5.7 percent. Thus, the domestic long-term interest rate was similar to the international one. This should allay fears that investment is not efficient from the standpoint of the economy as a whole.

Figure 2.7
Rate of Saving, Investment, and the Current Account, 1964-96[a]



[a]Percentage of total income, at official exchange rate.
SOURCE: Based on Central Bureau of Statistics data.

[4] The calculation is based on the following assumptions: the dollar interest rate on credit taken under the guarantees in 1996 was 7.3 percent; the rate at which the dollar price of exports rose was 2 percent; the risk premium on dollar inflation was 0.5 percent.

However, this calculation is appropriate for firms which do not qualify for benefits under the Encouragement of Capital Investments Law. Under certain conditions this creates a significant gap between the interest rate confronting private investors and that for the economy as a whole. This embodies possible damage to both national income and the ability to service the external debt in the future.

6. PRINCIPAL INDUSTRIES[5]

Industry

The rate at which industrial product grew slowed to about 5.5 percent in 1996.

The growth rate of industrial product slowed to 5.5 percent[6] in 1996, after annual increases of 7 and 8 percent since the beginning of the decade. For the last seven years Israel's growth rate has been faster than that of most industrial countries, and is in line with the trend of total business-sector product. It has remained consistently high because to a great extent industrial production involves high-tech goods for export (Tables 2.6, 2.8, and 2.A.19). Exports and product of the main high-tech industries rose significantly faster in 1996 than those of industry as a whole. The slower rate at which production rose in 1996 was apparently due to a decline in both domestic demand and the exports of many of the traditional industries—food, textiles, clothing, footwear, and wood—following the rise in competing imports that ensued from the liberalization of trade.[7] The slowdown in investment in construction, and increased uncertainty as a result of security incidents and hitches in the peace process, also played a part in this. The expansionary effect of immigrant absorption may also be abating, after having made a significant contribution to the increase in industrial production in the first half of the decade.

The slowdown in production appears to have been due to the fall in both domestic demand and exports of goods produced by 'traditional' industries.

[5] In some cases the labor input data used here are drawn from sources other than those used in the foregoing macroeconomic analysis, and this may give rise to discrepancies between the two main parts of this chapter with regard to productivity and other estimates.

[6] All the figures refer to industry excluding diamonds. Because of the small share of the latter in product (value added), it does not significantly affect rates of change in most years, including 1996. Export figures do not include exports to the Autonomy and the administered areas. The source of most of the data is the Survey of Industry undertaken by the CBS; in some cases data may not be consistent with those for industry in the first part of this chapter due to differences in methods of calculation and in definitions.

[7] See also the detailed analysis of the development of industrial exports in Chapter 6.

Box 2.3: Some Basic Data on Israel's Industry

According to a new estimate, there were 18,000 plants, excluding diamonds, employing workers in Israel in 1996. Over 8,000 of them were small enterprises with fewer than five employees, and 145 had more than 300 employees and accounted for some 40 percent of total industrial revenue.

There were about 380,000 employees (and another 8,000 in diamonds), with an estimated 12,000 in R&D—most of them engineers, other academically qualified professionals, and technicians.

Total industrial revenue was some NIS 157 billion; direct exports excluding diamonds accounted for about NIS 41 billion of this (i.e., $ 13 billion). Approximately 600 plants with 120,000 employees accounted for almost 95 percent of exports.

Physical capital stock at the beginning of 1996 was estimated at NIS 110 billion, annual fixed investment at NIS 16 billion, and R&D investment at NIS 2.3 billion.

The decline in producers' profitability that had begun in 1994 persisted in 1996.

A worrying development in 1996 was the fall in producers' profitability, which has persisted since 1994, and in particular the marked decline in exporters' return on capital (Table 2.7, Figure 2.8). As stated, the decline in profitability and slower rise in total factor productivity (TFP) preceded the slowdown in the rate at which production expanded by two or three years. Can this be taken to indicate that the seven good years have come to an end and the basis has been created for a long-term slowdown in the rate of industrial growth? What we appear to be witnessing is a 'natural' process of structural change, one of adaptation to high-tech production, involving the conversion and even closure of traditional industries that have not adjusted to changing demand and the liberalization of trade. This view is supported by the notable increase in investment in both fixed assets and R&D in the last few years. Physical capital stock in industry has risen by an annual 9 or 10 percent since 1994, compared with about half that rate in the three preceding years (Table 2.6). R&D capital stock[8] is also rising markedly. It is not reasonable for an industry that is approaching a slowdown in activity to increase its production and export potential to such an extent.[9] It seems

[8] R&D capital stock is the cumulative value of annual investment in research and development in industry. The estimate here uses the perpetual inventory method (the way physical capital is measured) and assumes that this investment has a lifespan of 7 years; alternative assumptions concerning lifespan did not significantly alter the trends during the period discussed here.

[9] One of the reasons for investment of this magnitude might be expectations—realized in 1997—of an appreciable cut in capital subsidies (in the form of grants for capital investment in development regions, see below).

Table 2.6
Production and Factors of Production in Industry,[a] 1980–96

(average rate of change, percent)

	1980–85	1985–90	1990–93	1993–96	1995	1996
Production	3.7	2.0	7.2	7.1	8.4	5.4
Exports	9.2	6.8	10.2	8.1	3.5	6.9
Labor input	1.2	-1.9	5.8	4.0	4.0	2.1
Physical capital stock	4.6	3.8	4.6	9.4	10.1	10.0
R&D capital stock	18.4	7.7	-2.6	5.7	6.1	7.9
Labor productivity	2.4	4.0	1.4	3.0	4.2	3.3
Total productivity	1.3	0.8	1.7	1.3	2.2	0.8

[a] Excluding diamonds.

SOURCE: Based on Central Bureau of Statistics data.

Table 2.7
Indicators of Profitability in Industry, 1991–96

(year-on-year change, percent)

	1991–93	1994–96	1994	1995	1996
Real unit labor cost[a]	-1.9	4.4	3.7	7.3	2.2
Real cost per man-hour[a]	-0.6	7.6	5.3	11.9	5.6
Output/input price ratio	1.5	-1.7	-0.9	-3.9	-0.2
Export/domestic price ratio	-0.3	-3.3	-2.0	-4.8	-3.2
Rate of return on gross capital[b]	15.1	12.5	14.2	12.0	11.2
Rate of return on net capital[c]	15.9	10.0	13.4	9.1	7.4
Real interest on overdraft facilities	10.9	11.6	10.5	13.2	11.2
Change in industrial share-price index[a]	43.4	-10.3	-17.5	-9.9	-3.5

[a] At product prices.

[b] Ratio of product (*less* labor costs) to capital stock (including vehicles).

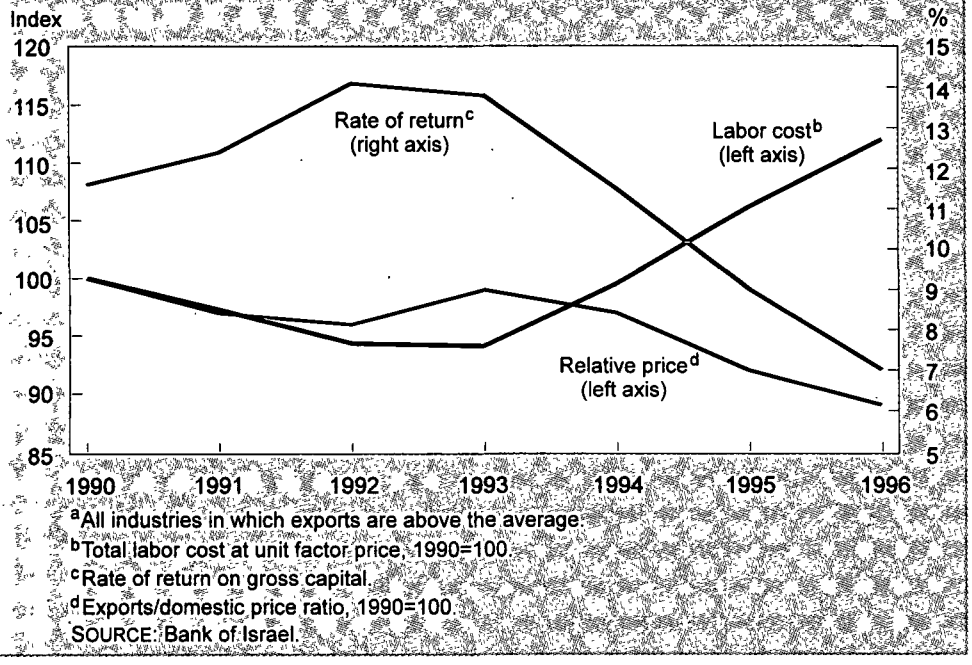
[c] Ratio of product (*less* depreciation and labor costs) to capital stock (including vehicles, *less* amortization).

SOURCE: Based on Central Bureau of Statistics data.

likely that the rapid rise in capital stock has not been fully expressed in output, but in the short run has reduced the return on capital, especially in view of the fact that the process of investing in industry usually takes more than a year or two. This may also explain the temporary slowing of the rate at which TFP rose. On the other hand, the employment of immigrants in industry and their improved integration in the production process in the last two years appear to have made a positive contribution to productivity.

According to all the indicators, the profitability of industry has declined since 1994 (Table 2.7). A closer examination shows that the decline is due mainly to export industries (Figure 2.8), since the fall in average profitability in industries producing mainly for the domestic market has been more moderate. The two principal factors determining export profitability[10]—labor costs and relative export prices—had a negative effect. Most of the increase in unit labor cost occurred in 1994 and 1995; nonetheless, in the last three years the relative price of industrial exports has fallen to 10 percent below domestic prices.

Figure 2.8
Rate of Return, Labor Cost, and Relative Prices in Export Industries, 1990-96[a]



[a] All industries in which exports are above the average.
[b] Total labor cost at unit factor price, 1990=100.
[c] Rate of return on gross capital.
[d] Exports/domestic price ratio, 1990=100.
SOURCE: Bank of Israel.

[10] Export industries are those in the two-digit category where the share of exports in revenue is higher than the average (30 percent); see also Table 2.7.

Unit labor costs rose by about 2 percent.

Labor costs, which account for two thirds of value added in industry as a whole, rose by about 5 percent in real terms (at product prices), after increasing by 12 percent in 1995 (Table 2.7), and labor productivity (output per man-hour) went up by 3 percent. Unit labor costs thus rose by only 2 percent, albeit after an annual average increase of about 5 percent in the two preceding years.

The deterioration in the terms of trade of industry, which came in the wake of real appreciation, impaired the profitability of exports.

The deterioration in the terms of trade in industry also harmed export profitability, as prices of exports rose by less than those of their intermediates. Although output prices rose slightly more than input prices in 1996, their 7 percent increase reflects a rise of 8.6 percent in production for the domestic market and a 3 percent rise in export prices in local currency (Tables 2.7 and 2.A.18). Continued real appreciation reduces both the price of imported intermediates and export revenues, but all-in-all lowers exporters' profits. Nonetheless, manufacturers try to hang on to export markets, since penetrating them is a lengthy and complex process. This is especially the case where high-tech products and the fruits of extensive domestic R&D are concerned. The persistence of widespread investment reflects expectations of continued growth. However, in the traditional industries, which produce primarily for the domestic market, the decline in profitability is viewed, at least in part, as being permanent because it derives from relatively low efficiency and exposure to low-priced competing imports.

While the short-term local-currency interest rate facing Israeli manufacturers in the last three years played a role in reducing profitability, the share of interest in the total expenditure of most industrial firms is small. Furthermore, most of the large firms have access via the banks to the international capital market, where credit—including short-term—is cheaper.

An increasingly prominent source of finance for industrial firms was flotation on international capital markets.

A source of finance for firms which has been growing recently—especially for high-tech firms in electronics, chemistry, communications equipment, printing equipment, etc.—is offerings on the capital markets of the US and England. In 1996 such offerings in manufacturing industry, software, and communications accounted for $ 1 billion, after $ 300 million in 1995.This foreign investment depends not only on the potential profitability of the issuing companies, but also on international assessments of Israel's economy, *inter alia* regarding continued progress in the peace process.

Government financing of investment by grants under the Encouragement of Capital Investments Law grew by only 3 percent in real terms in 1996, after 15 percent in 1995. The slower increase is in line with the more moderate rise in approved investments since 1994 and with the policy of reducing the capital subsidy extended within this framework. The method of giving subsidies, which averaged about 37 percent of the approved investments, distorts the allocation of economic resources, especially by granting them to investments that are worthwhile to the investor rather than to the economy as a whole.[11]

[11] See Chapter 2 in the last two editions of this publication.

Demand and supply in various industries

The pace at which production expanded slowed, mainly in the second half of 1996, reflecting the effect (with different lags) of the fall in demand for the output of domestic industry. In all, private consumption contributed about 1.5 percent to the growth of industrial product in 1996, compared with 3 percent in 1995. Exports accounted for 3 percent, and construction investment 0.66 percent, compared with 2 percent in 1995.

The slowdown in the rate of investment in construction affected production in allied industries.

Investment in construction—residential, nonresidential, and infrastructure—rose by 6 percent in 1996, far below the buoyant 17 percent of 1995. The increase in the rate of production slowed in line with demand, mainly in industries producing construction materials (nonmetallic minerals, metal products, etc.)—to an average of 5 percent, after 20 percent in 1995. In contrast, the rate of production of more tradable goods did not adjust to domestic demand (current consumption of food, textiles, clothing, leather, etc.). Production of these dropped in volume terms, and the gap between supply and demand was closed by the increase in competing imports (Table 2.A.19). In some of these industries employment fell in 1996, employees were dismissed, and labor input declined by 6 percent (after 4 percent in 1995; Table 2.A.20). Since not all factors of production are mobile and it is very difficult to reduce capital stock in the short term, the result was a drop in TFP in these industries, in spite of the lay-offs.

The economic activity of 'traditional' industries slowed, while high-tech industries continued to grow rapidly.

Despite the considerable heterogeneity of the 'traditional' industries in the foregoing description, the general picture in 1996 is one of a decline in their production, most of which is intended for the domestic market. On the other hand, the rapid growth of most of the high-tech industries, which account for 80 percent of all industrial exports continued (Table 2.8). The industries are classified in accordance with an index of technology, which uses indicators of the quality of labor and of physical capital, as well as R&D capital stock for each industry. Although technological level is a characteristic of a plant rather than of an industry, and there are some high-tech firms in very traditional industries,[12] these characteristics can be used to classify some 12 percent of the plants and 18 percent of the output of the traditional industries as high-tech. Nonetheless, about 70 percent of the output and 80 percent of the exports of high-tech industry come from plants that are technology- and human-capital-intensive.

The point of making a distinction between these groups is that high-tech firms are more capital-intensive, primarily because the average industry and long-term TFP and rates of return on capital are also significantly higher. Thus, if the trend of the increasing proportion of high-tech industry evident in 1996 persists, in the final event the average profitability and productivity of industry will rise, too.

[12] See A. Bregman, M. Fuss and H. Regev, "High-Tech and Productivity: Evidence from Israeli Industrial Firms," *European Economic Review*, 35 (1991); H. Regev, "Innovation, Skilled Labor, Technology and Performance in Israeli Industrial Firms, 1982–93," Maurice Falk Institute for Economic Research in Israel, Discussion Paper No. 97.06, May 1997.

Table 2.8
Structural Change in Industry: From Traditional to High-Tech,[a] and from Domestic Uses to Exports,[b] 1990–96

(annual average change, percent)

	High-Tech	Traditional	Exports	Domestic
Product				
Share	66	34	53	47
1990-93	7.3	7.0	7.4	6.9
1994	7.0	7.9	6.6	8.2
1995	8.2	9.3	7.8	9.4
1996	6.5	1.1	6.2	2.8
Exports				
Share of exports	80	20	80	20
Share of sales	39	14	47	11
1994	14.7	10.4	12.7	17.0
1995	3.4	6.0	2.5	8.5
1996	9.1	-1.5	8.6	1.2
Labor input				
1990-93	5.5	6.2	5.4	6.2
1994	5.5	5.8	4.3	6.8
1995	5.2	1.7	2.7	4.3
1996	3.3	-0.3	0.9	2.4
Physical capital stock				
1990-93	6.4	1.6	5.9	2.9
1994	9.1	6.1	8.8	7.0
1995	10.4	9.7	11.1	8.8
1996	11.5	7.0	10.7	8.9

[a] The groups were classified according to a 'technology index' based on the quality of capital and labor, and R&D investment.

[b] The groups were classified according to the share of exports in total sales.

SOURCE: Based on Central Bureau of Statistics data.

In recent years capital stock has grown faster in high-tech industries than in traditional ones. This has not yet been fully expressed in product (Table 2.8), so that the increase in productivity in these industries has been slower than in the traditional ones. This difference cannot be attributed to difficulties in employing immigrants, since the proportion of immigrants in the traditional industries is almost twice as high as in the high-tech ones. Immigrants make up between 21 and 28 percent of the work force in plants producing textiles, clothing, leather, metals, wood products, and food,

etc., compared with between 12 and 14 percent in electronics and chemicals.[13] The contention that the employment of immigrants explains part of the slowdown in productivity does not appear to be borne out by the findings of the Manufacturers' Association surveys of the last two years. Although most of the immigrants were initially employed in work that was not commensurate with their skills, 87 percent of firms (especially large ones) reported that they have fitted in well professionally. Most firms (75 percent) had no clear preference between immigrants and established Israelis when taking on production-line workers. The fact that most immigrants in industrial firms work on a shift basis also contributes to the efficiency of production.

The rapid growth rate of industry of the last few years slowed in 1996, and the rise in labor productivity and TFP was checked. Nonetheless, capital stock—both physical and R&D—continued to increase, primarily in high-tech industries. This creates an appropriate basis for export-oriented growth in the future, depending principally on export profitability, which appears to have suffered considerably in the last three years. Achieving this requires the long-term stability of unit labor costs and the creation of a balanced fiscal and monetary policy mix, so that the trend of local-currency appreciation can be reversed. This will remove the obstacles to the full utilization of Israeli industry's comparative advantage—technological innovation based on high-level human capital. The persistent decline in export profitability could prevent the utilization of the export production capacity that has accumulated in the last few years.

Future industrial growth depends on the profitability of exports, which appears to have suffered significantly in the last three years.

Agriculture

Agriculture continued to expand in 1996, albeit at a slower pace than in 1995 when there was an exceptional surge in agricultural product, output, and productivity.[14] Output and product rose by 3.4 and 7 percent respectively, while total factor productivity grew by 8 percent (Table 2.9). In contrast with real economic developments, the decline in relative prices in agriculture accelerated. The input-output price ratio declined more steeply, causing product prices to fall. When deflated by total business-sector product prices, the price of agricultural product fell for the second consecutive year, by 13 percent, representing a deterioration in the long-term trend of relative prices in agriculture.

Agriculture continued to expand in 1996, though more slowly than in 1995, and the decline in its relative price persisted.

[13] According to the annual *Survey of the Employment of Immigrants, June 1996*, published by the Israel Manufacturers' Association, immigrants accounted for 22 percent of employed persons.

[14] A change introduced by the CBS in its by-industry classification of employees in 1995 was not accompanied by an equivalent adjustment of agricultural output and product. Consequently, output, product, and income levels should henceforth be treated with caution.

Table 2.9
Indicators of Agricultural Production, 1991–96[a]

(annual rates of change, percent)

	Average					
	1991–93	1994–96	1993	1994	1995	1996
Output						
Total output[b]	1.5	5.6	2.6	2.7	10.9	3.4
Inputs[c]	0.9	2.9	3.8	2.3	6.0	0.4
Gross product	2.3	8.7	1.3	3.2	16.2	7.0
Total farm income	-4.3	3.4	-11.8	13.1	-4.9	2.7
Real income from capital & own labor	-1.2	-6.8	-25.0	17.9	-15.5	-18.6
Factor input						
Labor	1.0	2.8	11.4	4.8	5.5	-1.7
Gross capital stock	-3.2	-1.4	-3.0	-1.6	-2.0	-0.6
Capital/labor ratio	-4.2	-4.1	-12.9	-6.1	-7.0	1.2
Productivity						
Product/labor ratio	1.3	5.7	-9.1	-1.5	10.2	8.8
Product/input ratio	3.1	7.5	-4.0	1.0	13.4	8.3
Exports						
Citrus	-16.1	9.3	-11.3	-1.4	36.4	-2.9
Other	5.4	18.6	6.7	14.5	13.2	28.8
Total	0.3	17.2	3.4	12.0	16.8	23.1
Prices						
Output	7.4	5.6	5.6	9.3	0.5	7.4
Purchased inputs	10.2	9.4	9.4	4.2	8.3	17.6
Terms of trade	-2.5	-3.9	-3.4	4.8	-7.2	-8.7

[a] For footnotes, see Table 2.A.25.
[b] Including intermediate product.
[c] Purchased and intermediate product.
SOURCE: Based on Central Bureau of Statistics data

Self-employed farmers continued to leave the industry in large numbers, amounting to 22 percent in the last two years. Compensation payments, subsidies, and the transfer payments from which the industry benefits have helped to stabilize farmers' average real return on capital and own labor, though in 1996 they could only moderate the decline. This refers to the aggregate of various agricultural branches, however, and is a long-term average, while there is considerable variance within and between branches. Note, too, that the reference is solely to income from agriculture.

The continued relative contraction of agriculture, largely the result of the decline in its relative price, is attested to by the decline in its share of business-sector product

at current prices of factors of production—to about 3 percent a year in the last two years, compared with an annual average of 4 percent in 1990–94, and 5 percent in 1990. At the same time, the proportion of Israelis employed in agriculture fell from 4 and 5 percent of all employees in 1990 and 1987 respectively to 2.5 percent in 1996.

The share of agriculture in business-sector product declined, in tandem with the reduction in the proportion of Israelis employed in it.

The rate at which agricultural output grew fell in 1996 due to the slowdown in crops and standstill in livestock. Output accelerated in export-oriented crops (flowers, avocados, vegetables, and cotton), however. The increase in output of field crops for the domestic market slowed, partly because of the weather and cyclical factors, and partly in reaction to the expansion of 1995. This was expressed in producer prices on the domestic market, with a slight real rise in prices of fruit and a decline in those of vegetables (Table 2.A.26).

Agricultural production for export[15] rose in 1996 for the second consecutive year—an 18 and 12 percent volume increase in crops in 1996 and 1995 respectively. This compensated farmers for the real decline in relative prices, including the effect of local-currency appreciation, and as a result the share of exports in total crop revenue rose to about 35 percent.[16]

Marked volume shifts in the exports of several agricultural branches are usually associated with fluctuations in the weather and the biennial bearing of certain crops (avocados, citrus, cotton, etc.), but in 1996 the acceleration in the production of flowers and vegetables for export was particularly marked. Although in part this was the result of improvements in the quality of the product and methods of processing, as well as of the maturation of technological improvements and marketing processes, it reflects mainly adaptation to significant changes in the composition of employment. The permanent employment on farms of foreign workers, many of them as substitutes for workers from the Autonomy and the administered areas who were employed in seasonal jobs, has made it possible to take their wages into account as a permanent expense. Consequently, the expansion of exports, e.g., flowers and vegetables, beyond their traditional (winter) season was made possible by minimal marginal costs, and relatively low unit costs, making efficient use of the existing labor force, as well as of transportation and marketing arrangements. Thus, some of the decline in the average relative prices of exports also reflects changes in the composition of exports (Tables 2.A.27, 2.A.28).

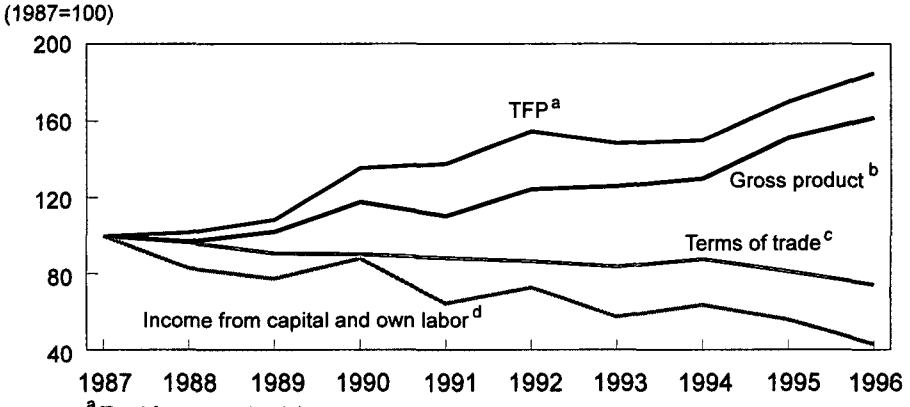
The acceleration in the production of flowers and vegetables for export was particularly marked in 1996.

Technological improvements and structural changes in agriculture since 1987 and the rise in productivity made a 17 percent reduction in the number of employees and capital stock possible, while output and product rose by 29 and 62 percent respectively

[15] This differs from exports in the balance-of-payments figures, see Table 2.9 and Chapter 6 below.

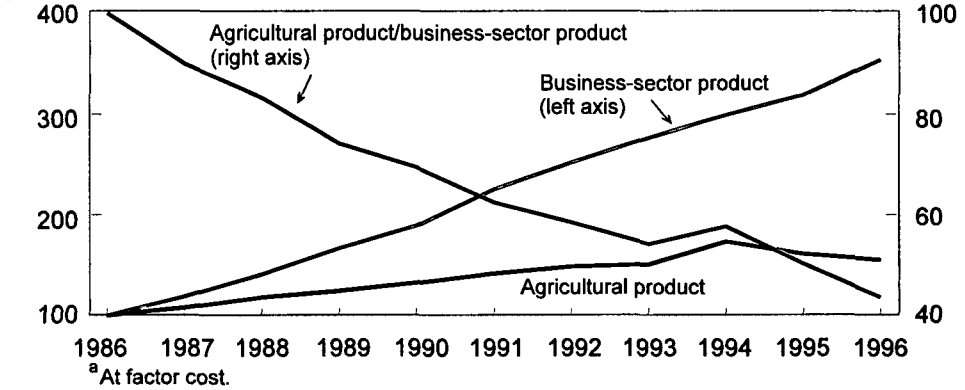
[16] Agricultural production for direct export accounted for 22 percent of agricultural revenue (Table 2.A.28).

Figure 2.9
Agriculture: Selected Indicators, 1987-96



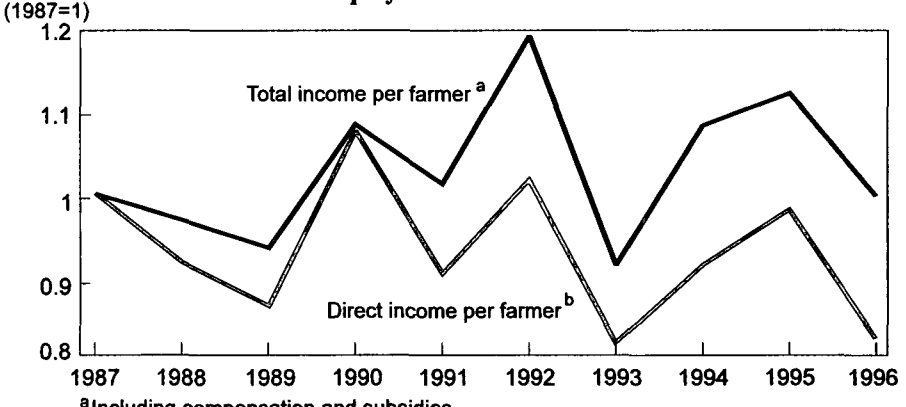
[a] Total factor productivity.
[b] Gross agricultural product, at constant prices.
[c] Output/input price ratio.
[d] Excluding compensation and subsidies, deflated by the CPI.

Indices of Agriculture and Business-Sector Product Prices,[a] 1986-96



[a] At factor cost.

Real Income of Self-Employed Farmers



[a] Including compensation and subsidies.
[b] Excluding compensation and subsidies.

SOURCE: Based on Central Bureau of Statistics data.

(Table 2.A.25). On the whole, developments in the industry in 1996 were consistent with long-term trends, although during the year gross agricultural capital stock stabilized, after declining continuously since 1986. This was because capital discards, which had fallen, were approximately equal to gross investment during the year. This apparently checked the process of declining capital input that began when the economic stabilization program (ESP) was introduced in 1985, and as a result of which many farms found themselves in financial difficulties.

Gross agricultural capital stock stabilized in 1996, after declining steadily since 1986.

The decline in total labor input that has characterized agriculture in Israel and most developed countries for many years was evident in 1996; the change in the composition of labor input continued, the share of Israelis falling by 11 percent and that of workers from the Autonomy and the administered areas by 27 percent, while that of foreign workers rose by 37 percent. Of the average 73,500 workers in the industry, 38 percent were self-employed farmers, 32 percent Israeli employees, and 30 percent were foreign workers and workers from the Autonomy and the administered areas. This reflects a declining trend (both absolute and relative) in the number of self-employed farmers and a rise in the number of employees, only half of whom are Israelis. The large number of foreign workers in agriculture as a response to the economic situation appears to be becoming a permanent feature, and will determine its future structure. Market forces and government policy encourage the transition to large production units and, given current technology, these cannot rely on farmers' own labor. Because of the low average profitability of agriculture, there is a growing tendency to use cheap hired labor. If this trend persists it will have far-reaching repercussions on the structure and nature of the Israeli farm. In view of the economic substitutes available for factors of production in the rural sector (work and land in different geographical areas), as well as the growing exposure to market forces imposed by the liberalization of trade, the structural change the industry is undergoing imposes considerable organizational and social strain on agriculture.

The decline in total labor input resumed in 1996, alongside a steep rise in the labor input of foreign workers.

Total farm income shrank by a real 7.5 percent in 1996. Note, however, that this also includes revenue not arising from output (insurance benefits, drought compensation, etc.), which rose by a real 8 percent, accounting for 19 percent of total farm income in 1996, compared with 14 percent in 1995. Deducting wages paid to employees (which rose by a real 5 percent this year) from total income shows that the fall in the number of self-employed farmers did not prevent the 11 percent decline in average income per farmer from own labor and capital, after this had risen by 4 and 19 percent in 1995 and 1994 respectively. Thus, farmers obviously depend to a great extent on compensation and subsidy payments,[17] and this explains the growing resort by many of them to supplementary or alternative occupations outside agriculture, including real estate.

Average farm income per farmer from own labor and capital fell by a real 11 percent.

[17] Note the downward bias in output, product, and income in agriculture as now defined (see note 14).

Transport, communications, and roads infrastructure

The 6 percent growth of transport and communications reflects the rapid growth rate of communications and slower rise in transport.

The product of this industry[18] rose by 6 percent in 1996 (Table 2.10 and Figure 2.10), compared with 12 percent in 1995, and accounted for 13 percent of business-sector product (Table 2.A.10). This marked slowdown in expansion was due to a dip to 17 percent in the extremely rapid rise in communications product, and to a sharp drop in the growth of transport product which rose by only 3 percent—below the growth rate of total business-sector product. Prices and wages (Table 2.10 and Figure 2.11) in both transport and communications rose more slowly than in the rest of the business sector, possibly indicating the industry's excess capacity. Since 1994 the average increase in inputs in this industry has been slower than that of product despite the considerable increase in investment and capital (Table 2.12, Figure 2.12). Thus, total productivity rose by an annual 2 percent and labor productivity by 3 percent, in line with wages (Table 2.10), so that labor input did not have an adverse effect on profitability. This was not the case in 1996, when wages rose and labor productivity declined.

The security situation affected transport.

The rate of expansion of the transport industry slowed due to the more moderate growth of other industries, to whose demand it responds, as well as to the security situation, which affected it directly. Bombs on buses in the first half of the year reduced the already declining number of passengers, and also deterred incoming tourism. The

Table 2.10
Transport and Communications, Main Indicators, 1991–96

(annual change, percent)

	1991–93	1994–96	1995	1996
Total gross product	7	9	12	6
of which Transport	6	7	11	3
Communications	12	17	20	17
Gross investment	21	14	-1	19
Capital stock[a]	5	8	9	8
Employees	5	6	6	10
Labor input	5	6	5	9
Labor productivity	2	3	8	-2
Total productivity	2	2	6	-2
Hourly wage[b]	1	3	4	3
Hourly wage[c]	0	-2	0	-2

[a] At beginning of year.
[b] Deflated by transport and communications prices.
[c] Deflated by CPI.

[18] For methods of estimation, see note to Table 2.A.29.

latter was also affected by other security events towards the end of the year. All these factors led to a decline in the product of the industries in the two-digit category which serve tourism—air and land transport, tour buses, and taxis. Communications continued to soar, based on rapid technological advances and the resultant decline in relative price, and the increase in the range of services. There was a dramatic rise in ownership of cellular phones, and the expansion of international communications persisted. Rates in these fields are low—the welcome result of both present and future competition.

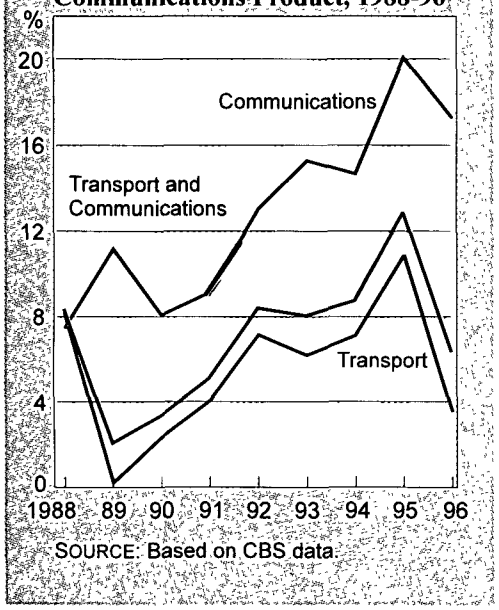
The rapid growth of communications was based on increased competition and technological innovation.

Investment in the industry increased by 19 percent in 1996 (Table 2.12), and in communications it rose by a remarkable 49 percent. Investment in transport rose after many years of neglect, but the infrastructure investment needed for the continued rapid growth of the industry and the economy as a whole is behind schedule. Preparations for the construction of the Cross-Israel Highway and special public-transport lanes continued. A tender was also issued for the construction of the Carmel Tunnel. Investment in trains, which embody the potential for mass transportation while bypassing the congested roads, soared. There was little progress regarding mass transportation systems in the three principal cities, however. The air- and sea-ports became increasingly crowded, as traffic grew while their expansion lagged behind. The start of the planned and much-needed investment in the international airport has been held up by legal and statutory disputes, and is now two years behind schedule; plans to expand the seaports are also awaiting approval. Investment in private vehicles rose steeply in 1996, principally in trucks (by 24 percent) but also in cars.

Investment in roads grew by 21 percent, and for the first time in many years the rise in capital exceeded that in kilometers driven.

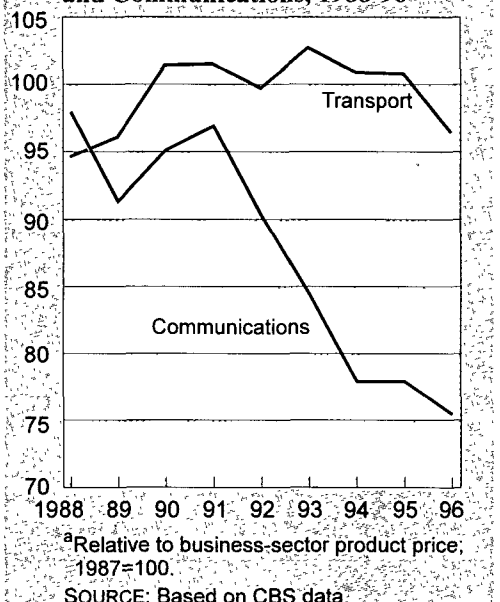
The lag in roads and other transport infrastructures persisted.

Figure 2.10
Growth of Transport and Communications Product, 1988-96



SOURCE: Based on CBS data.

Figure 2.11
Relative Price Indices of Transport and Communications[a], 1988-96



[a]Relative to business-sector product price; 1987=100.
SOURCE: Based on CBS data.

Table 2.11
Real Product and Prices in Transport and Communications, 1995–96[a]

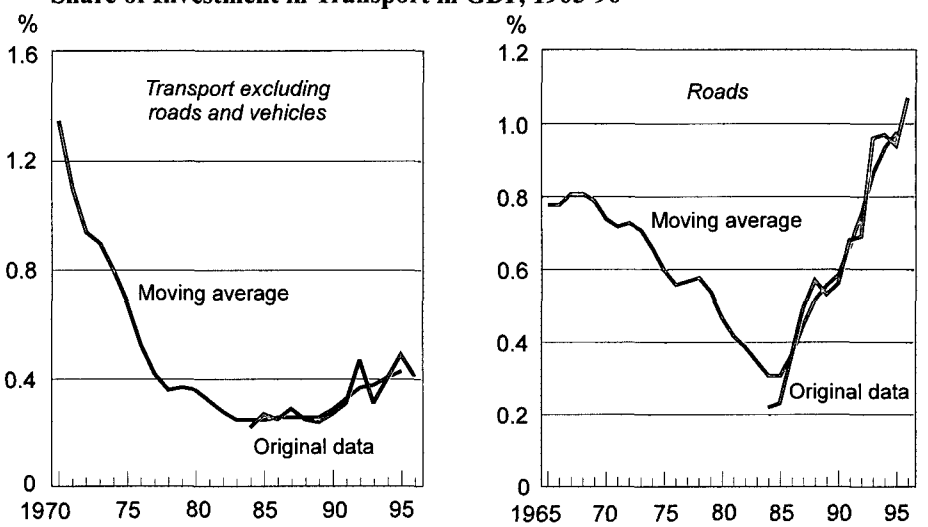
(annual change, percent)

	Share in product	Real product		Relative price[b]	
	1995	1995	1996	1995	1996
Land transport	46	7	1	0	-5
of which Buses	13	-1	-3	6	-5
Sea transport	10	12	0	-6	-5
Air services	11	15	5	-4	-7
Other	12	21	12		
Total transport	78	11	3	0	-4
Communications	22	20	17	0	-3
Total product[b]	100	13	6	0	-4

[a] Estimated on the basis of revenue, except for communications, for which there is a CBS estimate of product.

[b] Deflated by implicit index of business-sector product price (see notes to Table 2.A.29).

Figure 2.12
Share of Investment in Transport in GDP, 1965-96



SOURCE: Based on Central Bureau of Statistics data.

Table 2.12
Investment in Transport and Communications, 1995–96[a]

(percent)

	Composition of investment		Real change	
	Actual (NIS million)	Share	1995	1996
Roads	3,199	21	6	21
Total vehicles	7,701	49	−10	16
of which Trucks	3,244	21	−22	24
Other transport	1,233	7	−40	163
Total transport	12,133	77	−10	27
Communications	3,625	23	30	49
Total transport & communications	15,758	100	−1	19

[a] For sources, definitions, and calculations, see Table 2.A.31.

Roads infrastructure

The share in GDP of investment in the roads infrastructure reached a peak level of 1.1 percent.

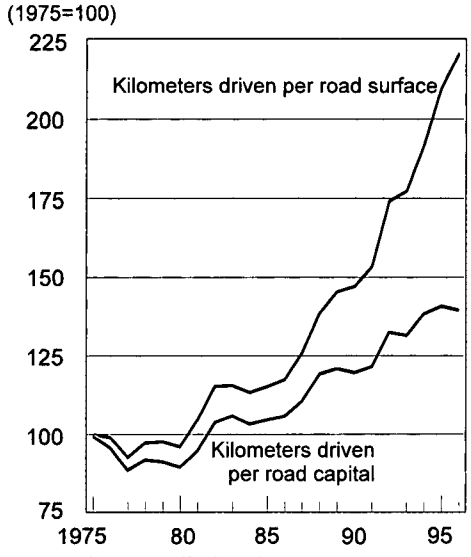
This infrastructure continued to grow in 1996, the fifth consecutive year of extensive investment in it after a long period of neglect. Investment rose markedly in real terms, by 21 percent, and amounted to NIS 3 billion, most of it in the heavily-congested urban areas. The share of road investment in GDP was an unprecedented 1.1 percent, far higher than the previous peak in 1968–70 (Figure 2.12), indicating that vigorous steps are being taken to reduce the long-standing delay in road investment and the attendant congestion. Nonetheless, the share of road capital in GDP is still less than it was in 1980.

The extensive investment of the last few years is reflected by a 2 percent rise in road surface, and an even more impressive 8 percent increase in road capital stock (Table 2.A.34). Road use, as measured by kilometers driven, rose by a rapid 7 percent, however. Even if this indicates the continued slowing of the rate at which road use is rising, it is still significant. For the first time in many years the rise in road capital has outstripped that in kilometers driven (by about one percent), so that this index of congestion—assuming that the new capital is already operating—has declined, after rising for many years (Figure 2.13). A different index of congestion—the ratio of kilometers driven to road surface—rose by 5 percent, however. Road congestion in Israel is high in comparison with western countries, though private vehicle ownership is far lower, even after its 3 percent rise in 1996, to 204 vehicles per 1000 persons.

Road congestion in Israel is higher than in the western world, even though the proportion of private vehicles is lower.

The effect of congestion is not linear, and each rise in its indices causes a more than proportionate increase in traveling time. Note that these indices are averages and do not reflect the situation in the major conurbations, where the effect of investment

Figure 2.13
Indices of Road Congestion, 1975-95



SOURCE: Table 2.A.34.

in the roads infrastructure has not yet been felt and the congestion is even more severe. In addition to increasing travel time, congestion imposes costs through fuel use and wear and tear, causes environmental damage through noise and pollution, and adversely affects the quality of life, especially in cities.

The solution for the cities must involve mass transportation, preparations for which have been under way in recent years but whose implementation is still remote. Meanwhile, the output of buses on regular routes is declining, a feature characteristic of western countries, and more traveling is done in private vehicles, thereby further increasing road congestion. This underlines the need to make bus travel more attractive as part of an all-out effort to combat this trend. Buses may also serve as a means of mass transportation if they are allocated special lanes and given priority at intersections.

The solution to metropolitan congestion must be by means of a system of mass transportation, for which some preparations have been made in recent years, though no solution is yet in sight.

As congestion on the roads has improved, their use has become more expensive because the fuel tax has soared. Although this is a step in the right direction, the high level of taxation on vehicle ownership has not fallen, so that the tax burden on car-owners in Israel has become even higher.

Construction

The rise in construction output fell to some 6 percent in 1996.

The rise in construction output (including investment in structures and earthworks, both residential and nonresidential) moderated in 1996, and stood at only 6 percent, after 16 percent in 1995 and an annual average of 13 percent in 1991–95. Construction product followed a similar trend, growing by 5 percent in 1996 after 15 percent in 1995. Construction activity in 1996 returned to the growth rates evident in the second half of the 1980s, before the influx of immigrants (Table 2.13).

The relative price of construction product fell by between 2 and 3 percentage points after going up for three years in succession.

The share of construction in gross business-sector product (at current prices) stabilized at a level similar to that of 1995—11.3 percent—4 percentage points higher than in 1989. The period between 1989 and 1995 was characterized by extensive

investment in both nonresidential and residential construction as well as in the infrastructure, so that the real growth rate of this industry's product outstripped that of GDP, especially at the beginning of the period. This gap in growth rates narrowed considerably in 1996. The price of construction product (relative to that of business-sector product) fell by 2–3 percentage points in 1996, after rising for the previous three years.

The slowdown in construction was reflected by the 12.6 percent rise in the output of residential construction, which accounted for 52 percent of the industry's output in 1996 compared with 21.7 percent in 1995, and by nonresidential construction output (including earthworks), which remained static, even falling by one percent after rising by 13 percent in 1995.

The rate of increase of nonresidential construction output was lower in 1996 than in 1995, except for road-building and private services construction, which continued to grow rapidly. This development reflects the expected conclusion of the process whereby capital stock adjusts to the number of employees in the wake of mass immigration; it also reflects changes in the level of activity in the various industries, mainly manufacturing. The tendency to invest appears to have declined as economic uncertainty increased due to security incidents and the political situation. In some areas of real estate (e.g., office and commercial buildings) there was excess supply

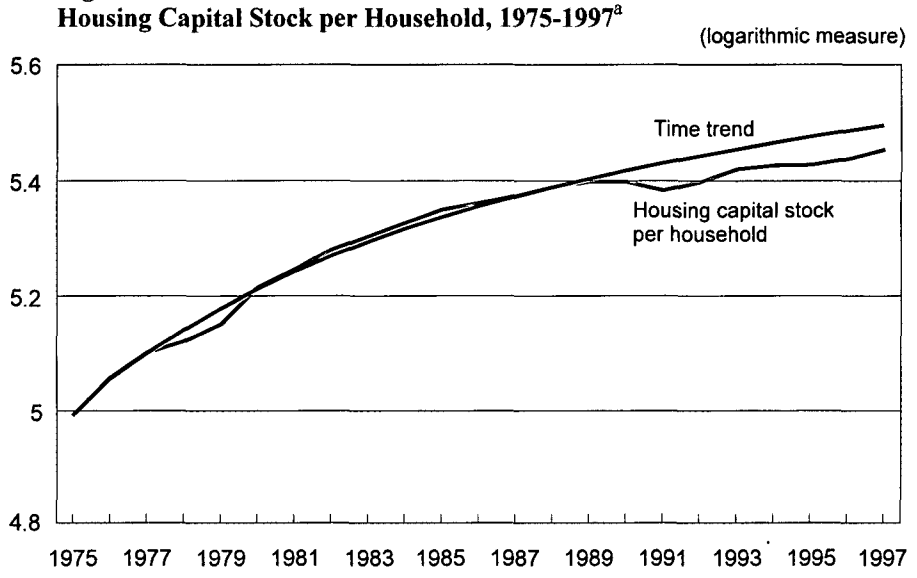
The slowdown in nonresidential construction reflects *inter alia* the completion of the process of adjusting capital stock to the increase in the number of employees.

Table 2.13
Output and Product in Construction, 1990–96[a]

		Annual average change (percent)		
	1996	1990–94	1995	1996
Total output (*millions of 1990 NIS*)	21,468	13.5	16.3	6.1
Residential	11,097	10.5	21.7	12.6
Nonresidential	9,062	20.5	13.4	−0.7
Other[b]	1,309	1.4	−0.4	4.6
Total area of starts (*thousands of sq. m.*)	10,815	19.7	24.7	−13.6
Residential	7,590	15.5	36.4	−12.8
Nonresidential	3,225	30.3	3.8	−15.6
Residential starts ('000s)	53	17.2	45.5	−16.7
Residential completions ('000s)	49	8.7	12.7	27.9
Change in construction product		12.2	15.1	5.3

[a] Calculated from unrounded figures.
[b] Includes defense construction and an estimate of maintenance.
SOURCE: Central Bureau of Statistics.

Figure 2.14
Housing Capital Stock per Household, 1975-1997[a]



[a]The number of households in 1996 and 1997 are estimates; the data for households are adjusted according to census data; housing capital stock is for beginning of year, at 1995 prices.

SOURCE: Based on Central Bureau of Statistics data.

during the year, exerting downward pressure on prices. The effect of the credit pinch felt by contractors, as a result of the higher ratio of equity capital in financing real-estate transactions demanded by the banks in order to reduce their exposure to credit risk, appears to have had an effect on the supply side. The expansion of bank credit to the construction industry in the last few years is partly reflected by its share in total bank credit, which at the end of the year was twice as high as the share of construction product in GDP; this exceeded the industry limit required by the Supervisor of Banks, and required special loan-loss provision, which naturally increased the cost of this credit.

In 1996 investment in residential construction slowed to half its 1995 rate, and the increase in the number of households moderated. The estimate of the annual change in housing capital stock per household (not including land value) reverted to the growth rates evident in the second half of the 1980s, before the mass immigration, and moved only slightly towards the long-term trend line that has prevailed since 1975 (Figure 2.14). The 4 percent gap between actual housing capital stock per household in 1996 and the long-term trend line derives largely from the fall in the average size of new apartments from 1975–89 to 1990–96 (between these two periods the proportion of new small apartments rose). The deviation from the trend line indicates that a greater number of mortgage-takers were eligible persons (and fewer of them were households seeking to improve their standard of living), and that government-initiated construction

increased. The process of reversion to the trend line, if it occurs, could take a long time and will not necessarily cause the relative price of apartments to rise. Thus, the rate at which the relative price of housing units rose slowed in 1996 (as an annual average), continuing its conspicuous slowdown in 1995, although their real price did not fall. Note, however, that the measurement of changes in apartment prices involves statistical difficulties; for example, the recorded prices of apartments in the second half of 1996 did not reflect significant inducements granted to purchasers.

Because of the security incidents and the resultant closure, the number of workers from the Autonomy and the administered areas fell in 1996, too, while the number of foreign workers rose by more than mere substitution would require. Since the beginning

Israelis accounted for 54 percent of construction workers in 1990, and 62 percent in 1996.

Box 2.4: The Sale of Land for Construction

The fact that apartment prices have been rising constantly in the last few years, since the influx of immigrants, alongside the relative stability in the price of inputs, the supply of which is elastic, indicates that land prices have risen more rapidly than apartment prices, as the rate of land allocation for construction purposes is significantly lower than that of building starts and demand in Israel. Thus, in 1990–96 sales of land (in terms of housing units) were 279,000, compared with 368,000 starts and an additional 325,000 households (about one quarter of households; see Tables 2.A.38, 2.A.39). Since 1995 the annual average of land sales has been 36,600 units, while starts averaged 58,200. This gap has reduced the stock of land available for construction, so that apartment prices have risen due to the constant increase in demand. The relative rigidity of the supply of land for construction in the short term depends largely on decision-making, planning, and development procedures regarding land use.

The complexity of planning construction and allocating land derives from the necessity of taking many different needs and pressures into account. Public involvement in planning and allocation processes is justified, but should not prevent the necessary organizational and institutional changes that will increase competition and eliminate red tape; nor need it require the privatization of land. The implementation of such changes would make it possible to expand the supply of land available, *inter alia* by changing designated land use in response to—or even ahead of—demand pressure. This would make it possible to reduce costs and prices while minimizing the economic rent granted by the government (as the owner of most land) to contractors and entrepreneurs. It is possible to alter the supply of land for construction by changing land-use density rather than by adding area.

of the industry's rapid growth in 1990 it has taken on an additional 102,000 workers (73 percent), 74,000 of them Israeli residents and 28,000 others (64,000 foreign workers replaced 36,000 workers from the Autonomy and the administered areas). At the beginning of the period Israeli residents constituted 54 percent of employees in the industry, and 62 percent in 1996. Thus, the industry remains highly dependent on foreign workers. Note that in this period construction product more than doubled (Table 2.A.39).

The contraction of activity in the industry to a level that reflects long-term conditions is a positive trend with regard to the overall allocation of resources. This adaptation does not appear to make a crisis in the industry inevitable, as there is no accumulated inventory, and it has proven its ability to adapt to extreme changes in employment in the last few years, when it operated at a high level of economic activity.

Residential construction

No particular demand pressures were evident in housing in 1996.

Demand for housing was relatively quiet in 1996, with no special pressures beyond those deriving from long-term demographic changes—natural increase and the consequent rise in the number of households, the rate of immigration, which stabilized, as expected, and the demand for housing by the cohorts born in 1967–77, the offspring of the 'baby-boomers' (those born in 1945–54). Private disposable income is sometimes offered as an explanation for changes in housing demand, but in per capita terms it grew by less than it has since 1990. In view of security and political events, it can be assumed that investment by nonresidents did not serve to increase the demand for apartments in 1996. Thus, whereas building starts (some 53,000) were in line with long-term needs (50,000), the pace of allocating land for residential construction in areas where demand is high lagged behind, so that the stock of available land dwindled. This appears to have prevented the fall in prices that might have resulted from the slowing of demand.

The lack of availability of land designated for construction purposes appears to have kept prices from falling significantly.

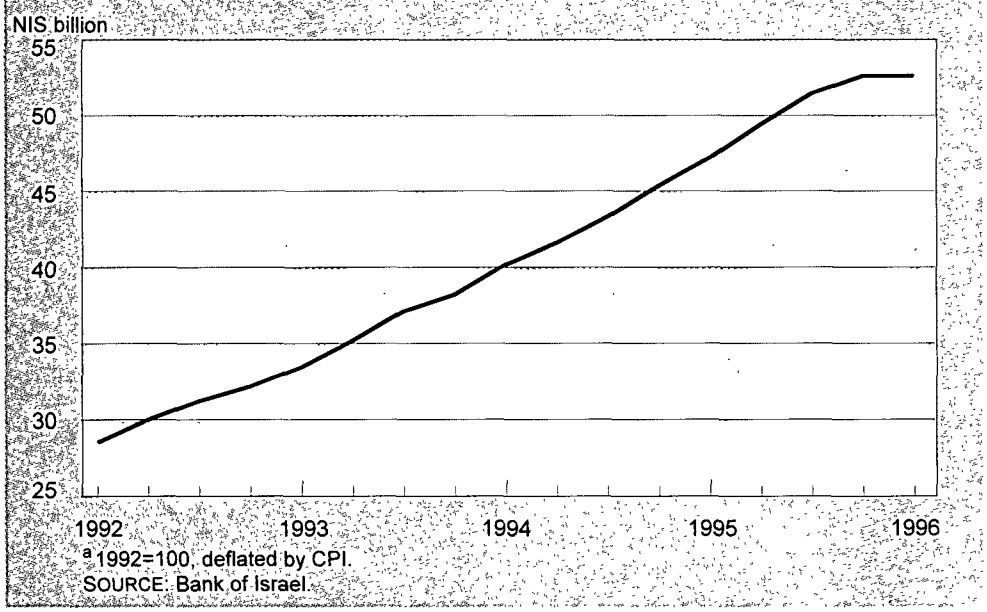
The real extent of mortgages (deflated by apartment prices) rose by about 2 percent, after declining in 1995. At the same time, mortgage interest rose, exceeding 6 percent in the second half of 1996. This was due to a great extent to the crisis in the provident funds, apparently due to expectations that long-term interest would rise, and also reflected by the increased cost of mortgage sources. The substitution effect of the provident funds crisis was expressed in the increased tendency to invest in housing because of fears that the value of wealth invested in these funds would continue to decline. But the crisis also had an income (wealth) effect, acting in the opposite direction, so that it is difficult to assess the net effect on the demand for apartments.

Table 2.14
Indicators of Construction Activity, 1990–96

		Annual average change, percent		
	1996	1990–94	1995	1996
Employees (*'000s*)[a]	242	8.1	24.6	3.3
Israelis	150	11.8	15.0	4.4
From Autonomy and administered areas	28	–2.6	–12.2	–34.9
Foreign workers	64		239.3	34.7
Construction equipment capital stock (*1990 NIS million*)[b]	3,931	9.6	19.6	18.4
Cement sales (*'000 tons*)	5,930	16.9	24.0	–5.3
Labor productivity[c]		2.3	–12.1	1.2
Total factor productivity		2.1	–10.8	–1.0
Residential construction time (*months*)[d]	21	–1.0	0.5	0.2

[a] From national accounts data of CBS.
[b] Beginning-of-year stock.
[c] Product per hour.
[d] Private construction.
SOURCE: Based on Central Bureau of Statistics data.

Figure 2.15
Credit to the Public from Mortgage Banks, 1992-96[a]



[a] 1992=100, deflated by CPI.
SOURCE: Bank of Israel.

Table 2.15
Relative Construction Prices,[a] 1990–96

(period-on-period change, percent)

	Annual average			1995				1996			
	1990–94	1995	1996	I	II	III	IV	I	II	III	IV
Apartment prices											
Actual change	24.4	15.1	16.0	2.8	2.4	4.6	4.8	4.7	5.1	-1.1	3.2
Relative to CPI	8.9	4.6	4.1	1.5	0.7	2.6	1.8	1.8	1.0	-2.8	0.9
Relative to input price index	10.9	3.4	7.7	-0.2	-0.8	-0.6	7.3	2.0	2.7	-5.1	5.6
Rent relative to CPI	4.7	-5.4	-0.3	-0.4	-2.0	-0.2	0.1	-0.1	1.1	-2.1	2.2
Input prices	12.2	11.3	7.7	3.0	3.2	5.3	-2.3	2.7	2.7	4.2	-2.3
Output prices	12.2	12.6	7.9								
Product prices	15.0	15.2	8.1								

[a] At current prices.

SOURCE: Based on Central Bureau of Statistics data.

The rise in interest rates kept demand down, as well as reducing long-term supplies by making contractors' credit more expensive.

The rise in real long-term interest in 1996, also reflected in the moderation of the extent of mortgages, acted to depress demand, while the increased cost of credit to contractors served to reduce supply in the long term. The reduced rate of mortgage funding extended to eligible persons and the lower rate of the subsidy as a result of the increase in interest during the year and the failure to bring mortgages into line with apartment prices also served to contract demand (Table 2.A.40). The extent of grants and subsidies to interest on credit for apartment purchases continued to decline in real terms in 1996, and reached NIS 2.1 billion.

The overall rate of return on an apartment (including capital gains) was 9 percent in 1996.

The demand for apartments also embodies an element deriving from the asset portfolio (discussed in last year's edition of this publication). There were no developments in the capital market in 1996 that were potential causes of instability in the housing market. The real rate of return on rent was 4 percent in 1996, compared with 4.3 percent in 1995 and an annual average of 5.6 percent in 1990–95. The total rate of return on shares remained negative (9.8 percent), but its decline moderated considerably. The rate of return on apartments (including capital gains) was 9 percent in 1996, compared with 10.5 percent in 1995 (and 16 percent in 1990–95, when the total rate of return on shares averaged 9.5 percent).

Trade and business services

The slowing of the rate at which trade and services product rose encompassed all the two-digit industries.

The product of the trade and business services industry rose more slowly in 1996—7 percent—after the rapid growth of recent years (Figure 2.16, Table 2.16). The slowdown encompassed all the components of this industry (Table 2.17), and occurred mainly in the second half of the year. It was caused by the decline in demand due to the slowing of growth in other industries and the fall in tourism. The cost of services in this industry rose by one percent less than total business-sector product (a reversal of the trend of the last few years), a possible indicator of excess capacity, which could retard growth in the industry.

Box 2.5 Estimates of Trade Business-Services Product

Estimates of trade and business-services product are derived from the VAT payments of the industry's various segments. These are based on a detailed set of data for 1988, using the Survey of Trade and Services of the CBS. However, the product of certain components—financial services, which are not part of the VAT system, and services for tourists, real-estate, and domestic services of various kinds, whose VAT returns do not accurately reflect economic activity—is estimated from indicators.

Table 2.16
Principal Trade and Services Indicators, 1991–96

(annual change, percent)

	1991–93	1994–96	1995	1996
Product	8	9	10	7
of which Trade	8	8	9	5
Services	8	10	10	8
Labor input	7	8	7	4
Capital stock[a]	4	8	9	10
Labor productivity	1	1	2	3
Total factor productivity	2	1	1	1
Real wage	−1	0	−1	1
Real labor cost[b]	−1	1	−2	3
Relative price[c]	0	2	4	−1
Exports	4	12	11	1
Investment	12	17	12	11

[a] At beginning of year.
[b] Relative to industry product prices.
[c] Relative to business-sector product prices.

Investment in trade and services continued to rise steeply, enabling rapid expansion in the future.

The slower expansion in 1996 follows several years of rapid growth. Investment continued to soar (11 percent, Table 2.16), enabling the speedy rise of industry product in the future; the capital available to the industry at the beginning of 1997 was 11 percent more than at the beginning of 1996, after increasing at a similar rate for the previous two years. Even though the industry's growth rate slowed in 1996, it remained much higher than that of the rest of the business sector, so that its share in its product rose to about 40 percent (Table 2.A.10)—a trend characteristic of developed countries. The share of total services, including transport and communications, in business-sector product was 53 percent. According to our estimate, labor input did not have an adverse effect on profitability in 1996. Labor productivity rose by 3 percent, in line with real labor cost (i.e., real wages deflated by output prices, Table 2.16). This also applies to the average for the last three years: wages and labor productivity each rose by about one percent a year (as did total productivity). Growth was particularly rapid in those services with highly-educated employees—business and legal services, which expanded by 12 percent, education and health, which grew by 11 percent—compared with 8 percent in services in general.

Trade and services product increased as a result of the direct demand of consumers as well as demand from other industries.

The long-term increase in trade and business services product is due mainly to the rise in direct demand from consumers, as the standard of living goes up, as well as to demand from other industries. Trade and business services product is also affected by changes in the structure of business activity, which resorts increasingly to the outsourcing of services. There was virtually no growth in hotel and catering services in 1996, due to the fall in tourism. Input-output tables show that most of the increase in the product of this industry was due to the rise in private consumption (which accounted for 6 percentage points of the increase), while investment and exports contributed very little (about 1 percentage point each), and the decline in consumption by nonresidents had a negative effect on growth (by about one percentage point). Product due to exports of services rose by 1.4 percent; some of these, e.g., tourism services (which fell by 6 percent in 1996), are direct, but most are indirect and consist of

Figure 2.16
Product of Trade and Services, 1990-96

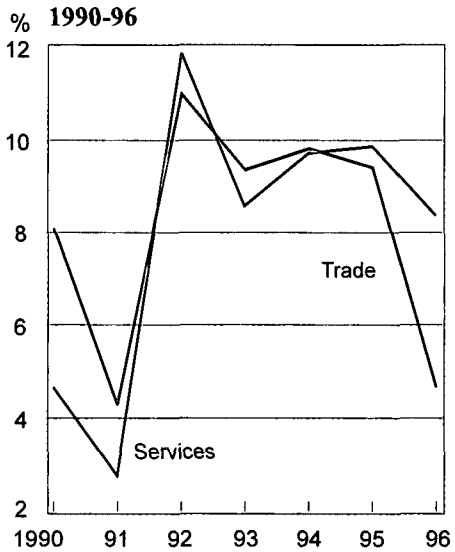


Table 2.17
Product, Employment, and Wages in Trade and Services, 1992–96

(annual change, percent)

	Share in GDP	Product			Employ-ment	Real wage[a]
		1992–95	1995	1996		
Total	100	10	9	7	4	1
Trade	27	10	9	4	4	2
Services	74	11	9	8	4	1
Food and catering	6	10	8	8	–5	0
Business and law	21	15	14	12	11	2
Banks, insurance and real-estate	25	6	3	3	1	1
Education and health	9	14	16	11	3	3
Personal and other	13	13	11	7	2	1

[a] Per employee post, deflated by CPI.

services to other exporting industries. Banking services, as well as business and legal services to trade, played an important role in this increase.

The industry, which is labor-intensive, continued to lead the economy-wide reduction of unemployment. The 4 percent rise in employment (Table 2.17) reflects an additional 26,000 persons employed in this industry, constituting 60 percent of incremental business-sector employment, and 40 percent of total incremental employment. It is estimated that 2,000 of the additional persons employed were foreign workers and workers from the Autonomy and the administered areas. The increase in employment in 1996 led to an increase in the average industry wage of about one percent, compared with 0.7 percent in the business sector in general,[19] and it currently stands at 90 percent of the business-sector average.

Trade and services, which is a labor-intensive industry, continued to lead the reduction of unemployment.

The industry is very heterogeneous and its various segments are developing at very different rates. It offers a wide variety of services, ranging from domestic cleaning to education, health, legal consultancy,and business services such as advertising and computers, also supplying employees through private employment agencies.

[19] It is difficult to learn much from the comparison without a breakdown of employment. The figure includes non-recurring payments via banks due to employees' pension plans.