Chapter 2

Output and Demand

The rate of GDP growth slowed significantly this year, from 4.5 percent in 1996 to 1.9 percent in 1997, after 6 percent in the first half of the decade. This development was accompanied by significant shifts in other areas: unemployment rose after declining steadily since 1993, the current-account deficit shrank, and price increases decelerated. The slowdown in GDP growth was led by a sharp decline in domestic uses due to several factors. First, the expansionary effects of the influx of immigrants continued to wane, reflected mainly by the drop in gross investment for capital stock adjustment purposes. Second, tight fiscal and monetary policy slowed the pace at which all the components of domestic uses expanded; this occurred in the context of deviations from the target set down in the Budget Deficit Reduction Law in the previous two years, and was intended to ensure a turnaround in the current-account deficit and adherence to the inflation target path. Third, there was security and political uncertainty. The slowdown in GDP supply was less intense than that implied by the fall in domestic uses, because of the continued rapid rise in the high-tech industry exports that have characterized the economy in the last few years.

Although the smaller share of domestic uses served to moderate real appreciation, there was significant average real appreciation, mainly in the second half of the year, which had an adverse effect mainly on the traditional industries. This is explained by the slow rise of the nominal exchange rate, against the given increase in the various kinds of capital inflow, and the existence of rigidities that hampered the adjustment of costs to real economic developments. A prominent feature of the last two years has been the shortfall in potential output, i.e., the under-utilization of the economy's implicit capital and labor. While much of this may be due to cyclical components this year, the existence of (long-term) structural factors emphasizes the need for policy measures that will support the supply side.

MAIN DEVELOPMENTS

GDP rose by 1.9 percent, compared with 4.5 percent in 1996 and 6 percent in 1990–95. A prominent feature of the last two years is the failure to achieve potential output.

After rising continuously in 1990-96, per capita GDP fell in 1997 (Table 2.1); GDP grew by 1.9 percent, compared with 4.5 percent in 1996 and an average of 6 percent in 1990-95. This was accompanied by a rise in the unemployment rate, from 6.7 to 7.7 percent of the labor force, a significant decline in the current-account deficit, and the deceleration of prices. A prominent feature of the last two years has been the failure to achieve the economy's potential output, i.e., to fully utilize the productive capacity implicit in its factors of production.

The slowdown was led by a sharp drop in domestic uses due to the continued waning of the expansionary effects of the influx of immigrants, tight monetary and fiscal policy, and security-political uncertainty.

The slowdown in 1997 was sharper than expected,[1] and was led by a steep drop in domestic uses; the decline in supply was more moderate, due to the rapid expansion of the high-tech export industries, which reduced the share of the import surplus in GDP. There were several reasons for the slowing of demand in 1997. First, the expansionary effect of the influx of immigrants continued to ease, and was reflected in both residential investment and investment in the principal industries. Second, a policy of both fiscal and monetary restraint was implemented, in order to attain the long-term deficit and inflation targets set by the government while increasing the chances of a turnaround in the balance of payments. Third, there was security and political uncertainty, whose main result was the further adverse effect on tourism exports. On the supply side, there was a significant decline in total productivity and profitability in 1997, reflected by the net return on capital. Although the slowdown in domestic uses led to the exertion of pressure for real depreciation, the combination of policy factors, increased foreign investment and the failure of cost variables to adjust quickly (nominal rigidities) prevented the adjustment of average real appreciation relative to the long-term trend that had been clearly apparent in 1996, and persisted in 1997. These factors were reflected in the rise in unit labor costs in the private sector (Table 2.3), which adversely affected the traditional industries in particular (see below, and Chapter 6). Output prices remained high throughout the year, and plummeted only in the fourth quarter, indicating that the rigidities have weakened alongside the moderation of real appreciation.

There was a significant decline in total productivity and profitability in 1997.

Although the slowdown in domestic uses created pressures for real depreciation, the combination of policy factors, increased investment by nonresidents, and the existence of nominal rigidities caused real appreciation to persist (particularly in the first half of the year) beyond the trend.

Demand-side developments were not uniform in 1997; on the one hand, the expansion of domestic demand slowed from 5.2 to 1.1 percent, while on the other, the expansion of goods and services exports (excluding tourism) accelerated from 6.1 percent in 1996 to 7.9 percent in 1997. The slowdown in domestic demand is explained by a combination of long-term factors and developments that are specific to 1997. The easing of the expansionary effects of the influx of immigrants is the main explanation for the 5.1 percent drop in fixed investment, and this decline was the principal component of the deceleration of domestic uses. The tight monetary and fiscal policy, which slowed the rate of expansion of all the components of domestic uses, also made a significant contribution. This operated via the moderation of direct public-sector demand, the rise in the tax rate—which could have been perceived as persistent, thereby reducing

The rate of expansion of exports (excluding tourism) accelerated.

The ending of the influx of immigrants is the main explanation for the decline in investment, which was the prime factor behind the slowing of demand.

[1] According to the National Budget, GDP was expected to grow by 4 percent, and business-sector product by 4.5 percent, while the actual figures were 1.9 and 1.5 percent respectively.

Table 2.1
Indicators of Economic Activity, 1986–97

(rate of change, percent)

	1986–89	1990–95	1996	1997	1997 Jan–Jun[a]	1997 Jul–Dec[a]
GDP	3.6	5.9	4.5	1.9	2.1	1.8
Per capita GDP	2.0	2.9	1.8	–0.5	–1.7	–1.3
Business-sector product	4.6	7.0	5.2	1.5	1.5	1.9
Index of industrial output	0.9	7.3	5.4	1.7	1.1	0.7
Unemployment rate	7.1	9.3	6.7	7.7	7.6	7.8

[a] Annual rates of change, seasonally adjusted, compared with preceding six months.

permanent disposable income, and with it the expansion of consumption—and the rise in the real short-term interest rate since mid-1996, which caused both investment to contract and consumption to ease. Also evident in 1997 was the continued security and political uncertainty, which caused a sharper drop in tourism exports than in 1996. Exports excluding tourism present a different picture; goods exports accelerated, due to both the expansion of world trade (from 6.2 to 8.4 percent) and the continued rise in demand for the products of the high-tech industries. This is part of a long-term trend that began with the business opportunities provided by the combination of the influx of immigrants and the opening of new markets in the wake of the political process.

Tight monetary and fiscal policy slowed the pace of expansion of all the components of domestic uses.

The expansion of exports was due mainly to the growth of world trade and the increased demand for the product of the high-tech industries.

The rate of return on capital fell in 1997, too. The decline in the net return on capital was very significant, and supplemented the reductions of the last few years. The fall in profitability was consistent with the economy's inability to realize its potential output growth, estimated at 5 percent,[2] compared with an actual increase of 1.5 percent in business sector product. The marked rise in potential output obtains even after the 1.2 percentage-point decline of the last two years, due to the ending of the expansionary effects of the influx of immigrants, which reduced the growth of the labor force in the last two years from 5.4 to 3.5 percent. The engine of the rise in potential output was the high level of investment, leading to the rapid expansion of business-sector capital stock, by over 8 percent. An attempt to ascertain the reasons for the deviation from potential output in the last two years shows that while structural factors provide a partial explanation, the additional deviation in 1997 is due primarily to cyclical factors (Box 2.2).

The fall in profitability was consistent with the failure to achieve the estimated 5 percent expansion of potential output.

The deviation from potential output in 1997 was due primarily to cyclical factors.

The sharper slowdown in domestic demand than in GDP served to dampen the rise in prices. Whereas the significant fall in domestic uses and the slowing of construction acted to create real depreciation (beyond the long-term trend) this year, in effect real appreciation persisted, at 3.2 percent when measured in export prices relative to GDP prices, and at 5.5 percent in import terms. Although real appreciation was slower than in 1996, it had an adverse effect primarily on the traditional industries, which are subject

The steeper slowdown in domestic demand than in GDP served to reduce the rate of price increases; real appreciation had a particularly adverse effect on the traditional industries.

[2] This estimate is based on the method underlying the calculations presented in Box 2.2.

to the process of exposure to competing imports and the globalization of world trade. The development of the real exchange rate is explained by the combination of policy factors and the expansion of investment in Israel by nonresidents, which led to the continued gradual rise of the nominal exchange rate, as well as by the failure of domestic prices to respond fully (especially in the first half of the year) to real developments; this was expressed *inter alia* in unit labor costs (Table 2.3). Among the policy factors, the yield gaps in favor of the domestic interest rate explain much of the net capital inflow in the first half of the year, in view of the asymmetry of restrictions on capital flows, which prevented a rise in capital outflow.

The decline in the share of investment in the sources available to the economy was steeper than that of the national saving rate, implying reduction of the current-account deficit.

The significant decline in the share of the investment rate was greater than that in the saving rate, a development that was accompanied by the reduction of the current-account deficit. In contrast to previous years, when the public sector acted to decrease saving, the decline in saving in 1997 is due to the fall in private saving. This may be explained by the continued rise in disposable wage income, in view of the return to fiscal discipline, which had been relaxed in the previous two years. While much of the adjustment in the share of investment is the result of the conclusion of the expansionary effect of the influx of immigrants, it is still too early to tell whether this decline is permanent, as this depends on the long-term trend of increasing the ratio of capital stock of machinery and equipment to GDP.

2. AGGREGATE DEMAND AND SUPPLY

The demand side

The rate at which private consumption rose slowed from 5.2 to 3.3 percent, the rise in domestic public consumption fell from 3.6 to 2.3 percent, and gross investment, which rose by 6.8 percent in 1996, declined by 5.9 percent in 1997.

Domestic use of resources decelerated markedly in 1997, rising by 1.1 percent, compared with 5.2 percent in 1996 (Tables 2.2 and 2.A.3), and this encompassed all the components of domestic uses: private consumption slowed from 5.2 to 3.3 percent, public consumption from 3.6 to 2.3 percent, and gross investment (incorporating fixed investment and inventory accumulation), which had risen by 6.8 in 1996, fell by 5.9 percent in 1997.

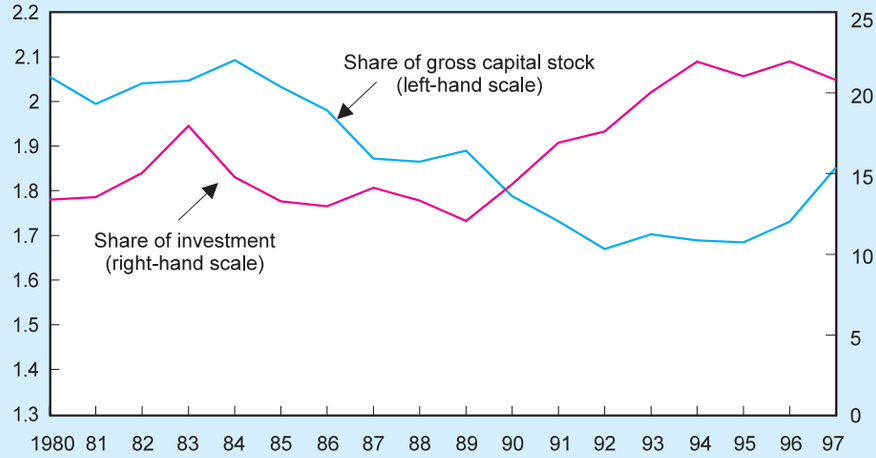
Table 2.2
Use of Resources, 1986–97

(rate of change, percent)

	Share in total uses 1997	1986–89	1990–95	1996	1997
Exports	22.1	4.5	7.6	5.0	6.1
Excluding tourism	20.3	5.1	7.3	6.1	7.9
Gross domestic investment	15.6	2.9	14.9	6.8	–5.9
Investment in principal industries		2.1	15.9	7.5	–5.4
Private consumption	42.2	7.1	7.4	5.2	3.3
Public consumption[a]	18.4	1.2	3.2	3.6	2.3
Domestic uses	76.2	4.8	7.9	5.2	1.1
Total use of resources	100.0	4.1	7.6	5.5	2.2

[a] Excluding direct defense imports.

Figure 2.1
Share of Gross Capital Stock and Investment in Business-Sector Product, 1980-1997



SOURCE: Based on Central Bureau of Statistics data.

In part, the slowdown in domestic demand reflects the continued easing of the influx of immigrants, but its intensity indicates that other factors are at work. Chief among them was the implementation of tight fiscal and monetary policy, in order to attain the deficit and inflation targets set by the government while ensuring a turnaround in the balance of payments. Security-political uncertainty also played a part, adversely affecting tourism and investment.

Residential investment declined by 4.5 percent, and nonresidential investment (excluding ships and aircraft) by 5.5. percent, much of the fall being due to the conclusion of the expansionary effects of the influx of immigrants.

The slowdown in investment encompassed all its components, the main one being residential investment, which declined by 4.5 percent, and investment in the principal industries (excluding shipping and aircraft), which fell by 5.5 percent. Much of the decline is explained by the conclusion of the expansionary effects of the influx of immigrants, and in this connection it is worth examining the investment of the last few years. In 1992-94 there was a decline or slight rise in residential investment, apparently below the level required by the mass immigration. In 1995-96 growth rates were significant, raising the housing capital stock/GDP ratio to the level that had prevailed before the arrival of the immigrants. Against the backdrop of this development and the stabilization of immigration, it was expected that building starts would adjust; this occurred principally in 1997, and may well influence developments in 1998, too. Investment in machinery and equipment has risen appreciably in recent years, alongside the adjustment of the ratio of the stock of machinery and equipment to GDP, and in 1996 this ratio was the same as it had been before the influx of immigrants. Consequently, in view of the high level of this category of investment in previous years—to the extent that even after it declined it was still causing the capital stock/GDP ratio to

rise—a decline was expected so that capital stock would adjust to the required level. Additional factors affecting the development of investment in 1997 were the security-political uncertainty, decline in profitability, and rise in the real interest rate since mid-1996. The required level of capital stock is influenced by the long-term interest rate, which declined in 1997 (as indicated by the yield on 10-year bonds, Table 2.3); but the rise in the real short-term interest rate has a significant effect on the timing of investment, which is dictated by the balance between short- and long-term factors. After the decision to invest has been made in accordance with long-term considerations, its short-term execution is affected by the short-term interest rate. The substantial increase in the real interest rate since mid-1996 (as expressed by the real interest on SROs and overdrawn current accounts, Table 2.3) relative to the level prevailing in 1994–95, means that the short-term channel has had considerable influence in the last 18 months. Using an estimate based on an updated simulation,[3] enables us to assess that some 0.8 percent of the 4.6 percent decline in gross business-sector investment in 1997 is due to the rise in the short-term real interest rate.

An updated simulation shows that 0.8 percent of the 4.6 percent drop in gross business-sector investment in 1997 was the result of the rise in the real short-term interest rate.

Another significant factor serving to dampen demand in 1997 was fiscal policy. On the one hand, there was a slowdown in domestic public demand and its imputed price, while on the other, the tax rate rose, damping private consumption in the short run (see below). Domestic public consumption (Table 2.A.1) expanded at an annual rate of 2.3 percent, compared with 3.6 percent in 1996. The implicit price of domestic public consumption rose by 8.2 percent, compared with 11.6 percent in 1996 and an average of 22 percent in 1994 and 1995 (the nominal increase was 11 percent, compared with an average of 26 percent in 1994 and 1995). The statutory tax rates were raised, for the first time since 1992, mainly through the decision not to adjust the income-tax brackets (see Chapter 5).

Domestic public consumption and its implicit price declined, while the permanent tax rate rose, serving to slow private consumption in the short run.

The deceleration of private consumption extended to most of its main components, and was particularly prominent in current consumption, which constitutes one third of private consumption, and in consumption of durables (Table 2.A.5). Although some of the moderation of durables consumption can be explained by the process associated with the easing of the influx of immigrants—since these items are purchased in the first few years after the immigrants' arrival in Israel and most of them had arrived by 1992—it is doubtful whether this can account for most of it. Another factor that appears to have been at work to dampen demand for these products was the policy of fiscal and monetary restraint implemented in 1997. This reduced current disposable income, thereby damping the expansion of consumption by individuals whose ability to borrow against future income is limited (liquidity constraints). Moreover, the rise in the real domestic interest rate (if perceived in part as temporary), combined with households' lack of access to cheaper sources of finance abroad, caused individuals to defer consumption. A direct policy channel used in 1997 was the increase in the statutory tax

Both current consumption, which accounts for about a third of private consumption, and durables consumption moderated.

[3] The methodology for the simulation is given in Y. Lavi (1990), "The Effect of Interest Rates on Investment in the Principal Industries in Israel, 1962-88," *Economic Quarterly*, No. 143 (Hebrew).

rate, whose effect on private consumption depends on individuals' assessments of its permanency. Unlike a temporary rise, a permanent rise in the tax rate reduces individuals' permanent disposable income, which is the relevant variable in their consumption decisions. In addition, higher income tax reduces current disposable income, affecting primarily those individuals who are subject to liquidity constraints. Public-sector wage increases in 1994 and 1995, which led to deviations from the Deficit Reduction Law in 1995 and 1996 (Chapter 5), reinforced assessments that the 1997 tax-increase was not temporary, as it was required for fiscal consolidation (Box 2.1).

Fiscal and monetary restraint acted in a pro-cyclical manner in 1997, and was implemented at a time when a significant slowing of investment was expected as the effects of the influx of immigrants waned.

Fiscal and monetary policy was pro-cyclical in 1997, since a policy of restraint was adopted alongside an expected significant slowdown in investment in view of the easing of the process of absorbing immigrants. The timing of the fiscal consolidation reflected the adjustment required as a result of the pro-cyclical policy of 1994-95, when the government diverted its extensive tax revenues due to the economic boom to expanding its current expenditure while keeping the deficit near the target set in the Budget Deficit Reduction Law (see Chapter 5). The damage to credibility arising from the considerable deviation from the target in 1996, together with the balance of payments deficit and failure to make progress on the inflation front, caused policy makers to take steps that would ensure the reversal of these trends, by means of fiscal consolidation. Monetary policy operated under different conditions in 1997 than in 1996. In 1996 fiscal policy was expansionary, so that the policy of restraint adopted from the middle of the year was intended to bring about the attainment of the inflation target while preventing a return to a higher inflation environment than that prevailing in the last few years. In 1997, by contrast, fiscal policy helped to decelerate prices. Since there was no significant reduction in the inflationary environment until the final months of 1997, the real interest rate remained at the high level it had reached in the second half of 1996. Hence, in

In view of the deterioration in the balance of payments and events in the world capital market, emphasis was placed on improving the balance of payments and attaining the inflation target in 1997, even though these involved a rise in unemployment in the short term.

Box 2.1: Inflation and Unemployment

Creating the conditions for a declining inflation path made it necessary to implement tight fiscal and monetary policy in 1997, with a hike in the real interest rate as of mid-1996. The reduction of the public-sector deficit is particularly notable in view of the fact that the rate of GDP growth this year was lower than that of the long-term trend, so that the reduction of the cyclically-adjusted deficit was steeper than its actual reduction.[1] Awareness of the importance of reducing inflation, in view of both the traumatic experience of the period of high inflation, and the ongoing process of liberalizing the money and capital markets, led the government to set annual inflation targets in order to achieve the price stability prevailing in the advanced economies.

[1] Calculating the deficit adjusted for the business cycle shows that the domestic deficit was reduced by 2.3 percent of GDP in 1997, compared with an actual reduction of 1.3 percent of GDP in the public-sector domestic deficit.

In analyzing the above policy two trends in the economic literature should be considered: one stresses the effects of fiscal consolidation on inflation and growth in the medium and long term, while the other considers the influence of the policy of restraint on price increases and unemployment in the short term.

The first approach, that of *fiscal consolidations*, has received considerable attention in recent years, out of an awareness of the connection between them and long-term growth and inflation.[2] In the context of growth, extended fiscal consolidation bolsters confidence in the performance of the economy, thereby creating the conditions for increasing private investment; with regard to inflation, consolidation of this kind provides an essential basis for reducing the inflation environment. Data for the OECD countries show that successful (ongoing) fiscal consolidation is generally accompanied by the decline in the share in GDP of current public expenditure items (wage and transfer payments), in contrast to less successful attempts, characterized by higher tax rates and a lower share in GDP of infrastructure investment. Israel's experience in 1997 reflects the last two components of the deficit to a considerable extent, and consequently it is too early to tell whether it will be possible to describe it in retrospect as a successful fiscal consolidation.

The second approach, that portrayed by the Phillips curve, present a trade-off between reducing inflation and unemployment in the short run. It is generally accepted that this trade-off is relevant in the short but not in the long term, and is greater when inflation and unemployment are low.[3] Preliminary data indicate that some of the slowing of price increases in 1997 is explained by the downward shift of the curve (expressing a decline in inflation at every level of employment), but a significant part also derives from movement along the short-term curve (see Box 3.1 in Chapter 3). The latter, together with uncertainty regarding the permanency of some of the factors causing the downward shift of the curve, indicate that an important challenge confronting policy makers these days is to translate the slowdown in the rate of price increases into a permanent decline in the inflation environment, while minimizing the cost in terms of unemployment. In order to do this it is necessary to adopt a comprehensive approach, addressing all the factors influencing the inflation rate in the long term.[4]

[2] See A. Alesina and R. Perotti (1995), "Fiscal Expansions and Adjustments in OECD Countries," *Economic Policy*; and M. Dahan and M. Strawczynski (1997), "Fiscal Policy and Inflation in Israel," *Inflation and Disinflation in Israel*, Bank of Israel (forthcoming).

[3] See N. Sussman and Y. Lavi (1997), "The Phillips Curve Tradeoffs and its Policy Induced Shifts, 1965 to 1996," *Inflation and Disinflation in Israel*, Bank of Israel (forthcoming).

[4] See L. Leiderman and G. Bronfman (1997), "Monetary Policy and Inflation in Israel," *Inflation and Disinflation in Israel*, Bank of Israel (forthcoming); N. Liviatan and R. Melnik (1997), "Inflation and Disinflation by Steps in Israel," *Inflation and Disinflation in Israel*, Bank of Israel (forthcoming).

assessing policy this year it is necessary to take into account the effect on unemployment of the measures intended to reduce the balance-of-payments deficit and decelerate price increases—i.e., the substitutability between restoring fiscal credibility and attaining the long-term inflation target, on the one hand, and its impact on unemployment, on the other (Box 2.1). The fact that *ex post* there has been a significant improvement in the balance of payments and that inflation has declined to 7 percent—the lower limit of the target range (7–10 percent)—indicates that in 1997, in view of the deterioration in the balance of payments in 1996 and events in the world capital market, considerable emphasis was placed on improving the balance of payments and attaining the inflation target, even though these achievements incur a cost in the form of higher unemployment in the short term.

Manufacturing exports accelerated from 7.1 in 1996 to 11 percent in 1997, mainly in the high-tech industries; the rise was affected by the expansion of world trade, from 6.2 to 8.4 percent.

Exports, especially in manufacturing, developed differently, and their growth rate accelerated from 7.1 percent in 1996 to 11 percent in 1997. This was led by the high-tech industries, whose share of exports is increasing (see Chapter 6). Export growth was affected by the expansion of world trade from 6.2 to 8.4 percent, but its rise outstripped this due to the increase in demand for the products of the high-tech industries. This process had begun earlier, in the wake of the surge in business opportunities created by the combination of the mass immigration and progress in the geopolitical process. It prepared the ground for the rise in Israel's exports on the world market, alongside entry to new markets and deeper penetration of existing ones. Exports of the traditional industries slowed, however, as these were exposed to competition from other sources as a result of liberalization and globalization, and were also affected by real appreciation as a result of the ongoing expansion of the high-tech industries (in 1997 due to policy factors and rigidities, too).

The adverse effect on tourism was exacerbated this year, with a 10.4 percent quantitative fall, after a 3.8 percent decline in 1996. This is a clear expression of the security incidents and political uncertainty. Relative prices, which were affected by the real appreciation, also explain the decline in tourism exports and the 10.7 percent rise in Israeli tourism abroad.

The supply side

After very rapid growth in 1990–95, the rate at which business-sector product rose moderated, from 7 to 5.2 percent in 1996, and to 1.5 percent in 1997.

After extremely rapid expansion in 1990-95, the rate of growth of business-sector product moderated, from 7 percent to 5.2 percent in 1996, and to 1.5 percent in 1997. Some of the moderation in the last two years was expected, due to the 1.2 percentage-point slowdown in the rise in potential output as the positive effect of the influx of immigrants came to an end and the expansion of the civilian labor force (including non-Israelis) slowed, from an average of 5.4 percent in 1990-95 to 3.3 percent in 1996 and 3.7 percent in 1997 (Table 2.3). However, the lower growth rate was far beyond what was implied by the waning of the positive effect in 1996, and even more so in 1997. The slow GDP growth rate is notable in comparison with that of the factors of production, capital stock rising by 8.6 percent, and the labor force, as stated, by only 3.7 percent. A marked feature of the last two years has been the failure of the economy

Table 2.3
Supply of Business-Sector Product, 1986–97

(rate of change, percent)

	1986–89	1990–95	1996	1997
Gross capital stock	2.0	4.7	8.1	8.6
Labor input	1.5	6.1	3.3	1.9
Civilian labor force *plus* foreign workers[a]	0.0	5.4	3.3	3.7
Total factor productivity	2.3	1.0	0.4	–2.4
Rate of return on net capital	5.0	11.6	7.6	4.3
Roads capital stock per production factor unit[b]	0.9	–0.1	3.7	5.0
Tax rate on non-wage income	31.8	26.8	27.6	31.3
Real interest on overdrafts[c]	27.1	9.3	11.1	12.9
Real yield on 10-year bonds[d]	4.1	3.0	4.5	3.9
Unit labor cost	2.7	–0.7	2.4	4.0

[a] The labor force plus the labor inputs of Palestinian and foreign workers in accordance with their weight in the business sector.
[b] A production factor unit is weighted at 68 percent labor and 32 percent capital.
[c] Overdraft facilities and overdrawn current accounts.
[d] Data as of 1987.

In the last two years potential output has not been achieved, the output gap being estimated at 5 percent of GDP

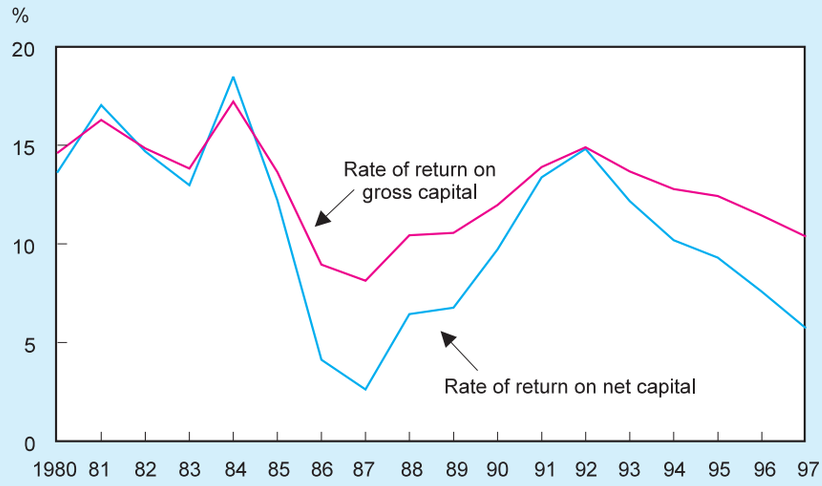
to realize its potential output. According to an estimate of the deviation from potential output in the last two years, in 1997 this was 5 percent of GDP, up significantly over 1997 (Box 2.2).[4] The simulations show that the larger deviation from potential output in 1997 is explained mainly by cyclical factors.

The structural factors (measured on the basis of long-term trends) include: (i) a decline in total productivity due to significant changes in the characteristics of the labor force (see Box 2.2 in last year's edition of this publication); (ii) the accelerated growth of capital stock (machinery and equipment) and difficulties in adjusting capacity; this process is reflected by the rise in capital stock per employee and the capital/GDP ratio, as well as by capital stock renewal, indicated by the decline in its average age (Table 2.A.9); (iii) structural changes in export patterns, also expressed in production in the last two years—a rise in the share of high-tech industries at the expense of that of the traditional ones (see Figure 2.9); this affects unemployment in the medium term, and could influence the natural unemployment rate.

The cyclical factors which had an effect in 1997 include policies and the security-political uncertainty. One outstanding feature was the decline in production profitability, which has accelerated in the last two years. The ongoing fall is reflected by the rate of return on capital, which has been decreasing steadily for the last three years after rising in the early 1990s. This partly reflects the end of the process of utilizing business

[4] Assuming that GDP in 1995 was roughly equal to potential output, this estimate is also supported by the method of calculating the change in potential output described in Box 2.1 in last year's edition of this publication; in the last three years potential output has risen at a rate that is more or less consistent with the approach of the 'basic scenario' described in Box 2.2 below.

Figure 2.2
Rates of Return on Gross and Net Capital in Business Sector, 1980-97



SOURCE: Based on Central Bureau of Statistics data.

The return on capital has been declining for the last three years; in 1997 it fell from 7.6 to 4.3 percent in net terms.

opportunities created in the wake of the influx of immigrants (which significantly increased the return on capital).[5] There is no doubt, however, that the sharp decline in 1997 (from 7.6 to 4.3 percent in net terms) reflects specific factors operating this year—a combination of policy factors and rigidities of various kinds (see Section 3).

An examination of the composition of employment (Chapter 4) reveals that the change in the patterns of export and production—a rise in the share of high-tech industries and a decline in that of the traditional ones—and the employment of foreign workers has had an effect. The rise in unemployment also encompassed most industries—construction, food and hotels, manufacturing and miscellaneous—indicating that cyclical factors contributed to the higher unemployment rate in 1997. The by-industry composition of manufacturing production (Table 2.A.14) also shows that the slowdown in the rise in labor input (hours) occurred in all industries except for trade and services, which has continued to expand in the last few years—a characteristic of advanced economies.

Total productivity fell by 2.4 percent in 1997—a very steep drop in historical terms; measures to support the supply side of the economy are required.

Total productivity went down by 2.4 percent in 1997, a very steep fall in historical terms. Labor productivity decreased by 0.4 percent, so that its rising trend of the last two years was arrested. In view of the mixed development trends evident since the influx of immigrants, and taking the difficulties of absorption and adjustment costs arising from structural changes in the labor market into account, it appears that the qualitative potential embodied in the entry of the immigrants into the labor force has

[5] It is generally assumed that the production function is characterized by diminishing marginal output as the quantity of factors of production rises. Hence, the long-term factor is reflected by the diminishing marginal decline in the rate of return on capital.

not yet been utilized to the full. Although the cyclical factors in effect in 1997 caused the further deferment of the process of qualitative utilization, the retreat in some areas of economic policy may also have had an effect. The two main elements through which the government's policy significantly influences the supply side are an increase in infrastructure investment (which operates with a lag) and the long-term reduction of the statutory tax rate. Difficulties in adjusting budgetary expenditure, together with an effective deficit limit under the Budget Deficit Reduction Law, led in 1997 to a reversal of the trends that had prevailed in both these spheres in the last few years: the statutory tax rate rose by 0.6 percent of GDP, after declining steadily since 1993, the share of taxes in non-wage income continued to rise (Table 2.3), and public-sector investment fell by 0.4 percent of GDP, after maintaining its share in GDP for several years (see Chapter 5). As Table 2.3 shows, in the years of immigrant absorption investment in roads was not enough to maintain the level of capital stock per production factor unit, and only in 1996-97 was there an upturn in this ratio. In addition, with the conclusion of the initial stage of road investment, it appears to be necessary to alter priorities and focus on mass transportation projects (see below). Ways of reversing the current trends of taxation and infrastructure investment should be examined.

Box 2.2: Deviations from Potential Output

In order to ascertain the efficiency of the utilization of the factors of production, a comparison is often made between actual performance and the level of potential output as derived from capital and labor.[1] There is some difficulty in measuring potential output because there is no agreement as to its components. For example, when it comes to productivity the question arises as to what the point of comparison should be—the long-term level of average productivity or the point of maximum expansion (under ideal conditions). In recent years the problem of measuring the rise in capital stock has arisen, because of the possibility that discards have increased as a consequence of the adoption of new technologies. An approach that succeeds in overcoming this drawback is the one that attempts to assess deviations from potential output. This distinguishes between the amount of machinery and its utilization; assuming that deviations from potential capital services derive from differences in utilization, hence changes in patterns of discards will not theoretically affect the deviation from potential output.[2] In

[1] This is the approach used by central banks, *inter alia*, to assess the intensity of inflationary pressures. The method presented here is based on the work by A. Bar-Gil and Z. Hercowitz (1997), *An Estimate of Potential Output* (Bank of Israel Research Department, internal memorandum).

[2] Apart from the problem of measuring total productivity (known as the Solow residual). Naturally, this measurement is affected by the assumptions concerning discards. However, it is difficult to estimate the effect of this on total productivity without undertaking an extensive study that will enable an assessment of its relative intensity over time.

accordance with this view, deviations reflect (i) deviations in the utilization of capital stock, and (ii) deviations in the utilization of labor, represented by the working-age population.

The significant changes that have taken place in the economy in the last few years (the influx of immigrants, the entry of foreign workers, structural change in exports and in the composition of employment) call for a sensitivity analysis (see table below), making it possible to identify factors that are structural (measured by long-term trends) and those that are cyclical (deviations from the trends). The following analysis relates to two elements: (i) The long-term trend, which serves as an index of the (average) level of potential productivity; the sensitivity analysis examines the flexibility of the trend, a more flexible trend being closer to actual productivity, so that the stagnation of productivity in recent years is attributed to structural factors, and a less flexible one indicating that the explanation lies in the cyclical component. (ii) Natural unemployment, where the question to be asked in connection with the change in the composition of employment is whether the reduced share of unskilled workers in production, and the entry of foreign workers, has also altered the natural rate of unemployment, as a result of the inability of individuals who have lost their jobs to find work in the medium term. In the basic and the second alternative scenarios this rate is assumed to be constant at 6 percent of the labor force, while in the other two alternative scenarios it rises gradually from 6 to 7 percent[3] in 1997. Since the results of all the scenarios show that the deviation from the trend in 1995 was virtually zero, the deviations in the table originated in 1996 and continued in 1997.

Deviations from Potential Output, 1996–97

(percent of GDP)

		Alternative scenarios		
	Basic scenario	'Basic' trend, rising natural unemployment	'Flexible' trend, constant natural unemployment	'Flexible' trend, rising natural unemployment
1996	–1.8	–1.1	–0.8	–0.2
1997	–5.0	–4.2	–3.3	–2.6

The current tool makes it possible to systematically estimate those parts of the slowdown deriving from structural factors and those due to cyclical ones. Treating the last column (flexible trend and rising natural rate of unemployment) as a scenario representing the possibility of an acceleration in structural changes (measured by the trend) in recent years, we find that of a deviation of 5 percent

[3] These figures are chosen only for the purpose of the sensitivity analysis, and should not be regarded as an estimate of the natural rate of unemployment.

of output generated in the last two years (in the basic scenario), 2.4 percent can be attributed to structural factors (the difference between the first and the last columns), and 2.6 percent to cyclical ones. In addition, dividing the cyclical component between 1996 and 1997 shows that most of the deviation originated in 1997 (3.2 percent of output—the difference between the deviations of the basic scenario in 1996 and 1997) reflects the cyclical element: 2.4 percent of output (the difference between the 1997 figure and that for 1996 in the last column), compared with 0.8 percent of output which can be attributed to structural factors.

The clearest finding is that for all the simulations a significant cyclical component was added to the deviation from potential output in 1997.

3. SUPPLY, DEMAND AND THE REAL EXCHANGE RATE

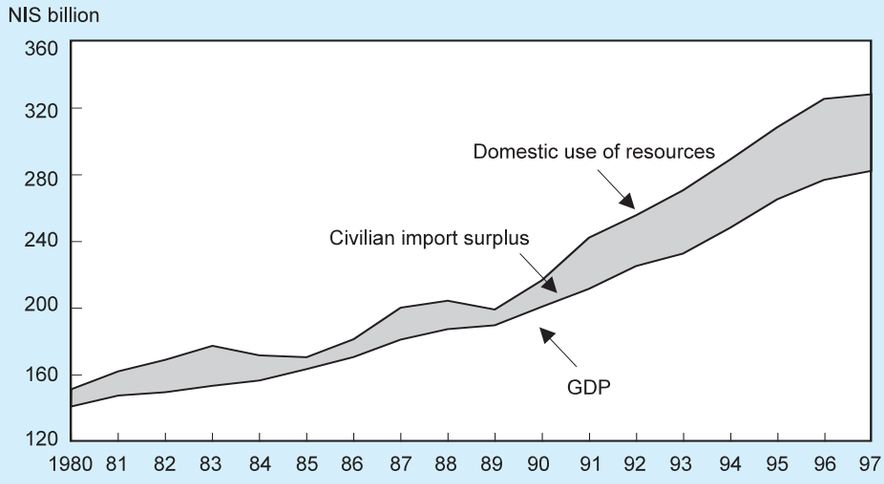
The balance-of-payments deficit contracted from 5.1 to 3.4 percent of national income.

The real exchange rate, measured by the rate at which either export or import prices rose relative to the rise in the implicit index of GDP prices, fell by 3.2 and 5.5 percent respectively.

Domestic demand moderated more intensely in 1997 than GDP, and the balance-of-payments deficit shrank from 5.1 to 3.2 percent of total national income (Table 2.A.6). The real exchange rate, measured from the rise in prices of exports and imports relative to that of GDP, fell by 3.2 and 5.5 percent respectively in 1997 (Table 2.5). This is less than the average real appreciation of 1990–95 vis-à-vis exports (3.6 percent) and higher than that vis-à-vis imports (3 percent).[6] In recent years economic growth, which was led by a rise in productivity in the traded sector and increased demand for nontradable goods, has caused real appreciation. The rise in foreign investment in the last three years has aggravated this process (Chapter 6). Although there were strong forces at work for real depreciation in 1997, they were not powerful enough to cause actual real depreciation; lower appreciation than the trend could have been expected (Figure 2.4), because of the decline in the share of domestic uses in business-sector product, and the significant slowdown in the construction industry. The combination of policy factors and the rise in autonomous capital inflows, together with various rigidities, prevented the realization of the real depreciation that would have made it possible to approach potential output. The fact that GDP prices remained high throughout the year and plummeted only in the last quarter indicates that the rigidities eased, causing real appreciation to moderate.

[6] It is not clear whether the average appreciation of that period reflects Israel's long-term trend. In the periods shown in Table 2.5 the country received special unilateral transfers in the wake of the Economic Stabilization Program (ESP) and US government loan guarantees for absorbing the influx of immigrants. The calculation of real appreciation in 1980-85 (which is also problematic because of distortions in relative prices due to the undermining of economic stability, which led to the ESP) shows that when this is measured from export prices it was 0.9 percent, while from import prices it was 0.5 percent.

Figure 2.3
Domestic Use of Resources, GDP, and the Civilian Import Surplus, 1980-97



SOURCE: Based on Central Bureau of Statistics data.

Two main policy factors were evident in 1997. First, in the first half of the year the high interest rates contributed to the persistent capital inflow due to interest-rate differentials. This factor was evident in 1996, and helps to explain the slower rise of the exchange rate against the currency basket in the last two years. Second, the asymmetry in both restriction and tax laws regarding capital flows (Chapter 6) enabled massive capital inflows (a significant rise in direct and portfolio investment by nonresidents), while preventing outflows. The asymmetry was reflected in the portfolio investment of institutions (tax discrimination) as well as in restrictions on the capital flows of individuals. In the second half of the year, after the exchange-rate band was widened and foreign-exchange controls were relaxed, the nature of the capital flows changed, most of them becoming long-term, which are not sensitivite to interest-rate gaps, so that the exchange rate remained in the lower part of the band. The nominal exchange rage against the currency basket rose moderately—by 3.5 percent in 1996 and 4.3 percent in 1997.

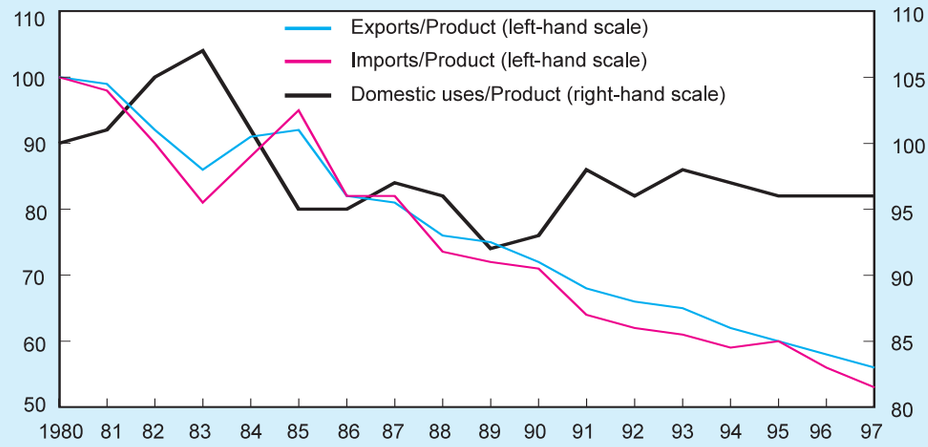
Table 2.4
Business-Sector Product, Demand and Supply, 1986–97

(rate of change, percent)

	1986–89	1990–95	1996	1997
Actual business-sector product	4.6	7.0	5.2	1.5
Business-sector use of resources	4.3	11.0	6.3	2.2
Share of import surplus[a]	11.6	19.6	22.9	21.5

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

Figure 2.4
Indices of Prices of Imports and Exports and of Domestic Uses Relative to Implicit Price Index of Business-Sector Product, 1980-97 (1980 = 100)



SOURCE: Based on Central Bureau of Statistics data.

The fact that nominal wages per employee post in the business sector continued to rise in 1997, by 12.7 percent after a similar increase in 1996, despite the decline in the average rate of price increases and the rise in the unemployment rate in 1997, is indicative of nominal rigidities. The 4 percent rise in unit labor costs (Table 2.3) partly reflects this element. Another expression of sticky wages is the steep increase in the minimum wage (6.1 percent); this was affected in 1997 by a change in legislation as well as by shifts in the structure of exports and production which caused the wages of high-skilled employees to rise, and the minimum wage (calculated as a percentage of the average wage) to follow with a lag, irrespective of the supply and demand for unskilled workers. It is reasonable to assume that in view of the high unemployment rate among unskilled workers, given a situation of wage flexibility (without rigidities), some of the process of adjustment would be achieved via changes in wages rather than in employment. Real appreciation makes conditions more difficult for exporting companies with low marginal profits, as well as for domestic companies producing import substitutes, so that the firms most affected in the areas of export and production are in the textile and clothing industries (see below).

Another factor at work in 1997 was the significant improvement in the terms of trade (Table 2.5). Its effect on the generation of real appreciation or depreciation is not clear-cut: if it is perceived as long-term, the increase in income expands demand for domestic output, and hence acts to generate real appreciation; if it is perceived as temporary, it accelerates purchases of raw materials and merchandise abroad, thereby

Table 2.5
The Real Exchange Rate and the Traded Sector, 1986–97

(rate of change, percent)

	1986–89	1990–95	1996	1997
Exchange rate (export terms)[a]	–5.2	–3.6	–3.9	–3.2
Exchange rate (import terms)[b]	–6.8	–3.1	–6.7	–5.5
Nominal exchange rate against currency-basket	16.9	9.6	3.5	4.3
Traded product of business sector[c]	1.9	5.6	2.9	–0.5
Traded demand of business sector[c]	4.1	8.9	6.5	3.0
Terms of trade[d]	1.7	–0.6	3.0	2.5

[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).

generating real depreciation. Although it is generally assumed that an improvement in the terms of trade is perceived as temporary by economic agents, its persistence over two years may intensify the importance of the income effect, thus balancing the forces for appreciation and depreciation.

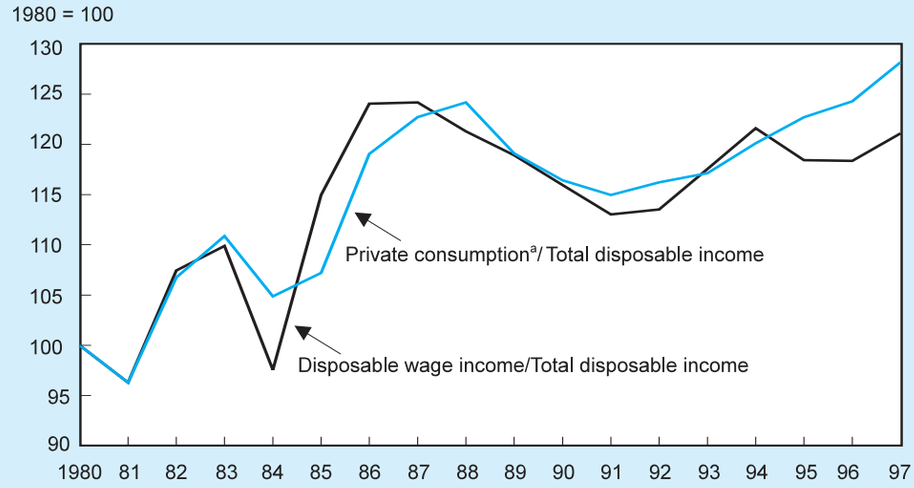
4. THE SAVING RATE, INVESTMENT, AND THE CURRENT ACCOUNT

The reduction of the national saving rate in 1997 was led by a fall in private saving, while the government met the total deficit target of 2.8 percent of GDP, in accordance with the Budget Deficit Reduction Law.

The national saving rate continued to decline for the fifth successive year, and was 16.4 percent in 1997, after 16.6 percent in 1996 (Table 2.A.16). This reflects a different trend from 1995 and 1996, when the fall in the public saving rate led the reduction in the national saving rate. The rise in public saving is due to an increase in the tax burden (including national insurance payments)—mainly because of the decision not to update the income-tax brackets and the higher taxes on fuel, automobile air-conditioners, and tobacco—as well as to the increase in tax revenues on non-wage income. The decline in private saving is in line with the ongoing increase of the share of wage income in total disposable income received directly by households (in contrast to other income), and which constitutes the lion's share of income; assuming that there is limited access to credit (a liquidity constraint), which is relevant for some employees, a rise in the share of wages could explain the decline in saving. Note, however, that despite the constant increase in this share since 1992, the share of private consumption (excluding durables) in disposable income declined in 1995–96 (Figure 2.5). This may be due to greater uncertainty, following the relaxation of fiscal discipline in those years, which serves to increase precautionary savings, particularly among individuals who are not subject to liquidity constraints.

Figure 2.5

Private Consumption[a] and Disposable Wage Income as a Proportion of Total Disposable Income, 1980-97



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

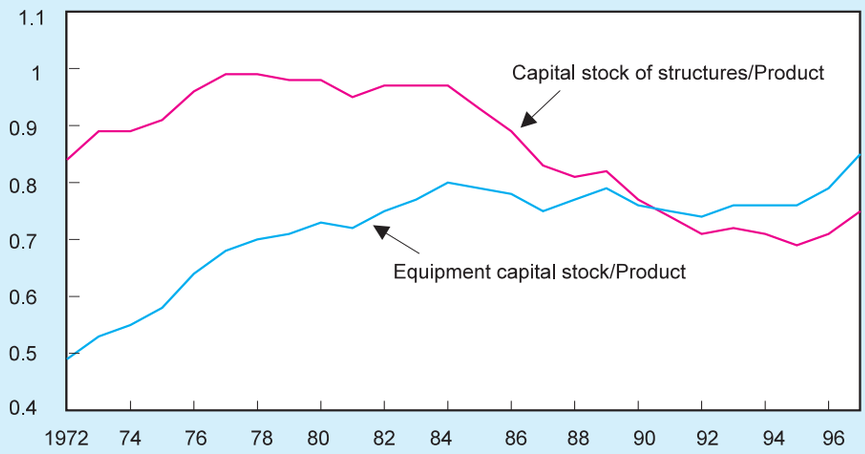
The share of gross domestic investment in total national income (GDP *plus* net unilateral transfers from abroad) was 19.8 percent in 1997, compared with 22 percent in 1996.

Since 1993 the gross capital/business sector-product ratio has been rising gradually, and is approaching its level prior to the influx of immigrants. Thus, the return on capital has fallen, as has the incentive to firms to invest. This trend was aggravated in 1997, but the ratio of investment to business-sector product remains high (at 20.6 percent). A closer examination of the ratio of capital stock investment by its components shows that in 1997 the ratio of investment in buildings approached its level prior to the influx of immigrants, while in machinery and equipment it was higher. Note, however, that the increase in the ratio of equipment to business-sector product should be reviewed in accordance with its long-term trend, which has been rising since the 1970s due to technological advances and the moderation of prices of imported intermediates (Figure 2.6).

The decline in investment in 1997, in the principal industries in general and in the business sector in particular, should be examined against the backdrop of the process of adjustment of gross capital stock.

The decline in the level of investment in the business sector in 1997—after rising continuously in the early 1990s—was the result of other factors in addition to the process of capital stock adjustment. These included the decline in domestic demand, due to the cumulative effect of monetary restraint in 1996–97, in the wake of which real short-term interest rose (Table 2.3), the stagnation of total productivity, the cumulative decline in profitability in the traded sector in 1995–96, and the continued political-security uncertainty.

Figure 2.6
Ratio of Gross Capital Stock to Business-Sector Product, 1972-97



SOURCE: Based on Central Bureau of Statistics data.

As a share of national income, the national saving rate declined less than the investment rate. Thus, there was a turnaround in 1997 in the balance of payments deficit: the net current-account deficit shrank to stand at 3.2 percent of total income, after soaring in the preceding two years. Since it is too early to tell whether the long-term trend rise in the share of the stock of machinery in GDP has ended, not all the decline due to the lower share of investment in GDP may be long-term.

The trend decline in the return on capital was exacerbated in 1997, but the ratio of investment to business-sector product remained high.

5. THE PRINCIPAL INDUSTRIES

1. Manufacturing

The year 1997 was characterized by the slowing of economic activity. Manufacturing product, which constitutes 24 percent of business-sector product, rose by a real 1.7 percent—from NIS 45.7 billion[7] in 1996 to NIS 46.5 billion in 1997. Thus the slowdown evident since the second half of 1996 has persisted, after annual volume growth of 7–8 percent in 1990–95 (Table 2.6). The slowing of product growth reflects the decline in domestic sales, while exports rose by a real 14 percent. The latter occurred mainly in the high-tech industries (which are human-capital-intensive), and reflects the comparative advantage of Israel's manufacturing industry in knowhow and human capital. A closer examination reveals that the slower growth rate encompassed most industries (Table 2.A.18), but whereas the rate of growth slowed in most high-tech industries, in the traditional industries there was a volume decline in product.

The growth rate of manufacturing product slowed to 1.7 percent in 1997.

[7] At 1996 prices.

Table 2.6
Production and Factors of Production in Manufacturing,[a] 1981–97
(average rate of change, percent)

	1981–85	1986–90	1991–95	1996–97	1994	1995	1996	1997
Production	3.7	2.0	7.5	3.6	7.4	8.4	5.4	1.7
Exports	9.2	6.8	9.6	10.6	13.9	3.5	7.5	13.6
Labor input (hours)	1.2	–1.9	4.7	0.2	4.2	3.6	2.0	–1.6
Number of salaried employees	1.4	–1.5	4.5	0.4	4.6	4.1	1.9	–1.0
Gross capital stock[b]	4.6	3.8	6.4	9.8	8.1	10.1	10.0	9.6
Real gross investment	9.6	3.3	18.3	–2.4	23.2	8.5	6.3	–11.1
Labor productivity	2.4	4.0	2.7	3.3	3.1	4.6	3.3	3.3
Total productivity	0.3	0.8	2.1	0.1	1.8	2.4	0.7	–0.5

[a] Excluding diamonds.
[b] At beginning of year.

Labor input fell in 1997, as regards both hours worked and the number of salaried employees.

Labor input—both hours worked and the number of salaried employees—declined in 1997. The by-industry breakdown (Table 2.8) shows that most of the decline in hours worked was in the traditional industries,[8] while there was no change in the high-tech industries. The combination of the moderate rise in product and the slowdown in hours worked caused labor productivity to increase by 3.3 percent. Total productivity declined by 0.5 percent, however, mainly due to a 10 percent drop in gross capital stock in 1997.[9] The conclusion of the expansionary effect of the influx of immigrants involved a process of capital stock adjustment, expressed in 1997 by the 11 percent fall in investment in manufacturing industry. This came after an annual average rise of 7 percent in 1995–96, and 18.5 percent in 1990–94.

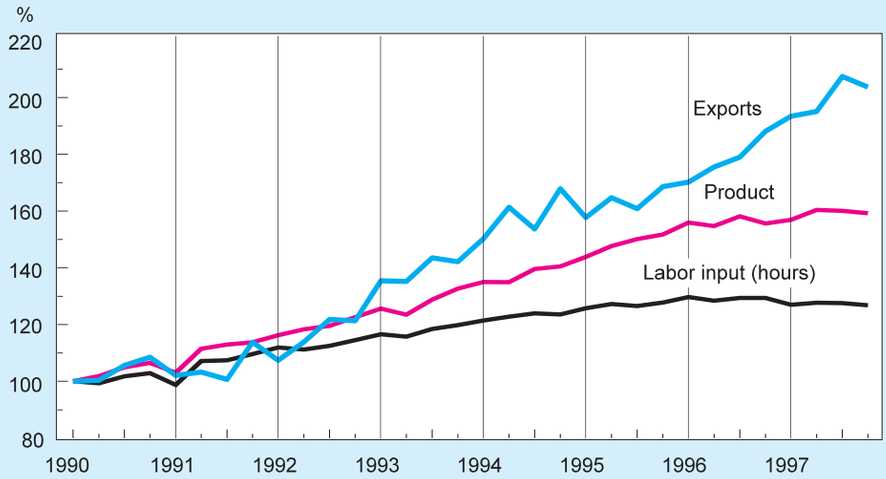
The share of the high-tech industries in manufacturing product has risen in the last two years, and that of the traditional industries has fallen. In the last three years the share of the high-tech industries in labor input (hours) has expanded and that of the traditional industries has declined.

The share of the high-tech industries in manufacturing product has risen by 2.2 percent in the last two years, and that of the traditional industries[10] has declined by 2.5 percent. In labor input (hours worked), the share of the high-tech industries has risen by 1.5 percent in the last three years, while that of the traditional ones has fallen by 3.2 percent (Figures 2.8 and 2.9). There are two main explanations for this: the beginning of the conclusion of the expansionary effect of the influx of immigrants, and the cumulative effect of the process of exposing the economy to competing imports. From the beginning of the decade until 1994–95 the influx of immigrants increased domestic demand for the product of the traditional and mixed industries, most of which consists of the basic goods needed by the immigrants at the initial stage of their absorption. As

[8] For the by-industry breakdown, see Table 2.7.
[9] The rise in capital stock is measured from the beginning of 1996 to the beginning of 1997.
[10] The division by industries in the two-digit category (67 industries) has been made for 1994–97. In the last three years the share of the high-tech industries rose by 2.4 percent, that of the traditional ones fell by 2 percent, and that of the mixed ones declined by 0.4 percent. Note that software services sales, which rose by 20 percent in 1997, does not constitute an industrial category.

Figure 2.7

Product, Exports, and Labor Input (Hours),[a] 1990-97



[a] Quarterly index; base: 100 = 1990.
SOURCE: Based on Central Bureau of Statistics data.

a result, the share of the high-tech industries declined in both manufacturing product and labor input (hours) from 1990 to 1994–95. As the initial stage of the absorption of immigrants came to an end, demand for the product of the traditional industries began to ease. The moderation of domestic demand, together with the process of exposing the economy to competing imports from countries where production costs are far lower, had an adverse effect primarily on the traditional industries, leading to the contraction of their share in total manufacturing output and in labor input (hours). The increase in the share of the high-tech industries in total manufacturing output and in labor input (hours) was also supported by the sharp rise in their physical capital stock in the last three years, ensuring that their production capability was higher than in the traditional industries, where the growth rate of capital stock is declining (Table 2.8). In addition, data on quits and entries of employees in manufacturing show that in the last two years the ratio between quits of employees in firms that have downsized or closed and entries of workers in firms that have expanded or opened is the highest in the textile industry in the last two years. This ratio is the lowest in the electronic components and electronic communications equipment industries.

Whereas the first signs of the structural change in product and labor input (hours) in manufacturing have emerged only in the last two years, in manufacturing exports the share of high-tech industries[11] has been rising since the mid-1970s.[12]

[11] The product of the high-tech industries rose by 3.9 percent, while their exports grew by some 20 percent (Table 2.8). In analyzing this gap, note that exports are measured by receipts, while product is measured by products and hours worked as well as by receipts. To adjust for this measurement difference, the receipts of the high-tech industries were calculated, and in constant prices these rose by 8.3 percent in 1997. If exports, which account for 42 percent of the receipts of high-tech industries, rose, as stated, by 20 percent, then their receipts from the domestic market remained virtually unchanged.

[12] See Chapter 6.

Table 2.7
Composition of Manufacturing Industry[a]

Classification A / Classification B	High-Tech	Mixed	Traditional
Export (over 40 percent)	Chemicals and oil products (9.8) Electronic equipment (13.9) Electric engines (2.2) Electronic communications equipment (8.5) Transport equipment (5.5)	Jewelry and objets d'art (1.0) Mining and quarrying (2.7) Miscellaneous (0.8)	
Intermediate (20–40 percent)	Machinery and equipment (3.7)	Metal products (11.1) Plastic and rubber products (5.6)	Textiles and clothing (4.8)
Domestic (less than 20 percent)		Basic metals (2.3)	Printing and publishing (5.2) Paper and its products (1.9) Food, drink, tobacco (12.3) Non-metallic mineral products (4.0) Wood and its products (4.0) Leather and its products (0.5)

[a] The industry's share in manufacturing product in 1997 is given in parentheses.

The slowdown in the growth of manufacturing product was due mainly to the fall in domestic investment demand.

The slowdown in the rise in manufacturing product in 1997 was due mainly to the decline in investment demand—in equipment, industrial buildings, and residential construction—which made a significant contribution to its growth in previous years. Private and public consumption, the rise in which moderated this year, did not contribute to the increase in manufacturing product, so that this also explains the slowdown in its rate of expansion. The slower growth of domestic demand is due mainly to the easing of the expansionary effect of immigrant absorption and tight fiscal and monetary policy (see the beginning of this chapter).

According to most of the indicators of manufacturing profitability, this has continued to fall.

According to most of the indicators of manufacturing profitably, the decline is now in its third year. Real hourly labor costs (in product prices)[13] rose by about 6 percent, after increasing by 6 and 12 percent in 1996 and 1995 respectively. The rate of return on gross capital fell to about 9 percent (compared with an annual average of 13 percent in 1991–95), and on net capital to 3 percent. This year, however, in contrast with the three preceding years, the terms of trade improved: local-currency prices of exports rose by 5 percent, and of imports by 1.7 percent. Despite this improvement, reflected by the decline in the relative price of imported intermediates, the fall in profitability persisted. This was affected by the process of globalization, which made it difficult to

[13] Product prices are not measured directly but are derived from input-output prices.

Figure 2.8
Share of High-Tech, Mixed, and Traditional Industries in Labor Input (Hours), 1990-97

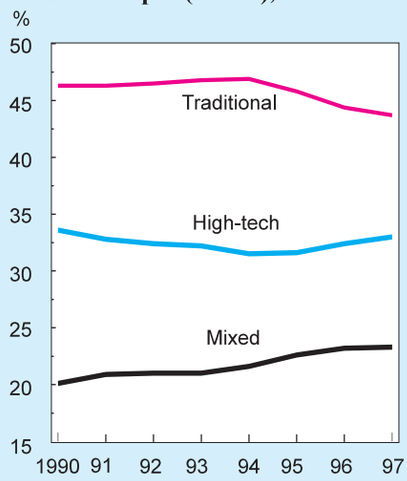
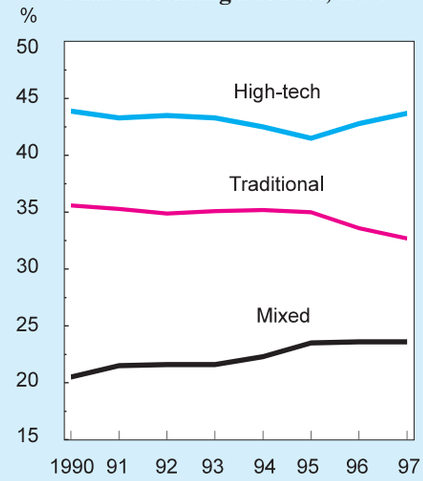


Figure 2.9
Share of High-Tech, Mixed, and Traditional Industries in Manufacturing Product, 1990-97



SOURCE: Based on Central Bureau of Statistics data.

compete abroad, by the exposure to competing imports, which made it difficult to compete at home, as well as by the rise in real wages, the waning of the expansionary effect on demand of the influx of immigrants, and real appreciation (see Chapters 4 and 6).

Factors of production—capital and labor—and productivity

In order to distinguish and classify developments in manufacturing industry in the last few years, and in 1997 in particular, the various industries were grouped in two ways, as shown in Table 2.7. In the horizontal classification of the high-tech, mixed and traditional industries, the high-tech group comprises industries in which employees are characterized by a significantly above-average level of human capital,[14] the traditional group consists of industries where this is significantly below-average; the other industries are included in the mixed group. In the vertical classification, the groups were divided in accordance with the share of exports in total sales, on the basis of the 1994 survey of industry and crafts; industries in which exports accounted for over 40 percent of their sales were included in the export group, and those in which they were less than 20 percent were included in the domestic group; the other industries were included in the intermediate group.

[14] Engineers, other graduates, practical engineers, and technicians.

Table 2.8
Changes in Manufacturing Industry, 1991–97

(rate of change, percent)

	Classification A[a]			Classification B[a]		
	High-Tech	Mixed	Traditional	Export	Intermediate	Domestic
Product						
Share in 1997	44	24	33	44	26	30
1991–1995	6.1	10.1	7.0	6.6	8.5	7.4
1996–1997	6.3	3.8	0.1	6.6	1.4	1.1
1994	5.2	10.4	7.6	5.2	10.7	7.3
1995	5.8	13.9	7.9	7.0	9.5	9.4
1996	8.6	5.9	1.2	9.0	2.8	2.8
1997	3.9	1.6	–1.1	4.2	0.1	–0.5
Exports						
Share in 1997	71	17	12	71	24	5
1996–1997	15.2	4.9	–4.7	14.4	3.4	–3.4
1994	15.3	13.2	7.8	12.1	20.0	7.5
1995	1.4	12.0	5.3	1.2	10.0	7.6
1996	10.3	6.4	–4.9	9.3	5.1	–5.4
1997	20.1	3.4	–4.4	19.5	1.7	–1.3
Labor input (hours)						
Share in 1997	33	23	44	32	32	36
1991–1995	3.4	7.1	4.4	3.6	4.8	5.5
1996–1997	2.3	1.7	–2.2	2.2	–1.6	0.0
1994	2.0	7.0	4.5	2.6	4.1	5.7
1995	4.1	8.5	1.1	3.8	3.8	3.4
1996	4.4	4.4	–1.1	4.2	0.5	1.3
1997	0.2	–0.9	–3.3	0.2	–3.7	–1.2
Gross capital stock						
Share in 1997	49	24	27	53	25	22
1991–1995	8.7	2.9	6.5	7.3	5.0	6.8
1996–1997	12.4	6.2	8.6	11.1	7.5	9.5
1994	9.8	4.5	8.8	8.4	7.3	8.3
1995	11.1	7.2	11.3	10.7	7.2	12.3
1996	12.6	5.9	9.6	10.9	7.6	10.8
1997	12.3	6.6	7.7	11.3	7.4	8.1
Labor productivity						
1991–1995	2.6	2.7	2.5	2.9	3.5	1.9
1996–1997	3.9	2.0	2.3	4.3	3.1	1.1
1994	3.1	3.2	3.0	2.5	6.3	1.5
1995	1.7	5.0	6.7	3.0	5.5	5.8
1996	4.0	1.5	2.3	4.6	2.2	1.5
1997	3.7	2.6	2.3	4.0	3.9	0.7
Total productivity						
1991–1995	0.9	4.1	1.8	1.7	3.6	1.4
1996–1997	0.5	0.5	–1.4	1.3	–0.1	–2.0
1994	0.5	4.0	1.6	0.6	5.2	0.6
1995	–0.6	5.4	3.2	0.7	4.3	2.8
1996	1.4	1.0	–1.3	2.4	–0.2	–1.7
1997	–0.4	0.0	–1.5	0.2	0.0	–2.4

[a] Classification as in Table 2.7.
SOURCE: Based on Central Bureau of Statistics data.

As stated, alongside the moderate rise in manufacturing production, labor input (hours) declined (Table 2.6). Most of this decline was in the traditional industries, especially textiles, clothing and leather (Tables 2.8 and 2.A.19). In the high-tech industries there was no change, reflected by the high variance. The adjustment of labor input (hours) to the slowing of product meant that the rate of increase of labor productivity in the high-tech and traditional industries remained at its 1996 level. The uncertainty regarding the persistence of growth in 1996 appears to have led manufacturers to refrain as far as possible from incurring costs associated with dismissals. In 1997, on the other hand, as the slowdown continued and profitability fell, dismissals increased and hours worked declined in some firms, so that manufacturing productivity was maintained to some extent.

Regarding the integration of immigrants in manufacturing,[15] from end-June 1996 to end-June 1997 the number of immigrants employed in manufacturing fell by about 6 percent—from 78,000 to 73,000. There is mismatch between the immigrants' skills and their employment: some 70 percent of the immigrants who are graduates (and 90 percent of all immigrants) are employed in manufacturing jobs, and only 5 percent of them work in scientific and academic posts. Moreover, the proportion of all immigrants employed in those professions has declined gradually, according to the surveys of the last three years, from 6 percent in 1995 to 4 percent in 1996 and 2 percent in 1997. Despite the problem of mismatch between skills and employment, 84 percent of firms reported that the professional absorption of immigrants was either good or very good.

Total gross capital in manufacturing industry rose by 9.6 percent in 1997. In the high-tech industries the rate of gross capital growth remained higher than in the mixed and traditional industries (Table 2.8). The decline in the rate of return on capital and in total productivity indicate that the level of capital stock utilization was low. The adjustment of capital stock to the conclusion of the expansionary process associated with the influx of immigrants was reflected by a decline in investment in 1997,[16] expressing a fall of 18 percent in structures and 9 percent in equipment and vehicles. There were steep declines in mining and quarrying (54 percent), paper and its products (51 percent), basic metals (40 percent), non-metallic minerals (23 percent), electrical and electronic equipment (19 percent), and textiles (17 percent).

The adjustment of capital stock to the winding down of the expansionary effect of the influx of immigrants was reflected by a fall in investment in 1997.

Profitability

According to most of the indicators of profitability, the declining trend persisted in 1997, for the third consecutive year. Real costs per hour worked (at implicit product prices) rose by 5.8 percent, labor productivity increased, as stated, by 3.3 percent, so that unit labor costs rose by 2.4 percent, after a similar increase in 1996.

Unit labor costs rose by 2.4 percent.

[15] Data regarding immigrants are derived from the annual *Survey of the Employment of Immigrants*, published by the Israel Manufacturers' Association.

[16] The decline in investment this year will be reflected by the slower growth rate of capital stock to the beginning of 1998 (see also note 9).

Table 2.9
Indicators of Profitability in Manufacturing, 1991–97

(rate of change, percent)

	1991–95	1996–97	1994	1995	1996	1997
Real unit labor cost[a]	0.3	2.3	2.2	7.0	2.2	2.4
Real cost per man-hour[a]	3.1	5.7	5.3	11.9	5.5	5.8
Output/input price ratio	–0.1	0.3	–0.9	–3.9	–0.2	0.8
Export/domestic price ratio	–1.6	–2.3	–2.2	–4.8	–3.5	–1.2
Rate of return on gross capital (%)[b]	13.2	9.3	13.7	10.9	10.0	8.6
Rate of return on net capital (%)[c]	11.9	4.0	12.6	7.0	5.3	2.7
Real interest on overdraft facilities (%)	9.1	12.1	4.6	13.2	11.2	12.9
Change in industrial share-price index[a]	20.6	11.2	–17.5	–9.9	–3.6	26.0

[a] At product prices.
[b] Ratio of product (*less* labor costs) to capital stock (including vehicles).
[c] Ratio of product (*less* amortization and labor costs) to capital stock (including vehicles, *less* amortization).
SOURCE: Based on Central Bureau of Statistics data.

Real short-term local-currency interest was 12.9 percent in 1997. The effect of the high interest rate does not appear to have been directly expressed by the higher cost of credit and an increase in financing costs, due to the existence of substitutes for short-term local-currency credit and the accessibility of the international capital market, which offers cheaper sources of credit,[17] mainly to large firms. On the other hand, the high interest rate that has prevailed in the last few years, and the long-term capital flows were expressed in the nominal path of the exchange rate, which contributed to continued real appreciation and declining export profitability.

Nominal labor costs rose significantly in all industries, except for mining and quarrying.

A closer examination indicates that there was a marked rise in hourly labor costs in all industries except for mining and quarrying. Several factors may explain the rise in real wages despite the slowdown. In the traditional industries, which employ a large number of unskilled workers, the increase in the minimum wage and downward rigidity of wages due to the influence of the unions, impair wage flexibility at the level of the firm. The reduction of labor input in these industries, expressed in dismissals of unskilled and young employees, whose wages are lower, together with the increase in the minimum wage pushed the average wage up. It seems, however, that in several high-tech firms the slower rise in labor input is due to supply rigidities in the labor market. In these industries, where export industries are prominent, employers raise wages in order to retain their employees.

[17] Because of the high share of tradables in manufacturing, the risk of taking foreign-currency credit is relatively low.

Demand and production in the various industries

The slowdown in the rate of manufacturing product growth derived mainly from the decline in investment demand in general, and in construction in particular. Neither private nor public consumption contributed to the rise in product, the former reflecting largely the easing of the expansionary effect of the influx of immigrants, and the latter its lower rate of growth in 1997. Exports made a significant contribution to the rise in manufacturing output, and in essence were the sole factor promoting growth.

The decline in the growth rate of manufacturing product was due mainly to the fall in investment demand in general, and in construction in particular. Exports made a signal contribution to the rise in manufacturing product, and in effect was the principal factor for growth in 1997.

In the high-tech and mixed industries the rate of product growth slowed, and in the traditional industries there was even a volume decline. The slower rate of growth in the high-tech group reflects a marked fall in machinery and equipment (8.1 percent), due to the drop in investment demand. There were increases in electronic components (16 percent), telecommunications equipment (14 percent), optical instruments and photographic equipment (22 percent), and transport vehicles (5.8 percent). In the mixed industries, there was a rise in metal products (5.4 percent), and a decline in mining and quarrying (2.9 percent) and in miscellaneous[18] (8.5 percent). In the traditional group there was a significant slowdown in product growth in all industries, except for food, drink, and tobacco (Table 2.A.18).

The rate at which product grew slowed in the high-tech and mixed industries in 1997, while in the traditional industries there was a volume decline.

The decline in construction demand led to a fall in production for the domestic market in the industries supplying its inputs, decreasing by 9 percent in non-metallic minerals, 2 percent in the stone- and sand-quarrying industry, and 4 percent in carpentry products for construction.

The 13.6 percent rise in manufacturing exports reflects mainly a 20 percent increase in high-tech exports, which account for 71 percent in all exports, reflecting Israel's comparative advantage in this sphere in knowhow and human capital.

The consequences of the moderate rise in private consumption and the cumulative effect of the process of exposure to competing imports were felt in several traditional industries. Production contracted in textiles and clothing, for the second year in succession, by some 4 percent. The number of salaried employees and labor input (hours) in those industries began to decline in 1995, and these trends have intensified in the last two years (Tables 2.A.19 and 2.A.20), with a concurrent decline in their exports.[19] The contractionary trend in the activity of manufacturing industry does not seem to be due solely to the slowing of domestic demand, which is linked with the winding down of the expansionary effect of the influx of immigrants, but also to the

The effects of the moderate rise in private consumption, and the cumulative effects of the process of exposure to competing imports, were felt in several traditional industries.

[18] Miscellaneous includes the production of musical instruments, sports equipment, toys and games, medical equipment and orthopedic accessories, disposable medical equipment, office equipment, school supplies, etc.

[19] In the transition from the group of traditional to domestic industries only the textile and clothing industry fell, and only the basic metals industry was added. Since the situation of the former deteriorated more in 1997 than that of the latter, this is reflected in Table 2.8 by the sharper contraction of the product, exports, and labor input (hours) of the traditional industries than of the domestic ones.

process of exposure to competing imports, which caused domestic production to contract, as well as to the process of globalization, which caused exports to shrink. These processes, together with the significantly higher labor costs in Israel than in neighboring countries (Jordan, Egypt, Turkey) led several firms, principally in textiles and clothing, to reduce their activities in Israel and transfer some of them to those countries.

The crisis in South-East Asia, which began in October, will expose Israel to cheaper imports, on the one hand, and to lower export prices, on the other. The resulting increased competition, together with the process of exposure, might have a further adverse effect on the traditional industries. The effect may also be felt by some high-tech industries, in the wake of bankruptcies of firms and companies abroad that have commercial ties with them.

2. Agriculture[20]

The expansion of agriculture was checked in 1997, its share in business-sector product fell, productivity declined, farm income shrank, and relative prices stabilized.

Agriculture stopped expanding in 1997, its share in the economy continued to shrink; it accounted for 2.4 percent of business-sector product, at current prices, with far-reaching changes in the structure of employment (and production) as well as in the distribution of income within it.

Output and product fell by 1.4 and 1.0 percent respectively; inputs of labor and capital remained relatively stable, so that total factor productivity fell by some 1.2 percent. Both output and input prices declined in real terms (deflated by the CPI), and the relation between the indices of output and input prices remained unchanged, in contrast with the long-term trend.

Although total real farm income shrank by about 5 percent, the continued substitution between self-employed farmers, who are gradually leaving the industry, and employed persons (whose wages are increasing, mainly due to the rise in the minimum wage) expanded total wage payments in agriculture and sharply reduced total real income from own labor and capital (by 18 percent), so that the average income of self-employed farmers fell by 15 percent.

From 1990 to 1997 product and output grew rapidly, and agriculture's 'terms of trade' worsened.

It is of limited value to discuss developments in agriculture in a single year because of the industry's special character, its output being affected by the forces of nature, over which it has no control. Note, therefore, that since the latest influx of immigrants in 1990 (in the wake of which the population increased by 29 percent) agricultural output has risen by 30 percent and its product by 55 percent, while its labor input has fallen by 19 percent and its capital stock by 16 percent. Alongside the marked increase in total productivity in agriculture, its 'terms of trade'[21] deteriorated by a cumulative 17 percent throughout the period, and the relation between the factor prices of agricultural product and business-sector product fell by 40 percent. Real income from agriculture shrank (by 16 percent), while the return on own labor and capital fell by 53 percent. The cumulative 48 percent decline in the number of (self-employed) farmers

[20] Data in this translation from the Hebrew are updated and corrected.
[21] The relative change in its indices of input and output prices.

Table 2.10
Indicators of Agricultural Production, 1990–97[a]

(annual rates of change, percent)

	Average					
	1990–93	1994–97	1994	1995	1996	1997
Output						
Total output[b]	3.0	3.3	2.7	9.7	3.5	–2.1
Inputs[c]	0.9	1.9	3.5	5.2	0.2	–1.3
Gross product	5.4	4.9	1.8	14.6	7.3	–3.3
Total farm real income	–2.6	1.6	11.5	–5.2	–6.5	5.0
Real income from capital & own labor	–6.5	–13.5	15.0	–16.1	–21.4	–18.2
Factor input						
Labor	–6.9	2.0	4.8	5.5	–2.6	0.6
Gross capital stock	–3.1	–1.1	–1.4	–2.6	–0.4	–0.1
Capital/labor ratio	4.1	–3.0	–5.9	–7.6	2.3	–0.7
Productivity						
Product/labor ratio	13.3	3.8	–2.8	8.5	11.7	–1.5
Product/input ratio	11.4	5.1	–0.4	12.0	10.6	–1.2
Exports						
Citrus	–5.4	8.2	–1.4	36.4	–5.5	7.8
Other	6.3	16.0	16.8	20.3	19.9	7.6
Total	3.4	13.8	12.0	16.9	17.6	9.1
Prices						
Output	7.4	5.7	9.3	0.8	7.3	5.4
Purchased imports	9.6	8.5	4.3	8.3	17.2	4.6
'Terms of trade'	–2.0	–2.6	4.8	–6.9	–8.4	0.7

[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.

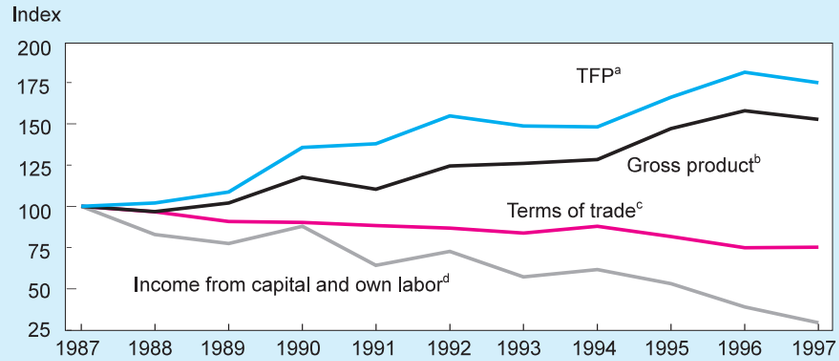
reduced the drop in average real income per farmer to 10 percent. Note that this refers to average income in various farming branches—between and within which there is considerable variance—and to income from farming only (Table 2.10 and Table 2.A.25).

The output of crops declined in 1997, while that of livestock rose moderately.

Production for export[22] declined in volume terms by 3 percent in 1997, after expanding in 1996 (Tables 2.A.27 and 2.A.28). Most agricultural exports (93–95 percent) are of crops. In 1996 these exports benefited from an exceptional increase, mainly in flowers, vegetables, avocados, and cotton, most of the output (excluding vegetables) being destined for export; this is in contrast to livestock, whose exports include the removal of surpluses from the domestic market. The turnaround that occurred in 1997 in some

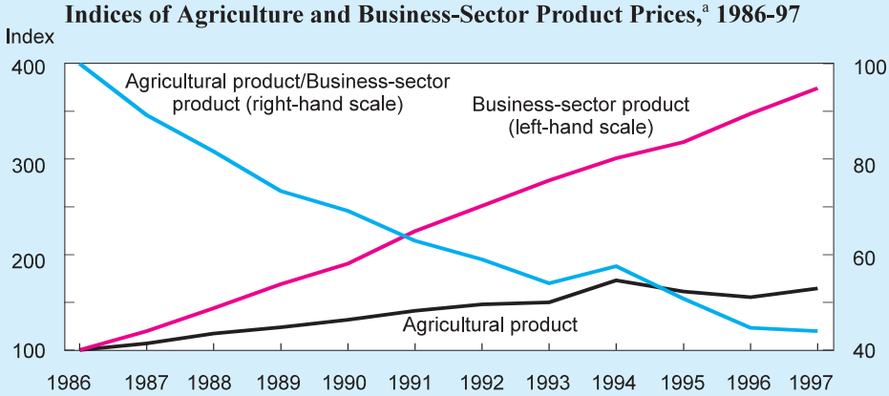
[22] As distinct from exports in the balance of payments figures; see Table 2.10 and additional data in Chapter 6. According to the foreign trade figures, direct agricultural exports f.o.b. amounted to $ 802 million in 1997, similar to the 1996 figure.

Figure 2.10
Agriculture: Selected Indicators, 1987-97



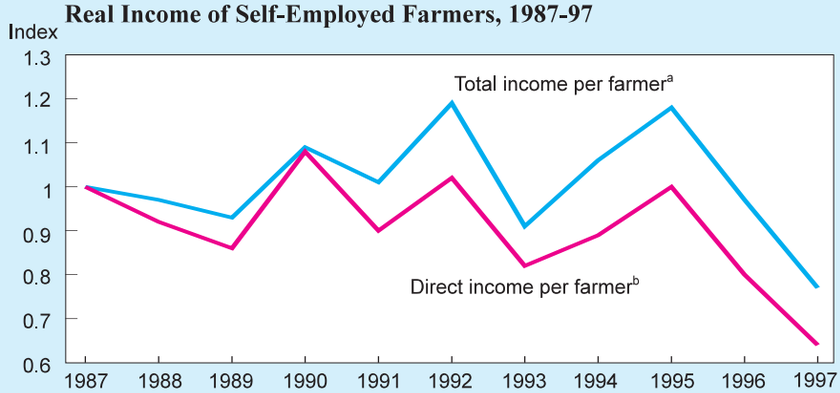
[a] Total factor productivity.
[b] Gross agricultural product, at constant prices.
[c] Output/input price ratio.
[d] Excluding compensation and subsidies, deflated by the CPI.

Indices of Agriculture and Business-Sector Product Prices,[a] 1986-97



[a] At factor cost

Real Income of Self-Employed Farmers, 1987-97



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

SOURCE: Based on Central Bureau of Statistics data.

export industries can be attributed to the vagaries of the weather, which served to reduce the volume of exports. In contrast with these branches, the production of flowers for export continued to rise—6.5 and 23.3 percent in 1997 and 1996 respectively—and this branch employs foreign workers on a regular basis.

Export production declined by 3 percent, although in flowers it expanded, continuing the 1996 trend.

Although the decline in producer prices of crop exports—by a real 7 percent—also reflects a change in their composition (in flowers, citrus fruit, and vegetables), agricultural exports, most of which are destined for markets in Europe, have been adversely affected by the change in cross rates between European currencies and the dollar, and by local-currency appreciation. Real local-currency appreciation against the basket of agricultural export currencies, taking inflation in Israel and the export destinations into account, is estimated at 5 percent in 1997, after a similar appreciation in 1996.

Producer prices of exports fell in real terms in 1997 by 7 percent. Real local-currency appreciation against the basket of agricultural export currencies was estimated at 5 percent.

Concurrent with the decline in agricultural output in 1997, the extent of its purchased inputs also fell, albeit less steeply. The price of aggregate input fell in real terms, whether the calculation is adjusted for the change in the relative prices of inputs and outputs or for the change in the CPI.

The extent of purchased inputs in agriculture decreased in 1997. The price of fodder fell in real terms, while that of water rose.

In the last two years gross capital stock in agriculture has remained stable, and the annual rates of gross investment and discards have leveled, bringing to an end the process of net capital consumption that has characterized the industry since 1986. The level of gross capital stock was the same at the beginning of 1997 as in the mid-1970s.

Gross agricultural capital stock remained stable.

Total labor input in agriculture stopped falling in 1996, and in 1997 it even rose slightly although the composition of employment continued to change: the number of Israelis contracted by 3.7 percent—this includes the self-employed, whose number declined by 4.2 percent; the number of Palestinian workers from the Autonomy and the administered areas remained unchanged, while that of foreign workers rose by about 12 percent. Consequently, alongside the long-term decline, interrupted for a few years when the population grew significantly, the employment of Palestinians has not been stable, and they have been replaced by foreign workers; the industry's dependence on foreign workers is increasing, and they accounted for 17 percent of employment in 1990, 27 percent in 1995, and 36 percent in 1997. In addition, in the past agriculture was characterized *inter alia* by low rates of employed labor and of wages in its income. This feature has gradually disappeared in the last decade, especially since 1995. In 1986 wages accounted for 27 percent of total income in agriculture, and rose to 35 percent in 1991, 48 percent in 1995, and 62.3 percent of 1997—almost identical with the rate of employed persons in total labor input. If the share of self-employed farmers is imputed to their labor input, on average the industry gives very little return on capital.

There was a slight rise in agricultural labor input in 1997. The number of employed and self-employed Israelis fell, and dependence on foreign workers increased.

The rapid rise in the share of wages in total farm income persisted in 1997. The process of structural change in the industry continued, with its factors of production being concentrated in fewer hands.

Technological improvements in agriculture, the increase in productivity and the structural changes of the last decade have made it possible to reduce the number of employees and capital stock, alongside a rise in output and product, which also responded to the marked increase in demand that resulted from the recent influx of immigrants.

The improvements in technology and productivity in the last decade made the marked reduction in the number of farmers and capital stock possible, while meeting the increase in demand.

In 1997, for the third consecutive year, subsidies to agriculture output declined in real terms (these include only subsidies and open and direct transfer payments) to 5

The decline in direct subsidies to agriculture persisted in 1997.

percent.[23] This contrasts with approximately 9 percent in 1994 and the peak of 49 percent in 1984, before the Economic Stabilization Program.

3. Transport, communications, and road infrastructure

The 7 percent expansion of transport and communications reflects a rapid rise in communications and a slow increase in transport.

The product of this industry[24] continued to rise in 1997, by some 7 percent, similar to its growth in 1996, alongside a decline in its relative price. This continued the slowing of its growth rate in comparison with 1992–95, when it rose at an annual average rate of over 11 percent. Despite the slowdown, the industry continued to grow rapidly, more than three times as fast as the business sector as a whole, and its share of business-sector product rose to some 12 percent. This rapid increase was due entirely to communication, which continued to grow at a spanking 13 percent—the sixth year of rapid expansion—while transport rose by only 2 percent, in line with the business sector as a whole. Although transport and communications constitute infrastructure, investment in which is widely considered to be worthwhile, and road congestion in Israel is higher than in other advanced economies—investment in it fell by 11 percent.

The slower growth in this industry is the result of the lower demand for transport service as regards both final uses—*inter alia* due to the decline in demand from incoming

Table 2.11
Transport and Communications, Main Indicators, 1991–97

(annual change, percent)

	1991–93	1994–95	1996	1997
Total gross product	7	14	7	7
of which Transport	6	9	2	2
Communications	12	22	13	13
Gross investment	21	9	16	–11
Capital stock[a]	5	8	8	9
Employees	5	4	2	0
Labor input	5	5	3	0
Labor productivity	2	8	4	8
Total productivity	2	7	2	3
Hourly wage[b]	1	2	–1	5
Hourly wage[c]	0	–4	–1	3

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

[23] Excluding the subsidy for the cost of capital for the share of agriculture in the water system, as well as the subsidy implicit in the protection of domestic produce against competing imports, which has declined at the margin in recent years. In the context of exposure to imports, note that according to the Paris Agreements with the Palestinians, all the volume restrictions on imports of agricultural produce from the Autonomy were annulled as of January 1998.

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

Table 2.12
Real Product and Prices in Transport and Communications, 1996–97
(annual change, percent)

	Share in product	Real product		Relative price[a]	
	1997	1996	1997	1996	1997
Land transport	28	1	1	–4	0
of which Buses	12	–4	0	–2	4
Sea transport	12	–1	0	–5	–5
Air services	10	5	2	–7	–1
Other	8	12	9		
Total transport	57	2	2	–4	–1
Communications	43	13	13	–4	–4
Total product	100	7	7	–4	–3

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

Demand for transport contracted, while the improvements in communications were felt in the industry's character and supply.

tourism—and intermediate uses (from other industries), in the wake of the economic slowdown. In communications—which accounts for over 40 percent of the product of the industry—the picture is very different, and demand soared alongside the change in the character and supply of the industry, a combination of technological innovation and competition. Note that on average in the last two years the rise in the hourly wage in transport and communications has lagged behind the increase in labor productivity, serving to dampen the rise in the price of services in this industry, which was 7 percent in transport and 5 percent in communications, compared with 9 percent in total business-sector product, In annual terms, labor input has risen by about 1 percent in the last two years, and capital stock by 8 percent, so that labor productivity has increased by 6 percent and total productivity by 2 percent. In the business sector as a whole, by contrast, labor productivity has remained unchanged and total productivity has declined by about 1 percent.

The growth rate of transport declined because of the protracted slowdown in land transport, accelerated decrease in air transport, and stagnation in shipping. Bus product remained stable in 1997 as a result of two conflicting trends: the decline in the demand for regular bus lines and tourist bus services (together with the significant fall in tourist entries and cancellation of school outings), on the one hand, and the rise in the output of other buses on the other. Although road congestion increases the importance of trains, their growth rate slowed to only 2 percent, compared with an annual average of 5–7 percent in the four previous years. Alongside the economic slowdown, there was only moderate growth in use of trucks in 1997, while in ports the stagnation in product persisted, despite the increase in tonnage transported. The slowdown in air transport was exacerbated, primarily due to the continued decline in incoming tourism. Note that in shipping and air transport the erosion of the domestic market segment of Israeli companies persisted, but offsetting factors were at work. Freight shipped between foreign ports rose and use of air transport by Israelis increase. There was a notable 13 percent expansion in communications for the

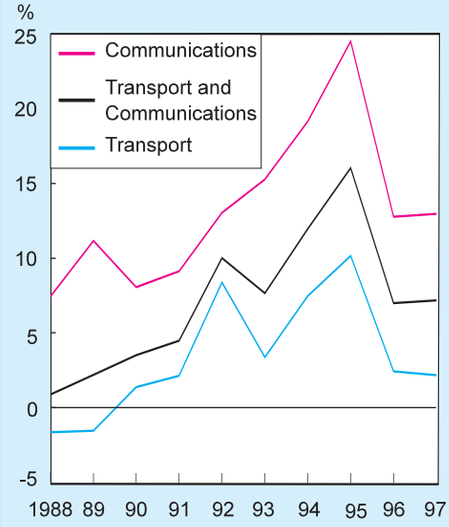
The slow growth of transport was evident in most of the components of its industries. The process of abolishing the monopoly was felt in communications.

second year in succession, with the further relaxation of the grip of the monopoly. Additional international operators entered the market, and the effect of the expected entry of additional mobile phone and television operators was evident.

Roads investment fell in 1997, after rising for over a decade.

Investment in the roads infrastructure shrank by a significant 9 percent in 1997, and its share of GDP fell by 11 percent, after rising steeply for more than a decade. The increase was intended to ease the problems created after many years of neglect, as a result of which road congestion reached a peak. The damage caused by congestion is grave, especially since there is no efficient substitute for road-users, such as a good rail system or mass transportation system in and around the major cities.

Figure 2.11
Growth of Transport and Communications Product, 1988-97



SOURCE: Based on CBS data.

Road congestion in Israel is very high in comparison with the second half of the 1970s.

According to the two indices of the development of road congestion, it declined in 1997, on the basis of both the ratio between distance (kilometers per vehicle) traveled and road capital (at the beginning of the year) serving these journeys, and (to a far lesser extent) the ratio of distance traveled and road surface. At any rate, congestion remained very high in comparison with the second half of the 1970s (Figure 2.14) as well as with international

Table 2.13
Investment in Transport and Communications, 1996–97[a]

(percent)

	Composition of investment		Real change	
	Actual (NIS million)	Relative	1996	1997
Roads	3,111	21	16	–9
Total vehicles	7,068	50	17	–12
of which Trucks	2,820	19	24	–20
Other transport	1,535	6	163	–32
Total transport	11,067	76	14	–14
Communications	3,444	24	49	–5
Total transport and communications	14,511	100	16	–11

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

Box 2.3: Investment in the Transport Infrastructure

The government's intervention in infrastructure investment is justified as it can contribute to growth and help to reduce unemployment.

Infrastructure investment is one of the few spheres in which there is clear justification for economic intervention by the government. This is because a private agency will not invest enough in it, as the return is less than it is for the economy as a whole (externalities). Research undertaken in Israel and abroad[1] shows that because of its high yield, investment in the infrastructure (both physical and in human capital, through education) spurs growth. Hence, it is very important to enhance investment in the major areas of transport: roads,[2] sea- and air-ports, and the railroad. It is also crucial to address the problem of mass transportation, in order to ease congestion in the metropolitan areas, where it has serious adverse effects on product and growth. This may be achieved by a mass transportation system and by administrative changes.

Investment in the infrastructure can also help to combat unemployment, which soared in 1997. In the short term, this investment has a direct effect, as it requires labor input for its implementation. In the longer term, it has an indirect effect, too, as improving the infrastructure makes business-sector investment more profitable, thereby increasing investment and employment while accelerating growth. A good transport infrastructure also moderated the harmful effect of the concentration of unemployment, by facilitating the movement of workers from areas of unemployment to places where work is to be found.

Investment in all the principal components of the transport infrastructure declined.

Consequently, the steep drop in investment in transport in 1997 is particularly grave. This category of investment shrank by 12 percent in real terms, and its share in GDP declined by 14 percent. This brought to an end the emergence of this category of investment from its slump (which had reached its nadir in 1984, see Figure 2.13). The decline was evident in all the principal components of transport: investment in roads fell by 9 percent (and its share in GDP by 11 percent, to below its 1993 level, despite the severe congestion on the roads). Investment in airports[3] fell by 14 percent, in seaports by 19 percent,[4] and in the railroad infrastructure by 24 percent. Note that some of the projects which are proceeding at a snail's pace, such as the Cross-Israel Highway, the Carmel Tunnels, and the *Natbag 2000* project to expand Lod Airport, are extra-budgetary, i.e., are to be funded privately or by the Airports Authority,[5] so that most of the investment in them is not affected by the declining budget deficit path. It is important that this path should reduce the government's other expenditure, but not its investment in the infrastructure. The information that the budgetary allocation for infrastructure investment will remain unchanged in 1998 also gives cause for concern.

[1] A. Bregman and A. Marom (1993), "Growth Factors in the Business Sector in Israel, 1958–88," internal memorandum, Bank of Israel Research Department.

[2] Congestion on which is extremely high, by international standards, see next box.

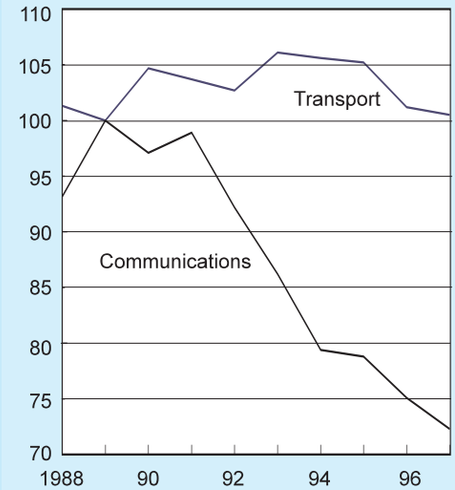
[3] Based on data from the National Budget proposal for 1998.

[4] Based on data from the Ports and Rail Authority (for the infrastructure only).

[5] The data here differ from those in Chapter 5, which deals with investment by the public sector. In addition, some investment in the railroad is not financed by the government.

standards (Box 2.4). Note that these indices of congestion are averages and do not relate to the concentration of journeys in certain areas or times of the day, so that the bottlenecks in the road system are not represented here despite the damage they cause. Although far more extensive investment is required in order to overcome the backlog in investment, the decline in 1997 clearly increases it.

Figure 2.12
Relative Price Indices of Transport and Communications,[a] 1988-97



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

An important step was taken at the beginning of 1998 towards improving interurban transport, when a contractor was awarded the concession to finance and construct the main section (some 86 kilometers) of the Cross-Israel Highway, Israel's major arterial road. The work is expected to take 5 years, though parts will be usable during that time. The contractor will operate it as a toll road, and hand it over to the government after 25 years. The economic return on the road is estimated as being very high (35 percent), and is expected to cut traveling time between the north and the south of the country, as well as between those areas and the Tel-Aviv metropolis and Jerusalem, constituting an important element in making workers more mobile and integrating the various parts of Israel. The appeal to the Supreme Court to deny the highway approval because of its expected damage to the environment, has been denied. Although the choice of contractor is important, there is still a significant departure from the original timetable for the implementation of the Cross-Israel Highway.

The Cross-Israel Highway is expected to yield a high return; a contractor has been chosen who will build and operate it.

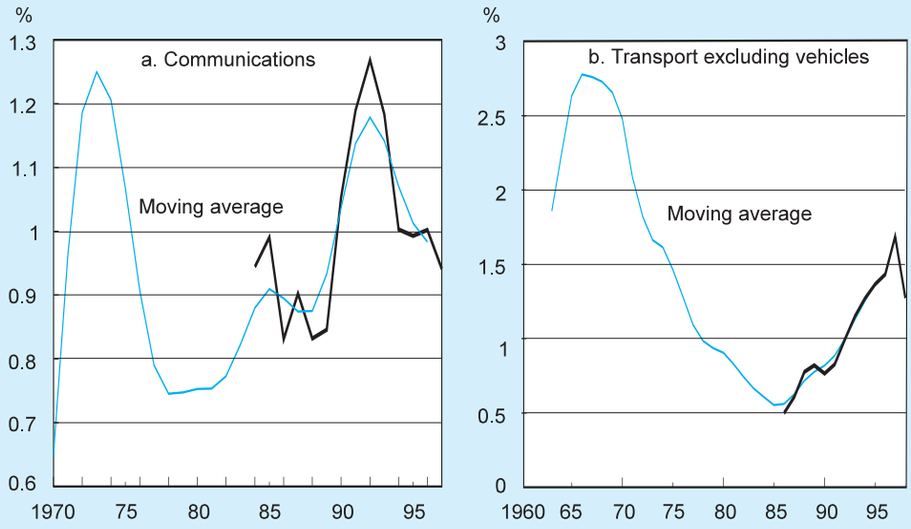
Note that the railroad is very important for interurban travel; although it should supplement the other forms of transportation, investment in it is minimal.

The metropolitan areas urgently require transport solutions.

Progress on the interurban front is not enough, however. The metropolitan areas are congested, and urgently in need of a solution. One such solution is a system of mass transportation, plans for the construction of which are proceeding extremely slowly. Only in February 1998 was a tender signed with the company that will be responsible for the Tel-Aviv metropolitan area railway project. Another possible solution could be institutional arrangements restricting the entry of private vehicles into the most crowded parts of the city. The price of urban congestion is both direct—affecting cars and drivers, causing pollution, and hampering business and leisure activity—and indirect, diverting commercial activities from the city center to the outskirts, and thereby weakening them. The cumulative damage could be irreversible, to a great extent.

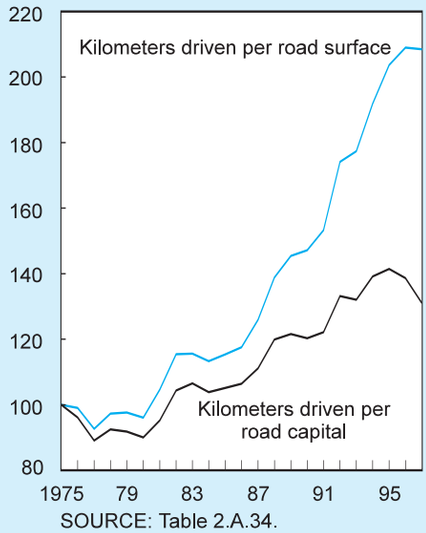
In international terms, road congestion in Israel is high and road intensity low. Nonetheless, the rate of road investment in Israel is equivalent to that in the West, after being lower for many years.

Figure 2.13
Share of Investment in Communications and Transport in GDP, 1960-95[a]



[a] 1995 prices.
SOURCE: Based on Central Bureau of Statistics data.

Figure 2.14
Indices of Road Congestion, 1975-95



SOURCE: Table 2.A.34.

4. Construction

Construction output and product declined by 6 and 5.5 percent respectively in 1997, due to the decline in demand.

There was a turnaround in the construction industry in 1997: output and product fell by 6 and 5.5 percent respectively, after beginning to contract in 1996. The decline in construction activity is notable in view of its rapid expansion in 1990–95, when the influx of immigrants was absorbed. After extensive investment in residential and nonresidential construction, intended primarily to bring the stock of housing and productive capital into line with the rapid growth in the population and the number of employed persons, demand for construction output eased. It returned to more moderate growth rates in 1996 and, as stated, activity even declined in 1997. Nonetheless, the level of activity in 1997 was more than twice as high as

Box 2.4: Congestion on and Investment in the Roads—an International Comparison

Congestion on Israel's roads is considerable, both in comparison with the past and by international standards. Measured by the ratio of the number of kilometers traveled per vehicle to road kilometer,[1] congestion in Israel is two and a half times as great as the average in the western countries for which we have figures (Box Figure 1). In Portugal, which is second to Israel in this sphere, the level of congestion is a third lower.

The modest extent of roads in Israel is supposedly justified by the country's small size, but an international comparison shows that even in relation to its size Israel has fewer roads than western countries: an average of 0.7 kilometers of road per square kilometer compared with 1.4 in the sample (Box Figure 2).[2] Holland, which is very densely populated, has four times as much road surface per square kilometer as Israel,[3] and like many other countries, it has several alternative forms of transport—significantly longer railroads than in Israel and waterways. Hence, the comparison does not give full expression to Israel's lack of transport infrastructure.

Despite the severe congestion and low intensity of Israel's roads, average investment in them in recent years (as a percentage of GDP, Box Figure 3) has not been greater than in the sample of western countries. The relative dearth of roads in Israel and the congestion on them derives from a far lower level of investment over a long period of time: an annual average of 0.6 percent of GDP in 1965–90 (Box Figure 4). For purposes of comparison, note that the cumulative gap in that period between the actual rate of investment and the average investment in the west, amounts to over 10 percent of GDP—representing the loss of a decade of investment at the present rate. If Israel intends to use transport in the same way as in the West,[4] it must increase investment considerably in order to close the gap. To achieve this within 5 years, for example, it is necessary to invest an annual average of 3 percent of GDP instead of 1 percent, has been the case in the last few years.

[1] This measure of congestion is an average, and hence gross. Road length represents road capacity here, and although it is greater, it is not accessible. The hypothesis underlying the comparison is that the average width of roads in Israel and abroad is the same. If the roads in Israel are narrower, the relative congestion there is even higher than the figure indicates.

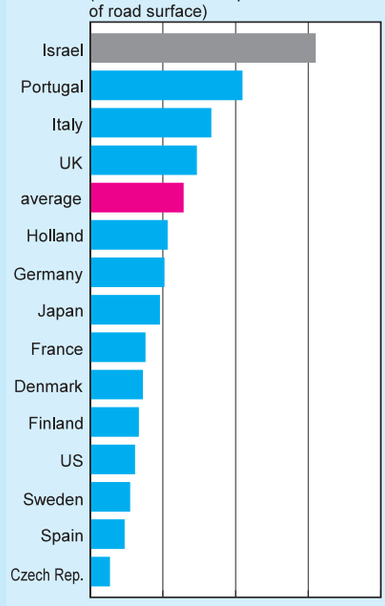
[2] Very large countries—Australia, the US, and Canada—were excluded from the sample, but the average hardly changed, 1.35 with them and 1.4 without them.

[3] There are 3 kilometers of road per square kilometer. It can be claimed that the comparison underplays road intensity in Israel because the index is calculated by dividing road length by total surface area, which includes the Negev region, parts of which are unpopulated. This illustrates the weakness of the index, i.e., the fact that it is an average. Nevertheless, other countries also have thinly-populated areas, such as the Alps in Austria, which has relatively high road-density (immediately after Holland).

[4] Drawing conclusions about what is advisable for Israel on the basis of the state of affairs in western countries is based on the assumption that there is no excess supply of or investment in roads there.

The international comparison is based on data for 1995 taken from International Road Federation, *World Roads Statistics*, 1997.

Figure 1
Index of Road Congestion, 1994
(Kilometers driven[a] per kilometer of road surface)



[a] Weighted by traffic disturbance factor (see Table 2.A.34).

Figure 2
Roads Intensity, 1995
(Kilometers of roads/surface area)

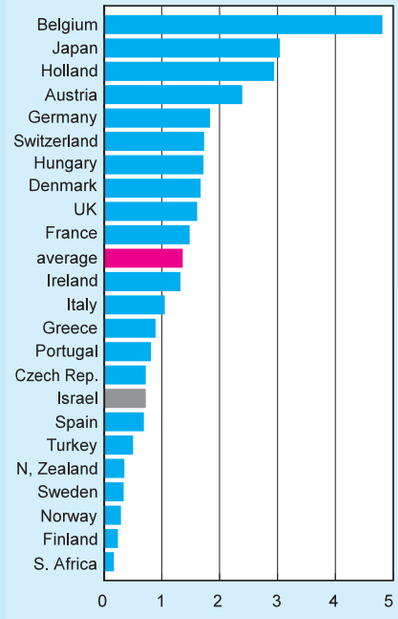


Figure 3
Investment in Roads Infrastructure/GDP, 1994

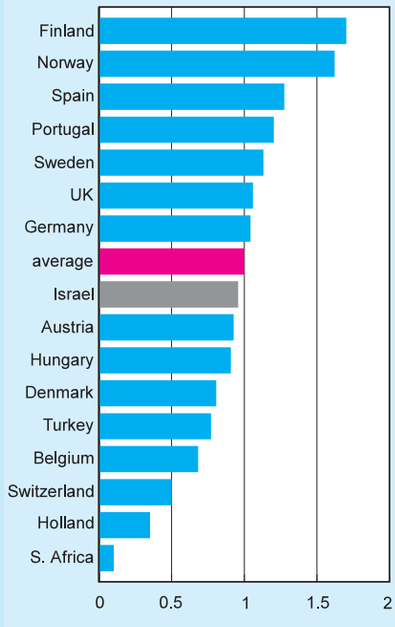


Figure 4
Investment in Roads Infrastructure in Israel/GNP, 1965-95 (current prices)

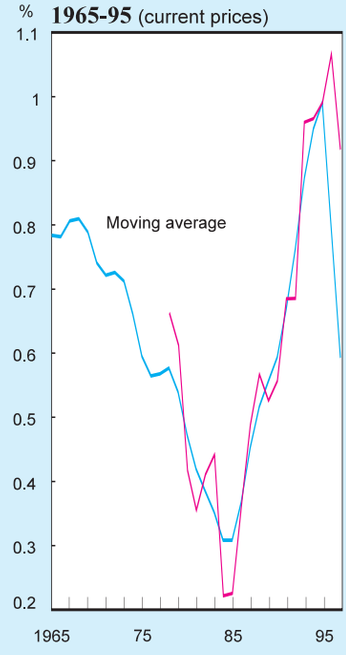


Table 2.14
Output and Product in Construction, 1986–97[a]

			Annual average change (percent)				
	1996	1997	1986–89	1990–95	1995	1996	1997
Total output (*millions of 1995 NIS*)	37,651	35,444	3.3	14.2	17.0	7.2	–5.9
Residential	19,322	18,358	3.1	12.8	23.3	12.4	–5.0
Nonresidential	16,013	14,777	5.6	19.4	13.4	1.1	–7.7
Other[b]	2,316	2,309	–1.3	0.6	–1.5	10.4	–0.3
Total area of starts *(thousands of sq. m.)*	11,520	10,350	1.4	21.1	28.5	–10.7	–10.2
Residential	8,055	7,455	2.8	19.8	44.0	–12.3	–7.4
Nonresidential	3,465	2,895	–2.6	24.9	1.6	–6.9	–16.5
Residential starts ('000s)	56	51	–1.3	23.0	58.0	–18.1	–9.9
Residential completions ('000s)	52	64	–2.6	9.6	13.9	35.4	21.7
Change in construction product			3.7	12.8	16.2	6.0	–5.5

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

in 1989, before the influx of immigrants, so that what we have here is not so much a crisis in the industry as a process of adjustment to the situation.

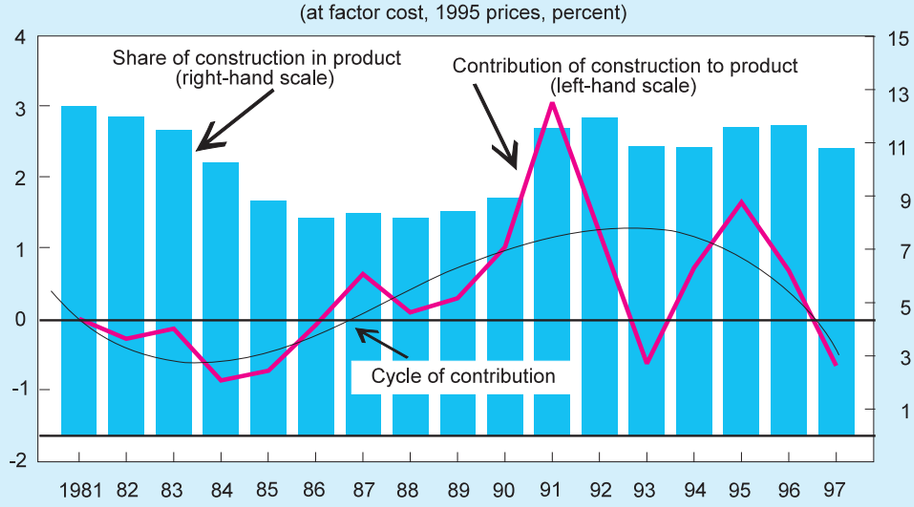
The fall in construction product in 1997 contributed directly to the 0.8 percent decline in business-sector product. Output contracted in both residential and nonresidential construction.

The share of construction in business-sector product (at constant prices) declined slightly in 1997, to 11 percent, as in 1993–94, and 2–3 percentage points above its share in 1989 (Figure 2.15). When the product of manufacturing, transport, and commerce, which produce for construction and provide it with services, is taken together with the product of the construction industry itself, the decline in construction product contributed a negative 0.8 percentage points to business-sector product in 1997. Had it not been for the rapid expansion of building completions, which persisted throughout the year, the decline would have been steeper. The output of the industry includes investment in buildings and earthworks, as well as residential and nonresidential construction. The fall in output was evident in all its components: residential construction, which accounted for 51 percent of output in 1997, declined by 5 percent after rising by 12.4 percent in 1996, while nonresidential construction output (for the principal industries, earthworks, and roadworks) shrank by 7.7 percent, compared with a rise of only 1 percent in 1996, its contraction preceding that in residential construction in both timing and intensity.

The sharp fall in nonresidential construction output is particularly marked in view of the rapid growth rate—an average of 20 percent—in 1990–95, and reflects the fall in investment in buildings for the principal industries, in which a surplus had accumulated, as well as in earthworks and roads, which are still in relative short supply.

Investment in nonresidential buildings generally fell more steeply than in machinery and equipment, for several reasons. In the principal industries, and in manufacturing in

Figure 2.15
Direct Contribution of Construction Product to Business-Sector Product, 1981-97
(at factor cost, 1995 prices, percent)



particular, there appears to have been a reduction in the intensity of buildings in total investment; because of the slump in tourism, investment in tourism projects, which are construction-intensive, has fallen. In this context, the indivisibility of investment in public construction should be taken into account. Much of this was built in and around new neighborhoods and settlements, in the wake of the influx of immigrants. Investment in the physical infrastructure, such as roads, is also indivisible, with the result that some large projects, intended to provide services in the long run, are not immediately utilized in full. Roads investment in 1997 shrank by 9 percent, compared with a 16 percent increase in 1996 and extensive investment in 1993–95. The accumulation of stocks of excess supply of office and commercial buildings in 1996, alongside tight credit, constituted a negative incentive for investment in these spheres.

Investment in residential construction fell by 5 percent in 1997, after a significant slowing of its growth rate in 1996. This reflects the easing of demand in the wake of a combination of demographic and cyclical factors (a decline in per capita disposable income from all sources and the extent of mortgages taken up by eligible persons), to be discussed below.

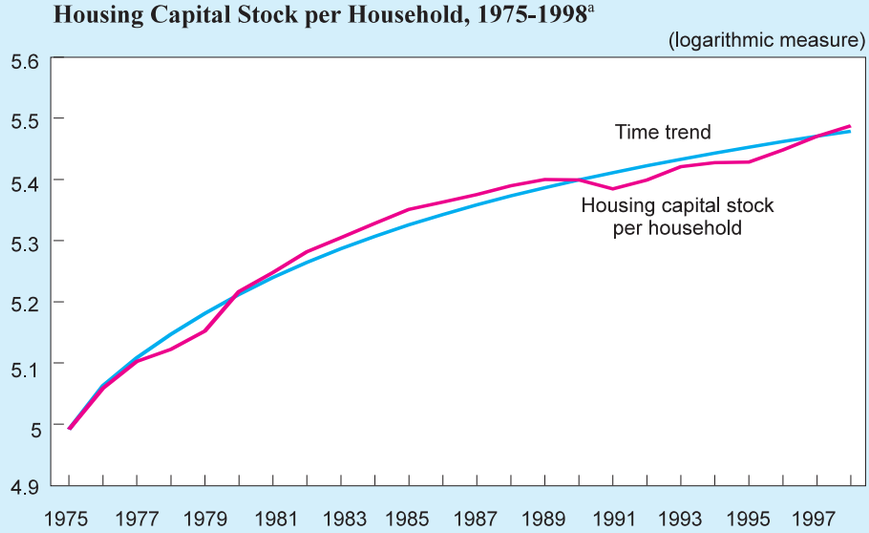
The gap between (actual) housing capital stock per household and its long-term trend closed in 1997 (Figure 2.16).[25] Although this gap has been narrowing in the last few years, note that this analytical framework is sensitive to the specification of the trend.

From 1990 to the end of 1997 the annual average growth rate of housing capital stock was 1 percent higher than the number of households. These developments are

[25] According to an alternative definition of the long-term trend (excluding the last few years of large-scale immigration and its absorption) of housing capital stock per household, this gap merely narrowed considerably, possibly indicating a slowing of the rise in apartment prices, but not a decline.

Figure 2.16

Housing Capital Stock per Household, 1975-1998[a]



[a] The number of households in 1997 and 1998 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.

consistent with the slowdown in the rate at which the relative price of housing has risen in recent years, as well as with the downward pressure on it, thanks to the accumulated excess supply of housing capital on a national level at the current price. There is a significant negative correlation between the change in the relative price of apartments and the deviance of the actual housing capital stock per household from its long-term trend, as well as the change in relative price in the preceding year.

According to the survey of owner-occupied housing, the average relative price of apartments was stable in 1997. Other sources indicate that apartment prices fell in certain segments of the market.

The relative price of apartments remained stable in 1997 (with a dip at the end of the year), after a slowdown in its rate of increase in the previous two years, as indicated by the CBS survey of owner-occupied housing. According to information from other sources, however, there was an (average) decline in the real price of apartments of various kinds in the course of 1997. The average prices of the total output (derived prices, deflated by the CPI) and input of the construction industry fell for the second year in succession. Real wages, as measured by the index of inputs in residential construction, rose by only 1 percent, despite the influence of the increase in the minimum wage (6.1 percent, annual average), of the share of skilled workers, who are employed in the completion stages, and of the lower hourly wage paid to foreign workers, than that reported by their employers.

The growth rates of construction equipment, capital stock and labor input slowed in 1997.

Despite the decline in investment in construction equipment, the rise in the industry's capital stock has persisted, due to the marked increase in investment in 1990–95. The rate at which labor input rose also slowed in 1997, for the second consecutive year,

Table 2.15
Indicators of Construction Activity, 1986–97

			Annual average change (percent)				
	1996	1997	1986–89	1990–95	1995	1996	1997
Employees (*'000s*)[a]	241	242	2.3	10.7	25.0	2.6	0.4
Israelis	150	146	–0.2	12.4	15.2	4.2	–2.7
From Autonomy and administered areas	28	32	6.0	–4.3	–12.2	–34.9	14.3
Foreign workers	63	64		51.3	242.9	31.3	1.6
Construction equipment capital stock *(1995 NIS million)*[b]	5,986	6,854	–4.6	11.2	19.6	18.5	14.5
Cement sales (*'000 tons*)	5,652	5,519	2.9	18.1	24.0	–9.8	–2.4
Labor productivity[c]			3.0	–0.1	–11.3	2.3	–7.2
Total factor productivity			3.9	0.0	–10.0	0.0	–9.0
Residential construction time (*months*)[d]	21	21	–2.3	–0.6	0.0	0.5	–0.5

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

with the number of hours worked rising by 2 percent and the number of persons employed increasing by only 0.4 percent (Table 2.15).

Employment in construction is characterized by frequent and sudden shifts in the total number of persons employed, and by changes in the relative proportions of Israelis, foreigners, and Palestinian workers from the Autonomy and the administered areas. Note that construction is the main industry employing foreign workers in Israel, their number reaching 64,000 in 1997. This year, for the first time since 1990, the number of Israelis employed in construction fell. In the context of the decline in construction output, employers appear to have reduced employment of Israelis, whose wages are relatively high as well as being inflexible. The number of Palestinians employed rose, due to changes in the closure policy, and the increase in the number of foreign workers was checked. The industry's dependence on foreign and Palestinian workers remained high—40 percent of all workers and labor input—even though the extent of activity contracted (Tables 2.15 and 2.A.38). In the short term labor force cannot be expected to change in line with output, as the quits and entries of foreign and Palestinian workers in construction are not entirely unrestricted, and certain stages of the construction process are labor-intensive to differing extents.

Housing demand pressure declined in 1997.

In *residential construction* demand pressure declined in 1997, after easing in 1996. Among the reasons for this were the slowdown in population growth in 1997, largely due to the persistent decline in the number of immigrants since 1995, when most of those who had arrived earlier had bought homes. The decline in demand was offset by the larger share in the population of the 20–34 age-group, which is generally the most active in setting up house and purchasing apartments. Expectations that the number of

Table 2.16
Indicators of Supply and Demand, the Housing Market, 1990–97

	Annual average 1990–95	1996	1997
Number of transactions[a]	115,619 [b]	117,780	94,140
Residential land (units)[c]	40,333	36,640	30,219
Private-sector apartments[d]	12,698	16,358	14,827
Housing loans taken by eligible persons	51,545	54,987	45,535
of which Immigrants	22,322	21,456	14,925
Young couples	16,266	21,485	20,302
Total mortgage loans (NIS million, current prices)	11,781 [b]	17,865	18,554
of which Nondirected	6,310 [b]	12,157	13,917
Average interest on nondirected mortgages of over 15 years	5.16	5.61	5.13

[a] By date of implementation of transaction; including new and second-hand apartments, and unrequited gifts to relatives; excluding bequests, apartments sold as part of a farm, protected rental apartments occupied when the sale went through, some apartments in industrial or commercial buildings sold as a package deal, and the 'Build your own home' program.

[b] Average of 1992–95.

[c] According to number of transactions implemented (as distinct from those offered); data from Israel Lands Administration; excluding units as yet unplanned; total residential land sales in 1997 (including tenders, advertizing, as yet unauthorized transactions, etc.) were 50,010, compared with 57,000 in 1996.

[d] In the 24 largest towns.

SOURCE: Based on data from the Ministry of Construction and Housing, the Israel Land Administration, and the Income Tax Commission.

immigrants would stabilize or decline also served to reduce demand pressure by halting the process of bringing physical investment in housing forward.

Per capita disposable income from all sources declined by 1 percent in 1997, after its rise had slowed in 1996. The increase in disposable wage income also slowed, and both these are indicators of a decline in the ability to repay loans. Geopolitical uncertainty and the economic slowdown *inter alia* decreased apartment purchases by nonresidents, who had played a major role in the demand for apartments in specific areas and for luxury apartments in the past.

The number of eligible persons taking up mortgages declined in 1997, as did the extent of the subsidy in mortgages.

The number of eligible persons taking up mortgages declined by 17.4 percent in 1997; this was particularly the case with immigrants (down by 30.5 percent), most of whom had already utilized this source of finance to purchase homes (Table 2.16), but also with young couples (a 5.7 percent decline). The real extent of total mortgages extended to the public in 1997 contracted by 5 percent, despite the decline in the average interest on nondirected mortgages during the year. Since mortgages for eligible persons have not been revised in line with the average price of apartments for several years, they have declined steeply—by over 50 percent—since 1992 (Table 2.A.39). The extent of subsidization has also fallen in the last two years due to the reduction of the interest-rate gap (on mortgages) between the interest paid by eligible persons and the market rate, as well as to the deceleration of inflation. The lower rate of subsidization is also indicated by the National Budget (actual

Table 2.17
Relative Construction Prices,[a] 1986–97

	Apartment prices	Actual change					
		Relative to CPI	Relative to input price index	Rent relative to CPI	Input prices	Output prices	Product prices
1986–89 (annual average)	24.1	–1.1	–2.5	2.4	27.2	29.9	32.2
1990–95 (annual average)	22.8	8.1	9.6	3.0	12.0	11.9	13.7
1995	15.1	4.6	3.4	–5.4	11.3	10.4	11.5
1996	16.0	4.2	7.4	–0.2	8.0	8.1	8.9
1997	9.3	0.3	1.2	2.7	8.0	7.6	9.3
1995							
I	2.8	1.5	–0.2	–0.4	3.0		
II	2.4	0.7	–0.8	–2.0	3.2		
III	4.6	2.6	–0.6	–0.2	5.3		
IV	4.8	1.8	7.3	0.1	–2.3		
1996							
I	4.7	1.8	2.0	–0.1	2.7		
II	5.1	1.0	2.7	1.1	2.7		
III	–1.1	–2.8	–5.1	–2.1	4.2		
IV	3.1	1.2	4.4	2.6	–1.2		
1997							
I	3.0	0.7	0.9	0.0	2.1		
II	2.8	0.3	0.5	1.1	2.3		
III	1.9	–0.2	–2.9	1.6	4.9		
IV	–0.1	–1.0	0.6	–0.4	–0.7		

[a] At current prices.
SOURCE: Based on Central Bureau of Statistics data.

expenditure in 1996, and the 1997 budget): grants and interest and indexation subsidies for home purchases, whether from private contractors, government-initiated construction, or under the 'build your own home' program, fell in real terms (deflated by the CPI) by 6.4 percent, and amounted to between NIS 2.3 billion and NIS 2.5 billion in 1997.[26] Thus, the financing side did not serve to increase demand either, especially since the expectation that mortgage terms would be updated, following the recommendations of the Gadish Committee[27] and the high level of housing prices, undoubtedly increased the number of eligible persons deferring home purchases.

The residential housing industry is not characterized by accumulated stocks of apartments nearing completion, so that its response to changes in demand is rapidly reflected by the contraction of activity at the various stages of construction. Whereas apartment completions continued to rise rapidly, although at a slower pace than in 1996, in the last two years there has been a decline in building starts, both by private contractors and of government-initiated construction. Building starts in 1997 accounted for 50,850 units, compared with 56,440 and 68,900 in 1996 and 1995 respectively. This is considered to be more or less appropriate to current demand deriving from the present rate of immigration and natural population growth. The number of apartment transactions fell by 20 percent in 1997, and private sales in the areas of highest demand (the 24 largest towns) shrank by 9–10 percent. Particularly notable is the rise in the proportion of unsold units in the total supply of private-sector apartments in the final stages of construction in the major towns (73.9 percent in the third quarter, an unprecedented rate since 1990). Residential land sales (in terms of housing units) shrank by 17.5 percent in 1997—30,200 units compared with 36,600 in 1996—despite the declared policy intended to substantially increase land sales via the Israel Lands Administration in order to bring apartment prices down. A combination of diminishing planned reserves of land and the moderation of demand on the part of developers, who had largely exhausted the possibilities of obtaining credit from the banking system, appears to have been at work here. There is considerable uncertainty in the market for land, too, and this affects the market in addition to the general economic uncertainty regarding growth and demand, and is connected with lack of transparency with regard to the process of releasing agricultural land and changing its designation while granting compensation to farmers.[28] The declared policy of the Israel Lands Administration for 1998 and 1999 is to sell land amounting to 60,000 units a year.

The number of building starts dropped in 1997, while completions continued to rise. The total number of apartment transactions declined, as did private-sector sales in desirable parts of the large towns and the sale of residential land.

The relative prices of apartments (annual average, deflated by the CPI) remained stable in 1997, after their increase had slowed in 1996 (Table 2.17). The development of apartment prices during the year indicates that they have fallen in real terms in the

[26] The real decline is more moderate if all the planned price increases in the construction grant item are imputed to these subsidies.

[27] The committee dealing with housing assistance policy; it was appointed in 1996 and submitted an interim report in December 1997.

[28] The recommendations of the Ronen Committee, submitted in April 1997, were not accepted by the government, and no alternative method of compensation has yet been formulated.

last two years. As stated, the full effective decline in relative prices is not captured by current measurement methods. Thus, for example, an improvement in terms of purchase, benefits, and reductions of various kinds is not reflected in the measurement, and this is also the case with decreases in prices in certain areas, of luxury apartments, or of large second-hand apartments. Evidence for these reductions comes from other sources. One of the explanations of the failure of 'official' prices of new apartments to decline lies in the way their purchase is financed; this prevents prices from falling as this would endanger the credit system as well as the construction companies, which utilize the credit extended by backers to finance their stocks of apartments instead of cutting prices in order to reduce it.

The stability of the 'official' prices of new apartments in the last two years is explained by the nature of financing.

As stated, the demand for apartment purchases also comprises an element that expresses the asset portfolio of investors. In 1997 there were better investment options, and this seems to have shifted demand away from the housing market and contributed to the decline in apartment prices. The real yield on rent remained stable at 4 percent, after reaching a peak (6.5–7 percent) when the influx of immigrants began, in 1989–90. The total yield on an apartment, including capital gains, was 4.1 percent in 1997, compared with 8.3 percent in 1996. Thus, there were no significant capital gains on an apartment in 1997. The total real yield on shares (including dividend), on the other hand, which was negative in 1996, rose to 28.3 percent in 1997.

The total average yield on an apartment (including capital gains) was 4.1 percent in 1997—lower than that on shares.

5. Trade and business services

The growth rate of trade and services slowed markedly in 1997, to 4 percent, a third of its annual average in the previous five years. This is primarily a reflection of the general slowdown in the economy, which is the source of the industry's demand. Nevertheless, its growth rate was higher than that of the business sector as a whole, so that its share continued to rise, reflecting the structural change in the economy, which is also characteristic of other western countries. The trade and services industry accounted for 53 percent of business-sector product, and together with transport and communications all the services industries accounted for 64 percent of it.[29] The increase in labor input in this industry slowed to 2 percent in 1997, while capital stock (including investment made before 1997) continued to soar, by 11 percent. In annual terms, labor productivity has risen by 3 percent—most of it in services—in the last two years, and total productivity has remained unchanged. Capital stock rose much faster than product in the last few years, and unutilized stock may have accumulated unless there is a change in technology (e.g., the shift to shopping malls) or rapid growth in the capital intensity of part of the industry.

The rate at which the trade and business services industry grew slowed, but its share of business-sector product continued to rise.

The development of the two main segments of the industry was not uniform this year. Services expanded by 5 percent, while trade did not change. The number of persons employed in services soared, as did labor productivity, wages, and prices, while this

The slowdown was led by trade, which stagnated, while the services expanded.

[29] At current prices; the share imputed to bank services should be deducted from the calculation of the share of the various industries in business-sector product, otherwise these are double counted as financing expenses of industries and debt servicing to banks (as is the case with other final uses).

Table 2.18
Principal Trade and Services Indicators, 1991–97

(annual change, percent)

	1991–94	1995–96	1996	1997
Product	8	9	8	4
of which Trade	9	7	4	0
Services	8	9	9	5
Labor input	8	6	4	2
Capital stock[a]	5	10	10	11
Labor productivity	0	5	4	2
Total factor productivity	1	1	1	–2
Real wage[b]	–1	1	2	2
Real labor cost[c]	0	1	3	3
Relative price[d]	1	2	0	0
Exports	7	6	1	10
Investment	16	13	14	6

[a] At beginning of year.
[b] Relative to CPI.
[c] Relative to output prices.
[d] Relative to business-sector prices.
SOURCE: Table 2.A.40.

was not the case in trade. There were also differences in the development of the real wage per employee post: it remained stable in trade, whose expansion slowed, but rose in banking and business services, which grew relatively rapidly.

The backdrop to the slowdown was weak demand, although exports rose.

The stability of trade product is consistent with the low demand that characterized the entire business sector, which the industry serves, and cramped its growth. The slow rise in demand was reflected by the moderation of consumption, the contraction of investment services, and the fall in direct demand from abroad, as the decline in incoming tourism and consumption by nonresidents persisted. The marked rise in exports offset these effects, nonetheless.

Exports by the industry rose by 10 percent in 1997. Exports have a direct component, e.g., computer services sold abroad or consumption by nonresidents in Israel which fell by 11 percent this year, and an indirect component, expressed in the contribution of services implicit in the exports of the other principal industries, which rose substantially in 1997.

The continued growth of financial, health, education, and business services was evident in 1997.

Within the services, note the stable growth of the financial element—banks, insurance companies, and real-estate—which was 6 percent above the level of 1996. There was also rapid expansion—albeit far slower than in previous years—of business, health, and education services. The 16 percent expansion of computer services (whose exports nearly doubled in nominal terms, together with a 50 percent increase in the share of export receipts) contrasts with the 6 percent rise in business services and the 5 percent increase in personnel and security services. The growth of health and education services comprises a 6 percent rise in the former and a 4 percent increase in the latter. The relatively rapid increase in this segment of the market in the last few years is consistent with the rising trend in the standard of living, which the public is interested in utilizing in these fields. It is not clear whether there was a real reduction in the budget in these

Table 2.19
Product, Employment, and Wages in Trade and Services, 1992–97

(annual change, percent)

	Share in GDP	Product			Employment		Real wage[a]		Relative price[b]
	1997	1992–95	1996	1997	1996	1997	1996	1997	1997
Total	100	10	8	4	4	3	2	2	–0.4
Trade	15	10	4	0	3	2	2	0	–1.3
Services	85	10	9	5	4	3	1	2	0.6
Food and catering	5	9	8	3	–2	1	0	2	0.1
Business and law	35	13	15	6	11	6	2	4	0.3
Banks, insurance, and real estate	24	6	5	6	1	5	2	5	0.6
Education and health	8	14	10	4	3	–1	2	–1	0.9
Personal and other	13	12	10	1	3	2	1	1	1.7

[a] Per employee post, deflated by CPI.
[b] Compared with business-sector product.
SOURCE: Based on Central Bureau of Statistics data.

spheres, too. If there had been one, it would have caused the public to purchase substitutes in the business sector. The growth of medical services may be the result of increased resort by the health funds to private medical institutions for examinations and diagnosis, or of the greater use of complementary medicine. The share of business, health, and education services in total services is by no means negligible, with health accounting for 23 percent and education for 10 percent in 1995. Note that the increased investment by households in education services will give them and the economy a significant yield in the future.

Figure 2.17
Share of Services in Business-Sector Product, 1988-97

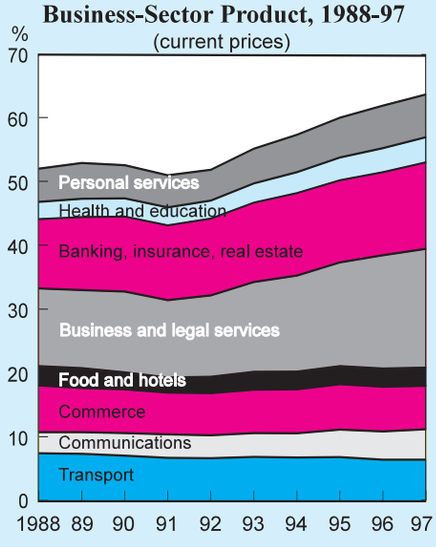
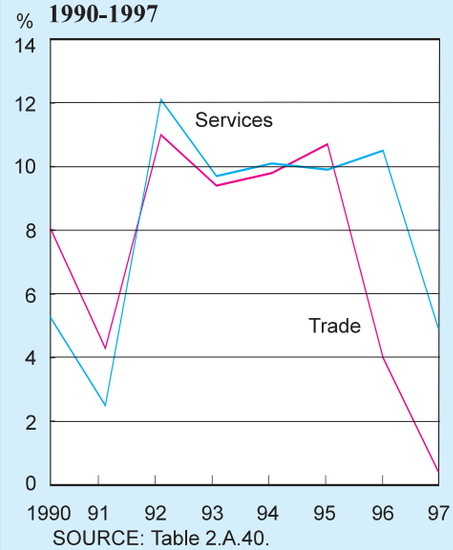


Figure 2.18
Product of Trade and Services, 1990-1997



SOURCE: Table 2.A.40.