Chapter 1
Output and the Principal Industries

After two years in which economic activity contracted, against the backdrop of the exacerbation of the armed conflict with the Palestinians and the global economic slowdown, the deterioration was checked in 2003, and a positive trend emerged thanks to the relative easing of the security situation and the global economic recovery. Business-sector product grew by 1.8 percent, after declining by 2.8 percent in 2002, and labor productivity rose by 1.5 percent.

Alongside the signs of recovery, which multiplied in the second half of the year, aspects of the slump were still in evidence, however: fixed investment continued to shrink, and the sharp contraction of inventories persisted; wages in the business sector declined in both nominal and real terms, and unit labor costs fell by 3.6 percent; the rate at which new jobs were created did not accelerate, Hours worked did not increase, and the unemployment rate rose to 10.7 percent.

The turnaround that emerged in the course of the year was supported by an appropriate economic policy mix: the government slashed public spending, as a necessary precondition for returning to a declining budget deficit and debt path, and initiated structural changes designed to accelerate the recovery and support sustainable growth. The gradual reduction of the Bank of Israel's key interest rate, by a cumulative 3.9 percentage points during the year, served to ease monetary restraint while maintaining financial stability.

1. MAIN DEVELOPMENTS

GDP rose by 1.3 percent, compared with a decline of 0.8 percent in 2002. Private consumption and exports led economic growth, whereas public consumption contracted by 0.6 percent.

GDP rose by 1.3 percent, compared with a decline of 0.8 percent in 2002, and the composition of growth also improved. The only aggregate use that contributed to the rise in GDP in 2002 was public consumption, which was led by soaring defense expenditure. In 2003, by contrast, private consumption and exports led economic expansion, while public consumption contracted. Consequently, the change in business-sector product is a better indication of the acceleration of economic activity than GDP.

Business-sector product (excluding start-up companies) rose by 2.2 percent, after declining by 1.8 percent in 2002. Prominent among the positive developments, which are characteristic of a turnaround in economic activity, is the 1.5 percent increase in output per hour. Total factor productivity also rose, for the second time in the last decade and the first time since 2000. The reduction in unit labor cost caused a 4.5 percent increase in the return on capital in the business sector, after this had been tumbling since the beginning of the recession. Labor productivity rose in most principal industries—by over 2 percent in manufacturing, electricity and water, and transport and communications.

The recovery has not yet encompassed the entire economy: investment continued to contract and the labor market was slack.

Note, however, that the recovery has not yet encompassed the economy as a whole, and certain indications that generally accompany emergence from a recession are not yet evident. Thus, for example, nonresidential investment continues to contract; manufacturing and commerce inventories are not rising, as might have been expected in view of the resurgence of demand; the real-estate market remains stagnant, as does labor input in the business sector, alongside a slow rate of job creation, which could lead to the further expansion of unemployment.

Table 1.1
Indicators of Economic Activity, 1986–2003

(rate of change, percent)

	1986–89	1990–95	1996–99	2000	2001	2002	2003	2003 Jan–Jun[a]	2003 Jul–Dec[a]
Per capita GDP	2.0	2.6	1.0	4.7	–3.2	–2.8	–0.5	–0.6	0.0
GDP	3.7	6.2	3.5	7.5	–0.9	–0.8	1.3	1.2	1.8
Excluding start-ups	–	–	3.4	6.0	–0.4	–0.1	1.6	1.7	1.6
Business-sector product	4.6	7.6	4.0	9.8	–2.6	–2.8	1.8	2.1	2.3
Excluding start-ups	–	–	3.8	7.6	–1.8	–1.8	2.2	2.8	2.0
Index of manufacturing output	0.9	7.3	2.8	10.0	–5.0	–1.9	–0.3	–1.2	2.4
Unemployment rate[b]	7.1	9.8	8.0	8.8	9.3	10.3	10.7	10.7	10.8

[a] Annual rates of change, seasonally adjusted, compared with preceding six months.
[b] These figures refer to levels, not rates of change.
SOURCE: Based on Central Bureau of Statistics data.

The economic policy mix—fiscal restraint and monetary expansion—supported the turnaround in economic activity.

The economic policy mix—fiscal restraint and monetary expansion—supported the stabilization of economic activity. The fiscal package which was approved by the Knesset in May and implemented in the second half of the year, together with other measures introduced during the year, led to a marked reduction in public consumption and boosted the economic incentive to participate in the labor market. Income support allowances were reduced and their structure altered, while the employment test for recipients was expanded, and subsidization was introduced for wages of single parents. Efforts to reduce the employment of foreign workers began to bear fruit, so that their number fell by 30,000, making jobs available to Israelis. The continued reform of direct taxation and the restoration of an income ceiling for national insurance and health insurance payments—which was cancelled in 2002—reduced the tax rate on labor for employees earning intermediate and high incomes.

Nonetheless, the effect of economic policy on economic activity in 2003 is not unequivocal. The measures that were intended to stimulate business-sector supply moderated public spending: the reduction of transfer payments, contraction of public-sector expenditure, fall in labor inputs, and the cuts in public-sector wages all led to the erosion of the disposable income of wide segments of the population, and hence had a negative effect on aggregate demand in the short term.

The government's tight fiscal policy and structural reforms gained the confidence of the markets.

Whereas tight fiscal policy, the restructuring of the pension funds, and other policy measures created certain difficulties for the public, especially during the recession, they re-established the confidence of the markets in the government, as expressed for example in the decline in long-term interest and the renewal of foreign investment in Israel. These developments, which were reinforced by the approval of the US government's loan guarantees, led to local-currency appreciation against the dollar, despite the expansion of the budget deficit. The next few years will tell whether the government's determination to check the growth of public expenditure and bring its deficit and debt to a downward path has succeeded, but it may be assumed that once economic acceleration begins it will help to attain the fiscal objectives.

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By virtue of the credibility of fiscal policy, and in view of the significant decline in Israel's country risk, the Bank of Israel was able to reduce its key interest rate by a cumulative 3.9 percentage points in 2003 (2.8 percentage points in the second half of the year), without undermining financial stability. Real short-term interest declined by less (2 percentage points) because of the fall in inflation expectations, and stood at 4.5 percent at the end of the year. The differential between the Bank of Israel's key interest rate and those of the US Fed and the European Central Bank contracted during the year; the yield gap on government bonds between Israel and the US also shrank, and reached 3.0 percent in December 2003, compared with 6.8 percent in December 2002. Although both long- and short-term interest rates attained relatively low levels at the end of the year, it would appear that the full potential of interest-rate reductions was not achieved in 2003, considering the moderate level of domestic demand, local-currency appreciation against the dollar, and the convergence of inflation expectations in 2004 to within the price-stability environment. This is evinced by the fact that the additional reduction by the Bank of Israel of its key interest rate by 0.9 percentage points in the first three months of 2004 did not cause shocks to the forex market, and 12-month inflation expectations remained within the price-stability target range.

The economic damage due to the Intifada is estimated at 0.7–1.8 percent of GDP.

As a whole, 2003 was characterized by several shifts in the security situation; the year began with tension prior to and during the US military campaign in Iraq; a ceasefire (Hudna) in the conflict with the Palestinians was announced at the end of June, but by mid-August grave terrorist attacks had resumed, and towards the end of the year efforts to attain a fresh ceasefire failed. The economic damage due to the Intifada in 2003 is estimated at between 0.7 and 1.8 percent of GDP, compared with a loss of between 3.1 and 3.8 percent of GDP as a result of the Intifada in 2002.[1]

[1] For a more detailed analysis, see Box 1.1 in last year's issue of this publication.

Exports of the mixed technology and traditional industries rose, whereas those of high-tech industries dipped by 2.5 percent; tourism revenues soared by 17 percent.

In 2001–2002 Israel's exports suffered because of the global economic slump and the crisis in the ICT industries. In 2003 the US economy began to rally, followed by Europe and Japan, but these developments did not find expression in an equivalent expansion of world trade, which grew by only 3 percent, similar to its 2002 rate. Nevertheless, exports of the mixed-technology and traditional industries (excluding diamonds) rose by an average of 5.7 percent, after remaining stable in 2002. This development is explained by the composition of world trade, which focused—especially at the beginning of the year—on the industries of the 'old economy.' Another explanation may derive from the real depreciation of 2002, as its effect on the manufacturing exports mentioned supersedes that on high-tech exports. Although global demand for the products of the high-tech industries, which form the backbone of Israel's exports, is rising gradually, Israel's exports in this field continued to fall in 2003, by an average 2.5 percent, after plummeting in previous years. Notwithstanding, in the second half of 2003 there was a marked acceleration, and exports of software and R&D services rose by 5 percent in 2003. Tourism services exports benefited from the relative calm in the security situation after the conclusion of the war in Iraq, and these soared by 17 percent, after declining for three years.

Private consumption rose by 1.7 percent, despite the erosion of disposable wage income.

Despite the lower taxes on labor, the reduction of wages and of transfer payments led to the erosion of private disposable wage income for the second year in succession. Nevertheless, private consumption rose by 1.7 percent. The private saving rate stabilized at a low level, after declining steeply in 2002, due to the marked increase in the return on capital and improved profitability in the business sector.

With the exception of imports of machinery and equipment, all components of investment declined.

The contraction of investment encompassed all its components with the exception of imported machinery and equipment, although its rate of decline was more moderate than in previous years. The main reason for the continued contraction of investment is apparently the low utilization of existing capital stock. Investment cannot be expected to soar before the state of the economy becomes clear and firms are convinced that demand is rising. The downward trend in long-term interest during the year may also have caused investors to defer investment decisions and wait for better financing conditions. Nonresidential investment declined by 5.3 percent, after falling by 9.5 percent in 2002; residential investment dipped by 4.1 percent, after 8.2 percent in 2002. Inventories contracted at an unprecedented rate in 2003, especially in the first half of the year, apparently due to the uncertainty occasioned by the war in Iraq, but drawing down of inventories persisted in the second half of the year. Reflecting the long-term adjustment to the moderation of demand, the level of inventories in the business sector declined by about one third of their value prior to the recession.

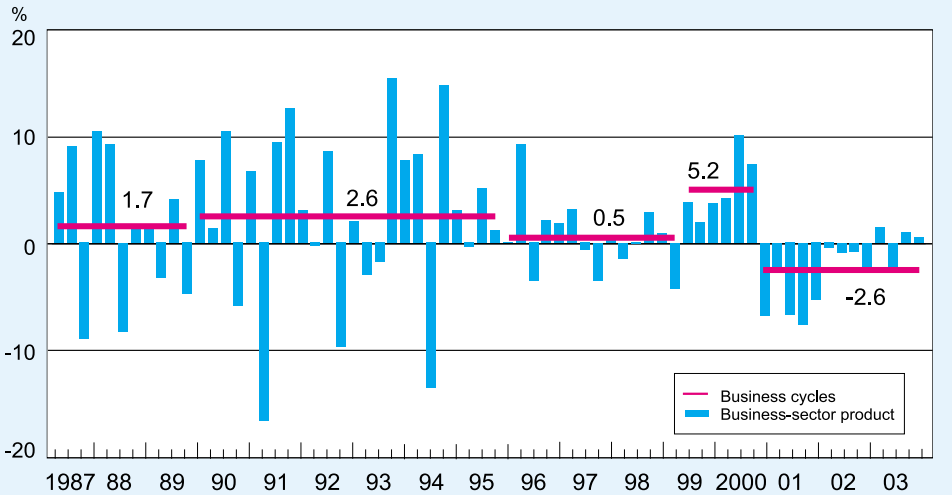
Domestic public consumption contracted due to the cuts in government spending; nevertheless, the budget deficit expanded to stand at 5.6 percent.

Domestic public consumption contracted by 0.6 percent in 2003, for the first time since the mid-1990s, due to extensive government spending cuts. These reductions, which began in the second half of the year, were expressed in a 3.1 percent nominal decline in the wage per employee post in the public services, the contraction of hours worked, stabilization of civilian purchases, and 2 percent contraction of domestic defense consumption, after its two-digit expansion in 2002. Nevertheless, the budget deficit ballooned because of the shortfall on the revenue side, and amounted to 5.6 percent of

GDP, compared with 3.8 percent in 2002. The contraction of public domestic consumption caused it to decline to 27.7 percent of GDP in 2003, although this ratio is still higher than at any time in the 1990s.

Developments during 2003 attest to a growing turnaround in business activity in the second half of the year, when private consumption rose by 6.8 percent (annual rate) as compared with 1.2 percent in the first half of the year, and nondiamond exports grew by 8.9 percent, compared with 6.4 percent at the beginning of the year.

Figure 1.1
Change in Per Capita GDP, 1987–2003
(quarterly data, seasonally adjusted, annual percentages)



SOURCE: Based on Central Bureau of Statistics data.

Box 1.1
Business-Cycle Dating: Science, Craft, or Art?

Israel has been going through a recession since the middle of 2000—about this both economists and the general public are in agreement. However, there is no such consensus as regards when it can be said to have ended, and the arguments resume with each new economic statistic that is published. Since there is no official authority in Israel which is entitled to pronounce on such matters, an attempt is made below to examine the experience of other countries and analyze ways of identifying the turning points of a business cycle.

In the US this task falls to the committee of the NBER (National Bureau of Economic Research). Since 1929 this committee has published an analysis of turning points in business cycles.[1] According to the committee's

[1] http://www.nber.org/cycles

definition, a recession is a significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in real GDP, real income, employment, industrial production, and wholesale-retail sales. A recession generally begins just after a peak in economic activity and ends when the economy reaches its trough—two turning-points that are identifiable on a monthly basis. The last US recession, for example, lasted eight months; it started in March 2001, a peak that denoted its beginning, until its trough in November 2001. Since the NBER committee reaches a decision by examining all the indicators mentioned, and there is no fixed rule regarding the relative importance of each of them, the identification of economic cycles in the US seems to be more art than science.

In the EU, on the other hand, identifying a recession could be defined as a craft, implemented mainly by a technical procedure. This is done by the CEPR (Centre for Economic Policy Research), which defines a recession as a prolonged period of declining growth in the cyclical component of GDP, as expressed in the EuroCOIN index.[2] This synthetic index comprises various indices of real economic and capital market activity, also incorporating information from surveys of firms' and consumers' expectations. The share of each component is determined by its correlation with the business cycle in the past. After deducting measurement errors and other seasonal short-run fluctuations by an innovative econometric technique, a monthly index reflecting the trend of the business cycle in the eurozone is obtained.

Since Israel is a country of immigration, periods of slow and rapid growth are generally identified on the basis of per capita GDP (at real, seasonally-adjusted rates of change). However, the wide variance that characterizes this aggregate (Figure 1.1) makes it difficult to identify the exact point at which a turnaround occurs, especially on a monthly basis, because per capita GDP data are available only on a quarterly basis and with a lag of several months. For these reasons, business-cycle turning-points are usually identified by referring to historical events, such as the start of the influx of immigrants from the former USSR in the 1990s, the eruption of the Intifada, etc., even though the phase of the economic cycle did not follow them immediately.[3]

A precise and timely identification of turning-points in the business cycle requires resort to a monthly aggregate index, such as the composite State-of-the-Economy Index developed at the Bank of Israel. This index has

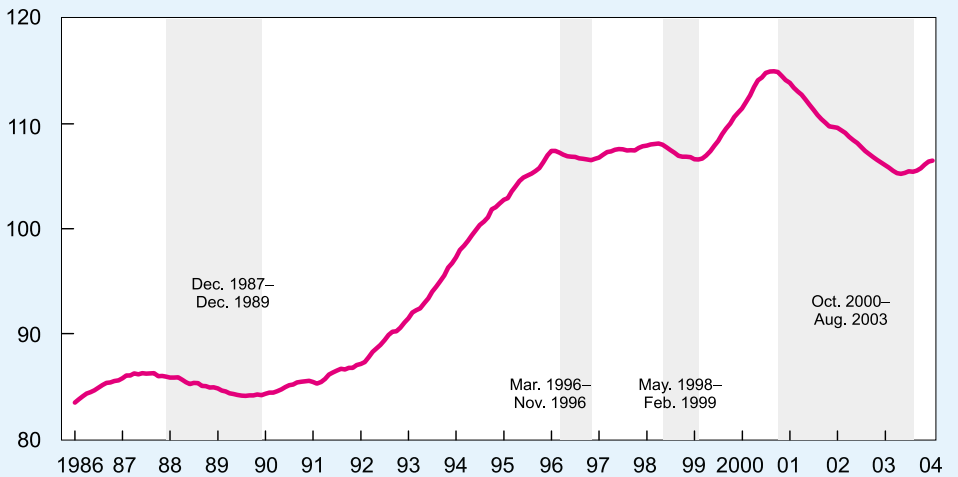
[2] http://www.cper.org/data/Eurocoin/recession

[3] For a review of protracted recessions in Israel, see the volume, "The Economy: Developments and Policies," in Bank of Israel, *Annual Report 2002*.

[4] A. Marom, Y. Menashe, and T. Sukhoy (2003), "The State-of-the-Economy Index and the Probability of Recession: The Markov Regime-Switching Model," Bank of Israel Research Department, *Discussion Paper* 2003.05.

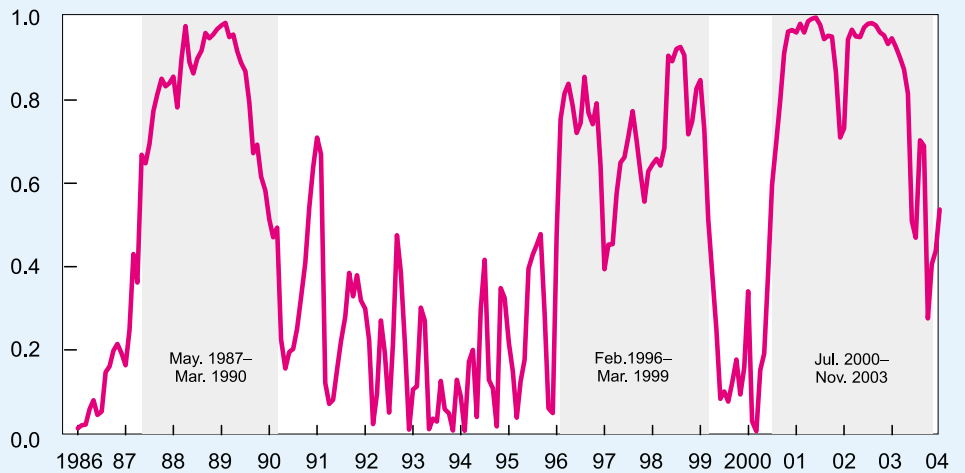
recently been thoroughly revised[4] in order to update its components and make it more suitable for the purpose of identifying turning-points in economic activity (Figure 1). The general rule for identifying a recession is a decline in the index for at least six out of nine months—the shaded area in the figure. According to this rule, the last recession began in October 2000 and ended in August 2003.

Figure 1
Recessions, According to the New State-of-the Economy Index, 1986–2004



SOURCE: Based on Central Bureau of Statistics data.

Figure 2
Recessions, According to Probability of Recession, 1986–2004



SOURCE: Based on Central Bureau of Statistics data.

Identifying the recession on the basis of the State-of-the-Economy Index makes it possible to distinguish the period of slowdown (i.e., a continuous decline in the Index), but does not capture the stagnation of economic activity. That is what happened in 1997 and 1998, for example. Another problem is that the Index is sensitive to sometimes significant updates. A solution to both these problems is offered by an index of the probability of a recession, which is derived from the values of the State-of-the-Economy Index. In order to identify a recession on the basis of this index the probability must be greater than 0.5 for at least six months out of nine. Figure 2 shows that the probability of a recession also covers the period of stagnation, and is resistant to the adjustment of the components of the Composite Index.

According to the index of probability of a recession, the last recession began in July 2000—even before the eruption of the Intifada—and ended in November 2003. Thus, both the Bank of Israel's State-of-the-Economy Index and the index of the probability of a recession indicate that the protracted recession which has affected Israel since 2000 has come to an end.

2. AGGREGATE DEMAND AND SUPPLY

a. Demand

The decline in economic activity that had been in evidence since late 2000 was checked in 2003, and there was a discernible turnaround.

The decline that had characterized Israel's economy in 2001–2002 was checked in 2003 (Figure 1.1), and a turnaround was evinced by the expansion of exports and private consumption (Table 1.2). On the other hand, the continued contraction in fixed investment, sharp drop in inventory investment, and tight fiscal policy contributed to a slump in domestic demand, which fell by 1.5 percent. Hence, the initial signs of economic recovery evident in 2003 have not yet gathered momentum. Obviously, the expansion of exports and private consumption is a better way of achieving sustainable growth than an increase in public consumption, which may serve to stimulate the economy in the short run, but imposes a deadweight loss on the private sector. The implementation of the government's decision to restrict the rise in its expenditure between 2005 and 2010 to one percent a year will return the economy to a declining debt and deficit path, thereby supporting the recovery of the business sector.

The rally in global economic activity and the relative calm in the security situation led to the recovery of exports and private consumption; investment continued to contract, however.

The Intifada, the global economic slowdown, and the crisis in the high-tech industry in particular, were the main causes of the deep recession which has affected Israel since the end of 2000. In 2003—with the recovery of the global economy and the relative calm in Israel's security situation in the wake of the speedy conclusion of the war in Iraq—the two factors which had curbed Israel's economic development were weakened, and initial signs of recovery emerged. Exports of both goods and services

Table 1.2
Sources and Uses, 1986–2003

(volume rates of change, percent)

	1986–89	1990–95	1996–99	2000	2001	2002	2003
GDP	3.7	6.2	3.5	7.5	–0.9	–0.8	1.3
Imports	4.8	11.0	6.8	12.2	–4.5	–2.3	–2.3
of which Excl. diamonds, oil, ships and aircraft	4.1	11.7	6.6	14.4	–3.5	–5.7	–4.1
Total sources	4.0	7.6	4.5	9.0	–2.0	–1.2	0.2
Exports	4.5	7.4	8.1	24.0	–11.5	–3.0	6.1
of which Excl. diamonds	3.4	8.3	9.6	26.3	–10.9	–7.0	6.3
Goods exports excl. diamonds	4.5	9.3	10.1	26.3	–6.4	–7.0	3.4
of which High-tech	–	–	15.9	52.8	–8.3	–12.0	–2.5
Exports to Palestinian Autonomy	–	–	3.1	–11.4	–26.8	–8.3	0.4
Tourism exports	–3.2	7.8	–6.4	–16.8	–55.7	–29.8	16.8
Gross domestic investment	3.2	15.4	2.1	–2.9	–4.9	–12.4	–13.4
of which Nonresidential	2.1	15.6	2.6	6.1	–2.8	–9.5	–5.3
Private consumption	7.1	7.5	4.2	7.6	3.2	0.1	1.7
Public consumption[a]	0.8	2.9	2.5	2.6	2.5	5.1	–0.6
Domestic uses[a]	4.8	8.0	3.3	4.1	1.4	–1.0	–1.5
Total uses	4.0	7.6	4.5	9.0	–2.0	–1.2	0.2

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

expanded, after contracting for two years, with tourism soaring by 17 percent. Private consumption rose by 1.7 percent, after remaining static in 2002, despite extensive reductions in transfer payments and the rise in the unemployment rate. The increase in private consumption (stability in per capita consumption), despite a 3 percent decline in disposable wage income, may express optimistic expectations by consumers regarding an imminent emergence from the recession, possibly supported by a surge in the TASE (Tel Aviv Stock Exchange). It is clear, however, that the rise in consumption was financed by households' savings—a situation which cannot persist—so that consumers' optimism was not shared by business investment. In the absence of indications of the acceleration, investment continued to contract—despite the rise in the return on capital and marked decline in long-term interest—because of the existence of excess capacity. Massive investment in the early 1990s led to a marked increase in capital stock, which hampered firms for years afterwards—including in the slowdown. Capital stock per employee in the business sector was 44 percent higher in 2003 than in 1996, without taking into account declining effective capital stock utilization.

Developments during the year (Table 1.4) attest to a positive shift in economic activity, starting in 2003:III, when there was a marked improvement in both private consumption and exports, a trend reversal in manufacturing production, and business-sector product rose by 3.1 percent. In 2003:IV the pace of economic activity stepped up, but the contraction of public-sector consumption served to moderate the growth rate of GDP.

Table 1.3
Contribution of Changes in Uses to Change in GDP, 2001–2003

(percent of GDP)

	2001	2002	2003	Difference between 2002 and 2003
GDP	–0.9	–0.8	1.3	2.1
Derived GDP[a]	–1.4	–1.4	0.7	2.1
Total domestic uses	1.3	0.0	–0.4	–0.4
Private consumption	1.4	0.1	0.7	0.6
of which Excl. durables	1.7	0.4	0.7	0.3
Public consumption[b]	0.6	1.2	–0.1	–1.3
of which Public civilian consumption	0.6	0.6	0.0	–0.6
Gross domestic investment	–0.7	–1.4	–1.0	0.4
of which Nonresidential investment excl. ships and aircraft	–0.2	–0.8	–0.4	0.4
Residential investment	–0.5	–0.3	–0.2	0.2
Exports	–2.7	–1.4	1.1	2.5
of which Goods exports	–0.9	–0.9	0.4	1.3
of which Manufactured exports excl. diamonds	–0.9	–0.9	0.4	1.4
Service exports	–1.7	–0.5	0.7	1.2
of which Tourism	–1.3	–0.3	0.1	0.4

[a] The total contributions of domestic uses *minus* imports, according to input-output coefficients of 1995. Discrepancies may arise due to rounding.
[b] Excluding defense imports.
SOURCE: Based on Central Bureau of Statistics data.

There appears to have been a positive trend shift during the year, as evinced by the rally in economic activity starting in 2003:III.

The positive changes in private consumption are identified with the improvement in Israel's security situation in 2003:II, following the conclusion of the military campaign in Iraq, and in 2003:III, coinciding with the Hudna (ceasefire), which appears to have aroused optimism among consumers regarding the imminent conclusion of the Intifada and the recession. Another factor operating to stabilize private consumption in 2003 was the reduction of income tax, in the framework of the multi-year reform of direct taxation and the restoration of the income ceiling for national insurance and health insurance contributions.[2] The decision to ease the direct taxation burden was accompanied by the decision to increase the budget deficit, because of the shortfall in revenue, in order to stimulate the supply of labor and, on the aggregate level, to offset the negative contribution of fiscal restraint to households' consumption. This package of measures increased households' disposable income by NIS 4 billion (on an annual basis, about half of this amount in 2003).[3] On the other hand, other factors served to

[2] The ceiling on income liable for national insurance and health insurance contributions was abolished in July 2002 but restored in July 2003, before the planned date, December 2003. The abolition of the ceiling increased the marginal tax rate for employees earning above NIS 35,000 a month (five times the average salary) by 9.8 percentage points, and by even more for the self-employed.

[3] Since mainly high-income groups benefited from the tax reductions, a large proportion of the addition to disposable income may have been directed to saving.

Table 1.4
Developments During the Year, 2001–2003

(seasonally adjusted, quarterly rates of change, in annual terms)

	During year[a]			2001				2002				2003			
	2001	2002	2003	I	II	III	IV	I	II	III	IV	I	II	III	IV
Sources and uses															
GDP	–3.5	0.7	1.9	–0.6	–4.8	–5.6	–3.0	1.4	0.7	1.1	–0.6	3.3	–1.1	2.8	2.5
Business-sector product	–6.2	–0.3	2.8	–1.5	–8.9	–8.6	–5.6	–0.4	–1.0	1.0	–0.9	4.9	–0.5	3.1	3.6
Private consumption	1.1	–0.9	4.1	3.7	–0.6	–1.5	2.7	–0.2	–1.5	–3.6	2.0	–4.1	11.9	6.4	2.7
of which Excl. durables	3.6	–0.2	3.5	6.4	4.7	1.2	2.1	–0.4	–1.6	0.7	0.5	–2.7	10.0	3.5	3.5
Public consumption	3.3	3.7	–4.9	–4.3	6.1	2.3	9.6	7.3	4.8	1.9	0.8	0.1	–10.3	–0.3	–8.7
Fixed investment	–8.9	–5.9	–4.7	14.3	–21.6	–9.8	–14.6	–7.0	–7.6	–4.1	–5.1	–3.8	–1.2	–12.2	–1.3
of which Nonresidential	–10.8	–4.2	–6.6	19.2	24.8	–14.4	–17.5	–7.3	–2.9	–3.3	–3.3	–8.4	4.6	–18.5	–2.3
Residential	–1.3	–10.5	0.5	2.5	–3.4	4.3	–8.3	–9.9	–11.7	–11.6	–8.8	2.8	–3.0	–2.5	4.8
Exports[a]	–11.4	2.3	5.4	–8.7	–18.4	–11.5	–6.6	–3.8	6.0	–0.6	8.1	9.1	1.2	21.2	–7.8
of which Excl. diamonds	–12.4	0.6	4.7	–3.3	–19.5	–14.6	–11.6	–11.8	1.3	–0.1	14.7	7.4	–2.9	25.5	–8.1
Tourism exports	–47.3	–8.1	69.2	–36.4	–56.3	–36.9	–55.8	–5.8	–42.9	33.6	–0.5	–5.9	–8.0	185.1	232.2
Goods exports	–12.5	2.1	2.8	–17.6	–18.0	–13.1	0.0	2.0	5.5	–3.9	4.9	3.8	3.7	15.6	–10.4
Uses	–5.4	0.6	0.8	–0.8	–8.4	–9.7	–2.5	0.8	2.5	–0.2	–0.5	–3.6	1.2	9.7	–3.3
Imports	–11.7	1.0	–0.5	–7.6	–16.7	–17.5	–4.0	4.7	5.0	–5.1	–0.5	–15.3	3.0	19.3	–6.0
Defense imports, ships and aircraft	–11.4	–5.8	1.9	–11.0	–13.6	–13.1	–7.7	0.9	–8.1	–8.6	–7.0	–7.5	9.8	11.4	–4.6
Domestic uses	–3.9	0.3	–0.4	1.2	–3.5	–8.2	–2.6	4.9	–0.7	0.2	–3.1	–4.5	0.1	6.0	–3.0
Unemployment rate[b]				8.5	8.8	9.6	10.3	10.4	10.3	10.4	10.2	10.8	10.6	10.7	10.9
Average hours worked by Israelis in business sector[c]				–6.2	7.6	–11.9	–1.7	9.8	–0.9	–0.3	5.1	–5.9	–1.8	5.8	–7.2
Manufacturing production index	–6.9	0.6	1.4	–0.3	–18.6	–5.7	–6.2	2.6	5.2	–4.9	–0.5	–1.1	–2.2	0.5	11.4
State-of-economy index	–3.9	–3.1	0.1	–3.7	–4.0	–5.0	–3.6	–1.7	–3.4	–3.6	–3.3	–2.8	–2.0	0.8	2.4

[a] Excluding receipts from factors of production abroad and public-sector interest receipts from abroad.
[b] These data refer to levels, not to rates of change.
[c] Quarterly data based on National Accounts data and Labor Force Survey of Central Bureau of Statistics.
SOURCE: Based on Central Bureau of Statistics data.

moderate households' demand: the average wage per employee post declined by a real 2.8 percent; national insurance allowances and unemployment benefits were reduced; the unemployment rate rose to an annual average of 10.7. While there was a 1.8 percent increase in private consumption excluding durable goods—i.e., stability in per capita average consumption—underlying this average is a drop in consumption by wide segments of the population who rely on transfer payments, alongside an increase in consumption by other households, financed in part by savings.

Private consumption rose due to the improvement in the security situation and reduction of income tax; lower wages, cuts in pensions, and the rise in the unemployment rate moderated the demand of households.

Bearing in mind the erosion of individuals' disposable income, a large part of the recovery of private consumption in 2003 is explained by households' optimistic expectations regarding the path of their future income. These expectations rose markedly in the second half of 2003 (see Box 1.2, Figure 1) due to the improvement in the security situation and measures introduced by the government that were designed to reinforce them in two ways. The first was the implementation by the government of another stage of the reform in direct taxation, despite its serious budgetary constraints, and which apparently convinced individuals that the next three stages would also be implemented without delay, serving to considerably increase their disposable income. The second took the form of changes in the general reform of the pension arrangements—including the restructuring of the established pension funds—which were intended *inter alia* to remove the danger of a future budgetary crisis due to their having insufficient funds to meet their commitments, obliging the government to impose new taxes in the future in order to cover these. These two reasons apparently underlay the improvement in households' fiscal expectations, explaining the surprising rise in private consumption. Another possible cause of consumers' optimism could be the recovery of the capital market, as indicated by the fact that key stock indices soared by more than 60 percent. Not only did this development increase the value of the public's financial assets, possibly creating a 'wealth effect,' it also attested to the renewal of investors' interest in Israeli firms.

The recovery of private consumption in 2003 appears to stem from households' optimistic expectations regarding disposable income, associated with the emergence from the recession and future easing of the tax burden.

The recovery of private consumption may also have been bolstered by the decline in prices during 2003: the CPI excluding housing dipped by 0.5 percent, and in the last three quarters of the year the deflator of current private consumption also declined. In view of expectations of price stability in 2004, the price-reduction episode did not cause the deferment of private consumption—as might occur given expectations of price reductions over time (deflation)—but operated to offset the moderation of demand by increasing the purchasing power of consumers, especially those at the lower income levels, who have a higher marginal propensity to consume.

The decline in prices during the year increased households' purchasing power and supported the recovery of private consumption.

Purchases of durable goods stabilized in 2003, after plummeting in the two preceding years, and accelerated notably in the course of the year. The durable goods purchases deflator rose by 3.1 percent because of the increase in import prices, due *inter alia* to the sharp local-currency depreciation against the euro (about 40 percent of imported consumer goods are from the EU). The strengthening of the euro in the last two years caused Israel's imports to be diverted to other sources, so that the share of the EU in imported consumer goods declined in 2002 and 2003.

Purchases of durable goods stabilized in 2003, after plummeting in the two preceding years.

Apart from its immediate effect on the expansion of GDP, the rise in private consumption also constituted an important indicator of a turnaround in economic activity, because consumers' decisions evidently reflect private information about their economic future in general as well as each individual's prospective income. This accounts for the importance of forecasting changes in private consumption—generally via consumer surveys, such as the one undertaken by the Smith Institute for the *Globes* newspaper (see Box 1.2). An empirical examination[4] of the relation between the data from the survey and the aggregate of private consumption in 1996–2002 shows that the survey can serve as a leading indicator of private consumption one quarter in advance (Box 1.2).

Box 1.2
Consumer Surveys as a Leading Indicator of Private Consumption

'The Survey of Expectations' published monthly in the *Globes* financial newspaper is based on a phone survey which has been undertaken by the Smith Institute since the end of 1995 covering about 500 persons who constitute a representative sample of the adult population. Respondents are asked the following three questions:

1. How would you define Israel's economic situation (good, normal, not bad, other)?
2. What do you think Israel's economic situation will be in another six months (better, the same, worse, other)?
3. What do you think your (your family's) economic situation will be in another six months (better, the same, worse, other)?

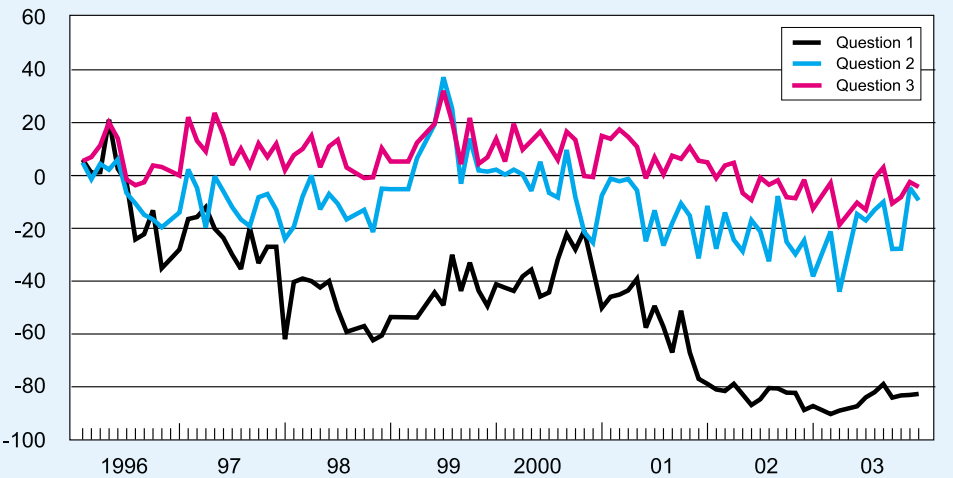
The results of the survey are presented as a net balance, i.e., the number of those answering 'good' or 'better' *less* the number of those answering 'bad' or 'worse,' for each question separately (Figure 1).

An examination of the net replies yields several interesting conclusions. The trend and level of replies to the first question, regarding the current situation, differ from those of the other two, which relate to the future, and a declining trend is evident since 1996, with a slight improvement in mid-1999 and in 2000. Thus, individuals' assessments of the state of the economy are unbiased. Replies to the other two questions, however, represent an over-reaction—which is very transient—to individual events, such as the election for prime minister. Nevertheless, the responses to questions 2 and 3 hardly

[4] See K. Braude and A. Friedman (2003), "Consumer Surveys in Israel: A Leading Indicator of Private Consumption," Bank of Israel Research Department, *Discussion Paper* no.11 (Hebrew).

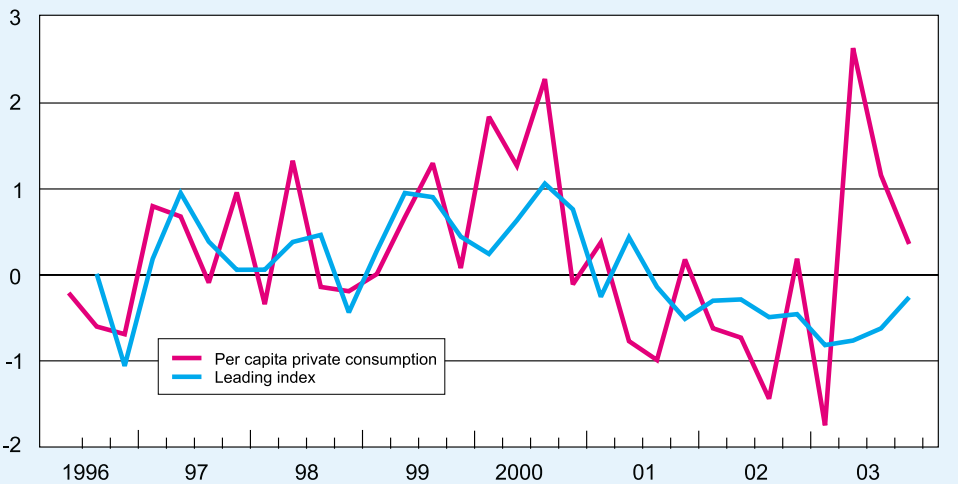
express expectations of a further deterioration in the economic situation, apparently due to natural optimism, which is not always borne out by actual developments. A comparison of the replies to the last two questions shows that most individuals think that their own economic future will be better than that of the economy in general—a prognosis that is of course untenable.

Figure 1
Net Balance of Survey Questions, 1996–2003
(quarterly average, percent)



SOURCE: Based on Central Bureau of Statistics data.

Figure 2
Leading Index and Per Capita Private Consumption, 1996–2003

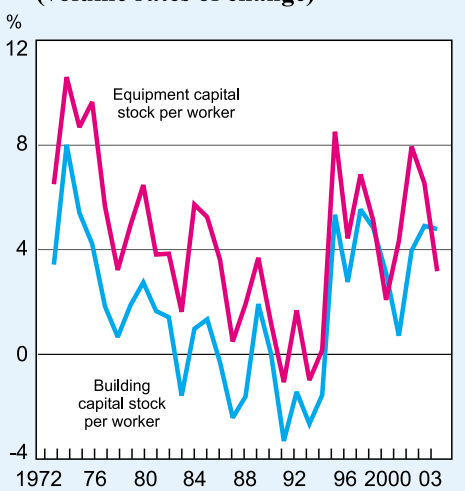


SOURCE: Based on Central Bureau of Statistics data.

An econometric analysis of the correlation between the net replies to the survey makes it possible to identify relevant data embodied in individuals' responses to each question and use them in order to predict future trends. Figure 2 shows the results of the estimation, comparing the leading index—comprising a linear combination of the net replies to the survey with a lag of between one and two quarters—with the rates of change of per capita private consumption (seasonally adjusted, quarter-on-quarter comparison).

The improvement in the security situation underlay the steep rise in consumers' expectations in mid-2003 as well as the increase in private consumption, which in this instance responded to the improvement without delay in 2003. As Figure 2 shows, the leading index failed to predict the changes in private consumption in 2003.

Figure 1.2
Capital Intensity in Business Sector, 1972–2003
(volume rates of change)



SOURCE: Based on Central Bureau of Statistics data.

Fixed investment (gross domestic investment excluding the change in inventory) fell by 5 percent in 2003, after declining by 9.2 percent in 2002. Nonresidential investment (excluding ships and aircraft) dipped by 3.9 percent: investment in machines and equipment rose slightly, while nonresidential construction and investment in transport vehicles continued to contract (Table 1.A.3). An examination of trends over the last thirty years (Figure 1.2) shows that even though investment in the business sector has declined since 1997, after soaring in the first half of the 1990s, capital stock per employee continued to grow appreciably even during the years of recession. This means that capital utilization is declining,[5] as is the motivation to renew investment, expressed in the long-term erosion of the return on capital (Table 1.A.10 and Figure 1.6).

[5] The capital stock system constructed by the Bank of Israel on the basis of detailed investment figures provided by the CBS uses certain assumptions about the lifespan (rates of amortization and scrap) of various components of investment. These assumptions are similar in general to those used for constructing capital stock systems in other advanced economies, although the possibility that the effective lifespan of some equipment and machinery is shorter than their nominal lifespan should not be dismissed. Unfortunately, no specific surveys are undertaken to compare capital stock utilization rates, so that when the latter decline steeply the gross and net capital stock data do not reflect the economy's effective capacity.

The contraction in residential investment slowed to 4.1 percent, and the real-estate market remained slack.

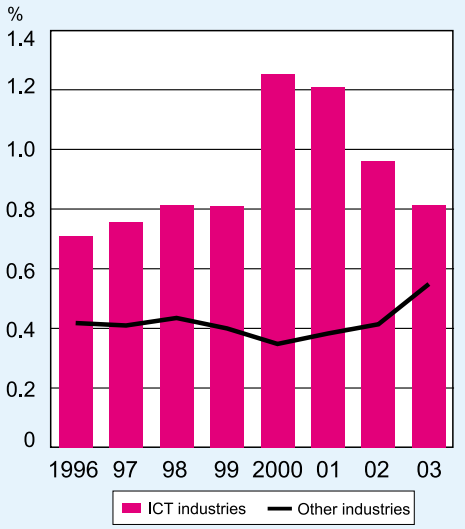
Total infrastructure investment rose in 2003 due to increased investment in the electricity and water supply, while investment in transport and communications declined (Table 1.A.19 and the section on Communications and Transport in this chapter). The rate of decline of residential investment slowed to 4.1 percent in 2003, compared with 8.2 percent in 2002. Even though residential investment has declined by 40 percent since 1997, the real-estate market has remained slack: building starts contracted, fewer new apartments were sold, despite an extensive sales campaign by the Ministry of Housing and Construction, and apartment prices continued to fall. Notwithstanding, residential investment rose by 4.8 percent (annual rate) in 2003:IV, though it is still too early to tell whether the slump in the construction industry has ended. In any event, past experience proves that once demand accelerates it can revive this industry in a very short space of time.[6]

The rally in global economic activity during the year led to a 6.3 percent increase in Israel's exports, focusing on exports of services and the mixed-technology and traditional industries.

Exports rose by 6.1 percent in 2003 (6.3 percent excluding diamonds), after declining in the two preceding years; goods exports expanded by 3.8 percent (3.4 percent excluding diamonds), and services exports increased by 11.8 percent. The recovery of exports, which provides the economy with the impetus needed when there is a slump in domestic demand, derived from the acceleration in the global economy during the year following the renewal of rapid growth in the US and the revival of the economies of Europe and Japan. These economies constitute the target markets for two-thirds of Israel's exports, so that a rise in their imports (8.4 percent in the US, and 18.1 percent in the EU, in dollar terms) augurs well for Israel's exports. However, the characteristics of global demand in recent years differ from those that favored Israel's exports when they were at their zenith in the 1990s. Demand is now biased towards the traditional industries, in which Israel does not generally have a comparative advantage. Israel's 'new economy' industries are emerging only gradually from the trough into which they sank when the high-tech bubble burst in 2000. Moreover, the renewal of growth worldwide will not necessarily be expressed in the efflorescence of world trade (which grew by 3 percent in 2003, compared with an annual average of 6.5 percent in the 1990s). There are two reasons for this: 1. A crisis in the latest rounds of GATT talks hampered the expansion of global trade, causing an increased tendency to focus on bilateral or multilateral trade agreements (e.g., between North and South America, or within the EU), to which Israel is not party; 2. After the terrorist attack of 11 September, transaction costs rose because of the increase in security procedures, and western economies became increasingly closed because of fears of international terrorism, hampering flows of goods and people. The years of the Intifada, when the security situation drove many foreign investors away and deterred them from establishing trading ties with Israel, may also have created a lag in the absorption of new technologies. This lag could cause Israeli manufacturers to lose their leading position, as is reflected by the slower growth rate of high-tech exports (see section on manufacturing, below).

[6] This was the case, for example, with the influx of immigrants in the early 1990s, when residential investment doubled in two years, and the construction industry's product soared by 66 percent.

Figure 1.3
Proportion of Israeli Exports in US Imports, by Industry Group, 1996–2003



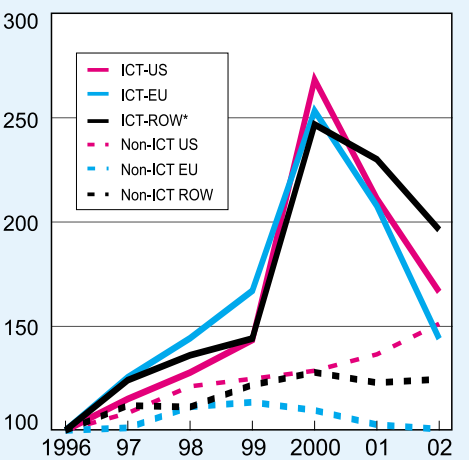
SOURCE: Based on Central Bureau of Statistics data.

As a share of manufacturing exports, high-tech exports fell from 53 percent in 2000 to 46 percent in 2003.

The rapid contraction of the ICT (Information and Communications Technology) industry all over the world[7] since 2000 has hampered Israel's exports and the entire economy; exports of start-up services, which stood at NIS 7.5 billion in 2000, were almost zero in 2003; high-tech exports were down by one-fifth (in dollar terms) from their level in 2000, and their share of nondiamond manufacturing exports fell from 53 to 48 percent in those two years. The share of Israel's ICT industry in US imports shrank during the recession, while traditional industries managed to increase their share of that market (Figure 1.3).

Nondiamond manufacturing exports rose by 3.6 percent in 2003. This rise was led by the exports of the mixed and low technology industries, which expanded by 5.7 percent, while those of the high-tech industries fell by 2.5 percent (Figure 1.4 and Table 1.A.7), even though in the second half of the year these began to pick up, too. Thus, the share of high-tech industries in manufacturing exports continued to contract, and reached 46 percent in 2003. Diamond exports rose by 5.2 percent, after soaring by 22 percent in 2002. Goods exports to the Palestinian Authority increased by 9 percent (in dollar terms), after plummeting since the start of the Intifada.

Figure 1.4
Israeli Exports to US, EU, and Rest of World, by Industry Group, 1996–2002 (1996 = 100)



* ROW = Rest of world

SOURCE: Based on Central Bureau of Statistics Data.

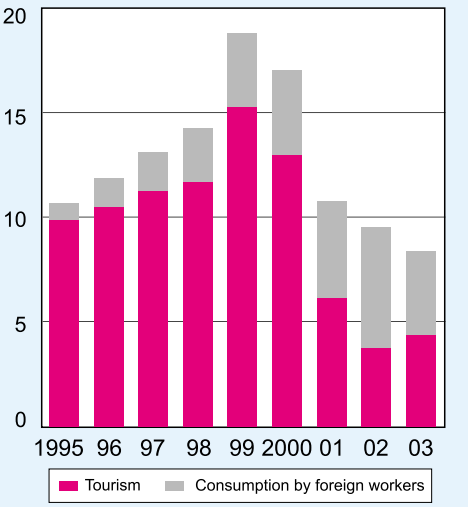
Nondiamond manufacturing exports were up by 3.6 percent.

[7] The ICT industry incorporates the following industries (1993 classification shown in parentheses): office equipment and automatic data processing machinery (30), wire and insulating cable (312), electronic components (32), electronic communications equipment (33), control and monitoring equipment (340), measurement, examination, and navigational equipment (342). For more detailed information, see the account of developments in the various industries later in this chapter and Box 1.2 in Bank of Israel, *Annual Report* 2001.

Services exports rose by 11.8 percent, *inter alia* because of the 16.8 percent increase in foreign tourism.

As stated, services exports surged by 11.8 percent in 2003. A large part of this increase is explained by exports of computer and R&D services. Exports of tourism services soared by 16.8 percent, despite the drop in the number of tourists in the first half of the year, during the war in Iraq, and contributed 0.1 percentage points to the rise in GDP (Table 1.3). Note that consumption in Israel by foreign workers plummeted by 30 percent in 2003; this consumption is included in services exports, and has been rising continuously since 1995, as their numbers increased. In 2002 it was even higher than tourism exports (Figure 1.5).

Figure 1.5
Tourism Service Exports and Consumption by Foreign Workers, 1995–2003
(NIS billion, 2003 prices)



SOURCE: Based on Central Bureau of Statistics data.

Public domestic consumption dipped by 0.6 percent due to the 2 percent fall in domestic security consumption and stability in civilian consumption.

Public domestic consumption (i.e., excluding defense imports) dipped by 0.6 percent in 2003, after rising by an annual average of 2 percent since the 1990s. Expenditure on domestic defense consumption contracted by 2 percent, due to cuts in the defense budget in the framework of the fiscal package occasioned in part by the easing of geo-political risks in the region following the war in Iraq. Defense expenditure connected directly with the Intifada is estimated at NIS 3–3.5 billion in 2003 (for more details, see section c. below). The construction of the security fence along the border and around Jerusalem explains the increase in purchases, while wage expenditure fell by 3 percent. Public civilian expenditure did not change in real terms, with a 0.7 percent decline in labor input (due to a freeze on new employment and early retirement of veteran employees in the second half of the year) and a slight rise in purchases. The wage per employee post in the public services fell by 3.1 percent in real terms, after a 4.9 percent decline in 2002.

b. Business-sector product

Business-sector product rose by 1.8 percent in 2003, after declining by 2.8 and 2.6 percent in 2002 and 2001 respectively—a clear indication that the contraction of business activity has been checked. Although domestic demand was still moderate (down by 1.5 percent), the easing of the negative shocks led to a perceptible turnaround in economic activity. As a result, 2003 was characterized by a lack of uniformity in developments in various markets and wide variance in expectations of firms and households, leading to mixed—sometimes even mutually contradictory—indications regarding economic activity. Sharp changes in the security situation intensified the lack of uniformity in economic developments during the year (Table 1.4).

Table 1.5
Supply of Business-Sector Product, 1986–2003

(volume rate of change, percent)

	1986–89	1990–95	1996–99	2000	2001	2002	2003
Gross capital stock	2.6	4.9	9.1	7.3	6.6	5.1	3.6
Labor input[a]	2.0	6.9	3.7	4.5	–2.0	0.3	0.1
Civilian labor force *plus* foreign workers[b]	2.2	5.0	4.0	3.4	0.7	0.4	1.6
Total factor productivity[c]	2.3	1.2	–1.4	4.2	–3.3	–4.5	0.6
Rate of return on net capital (%)	5.2	12.3	8.3	9.3	3.9	1.9	4.3
Road capital stock per factor input unit[d]	1.0	–0.3	1.6	–0.4	4.8	5.0	5.0
Share of tax on non-wage income (%)[e]	31.8	26.3	27.6	31.0	32.2	29.2	27.6
Real yield on 10-year bonds (%)[f]	4.1	3.0	4.7	5.5	4.9	5.2	4.8
Average real ex post interest (%)[g,h]		6.1	10.7	10.1	7.1	8.8	11.9
Real ex post interest on unindexed credit[h] (%)		7.3	11.5	13.2	7.0	4.9	14.1
of which Real ex post overdraft interest[h] (%)		8.3	13.3	16.1	8.6	0.6	8.9
Real ex post interest on CPI-indexed credit[h] (%)		4.2	2.3	7.0	6.1	5.6	6.4
Real ex post interest on foreign-currency-indexed credit[h] (%)		2.0	9.1	1.5	7.1	15.5	7.4
Unit labor cost	3.1	–1.1	0.7	–1.2	6.8	2.0	–3.6
	1962–71	1972–81	1982–91	1992–2003			
Total factor productivity	4.4	1.8	1.6	–0.9			

[a] See notes to table 1.A.1.15.
[b] The labor force *plus* the labor inputs of Palestinian and foreign workers, in accordance with their share in the business sector.
[c] Productivity level is calculated as the residual by deducting the rise in inputs (labor and capital) from business-sector product weighted by the production function (see note d).
[d] A factor input unit is weighted at 68 percent labor and 32 percent capital.
[e] Taxes on non-wage income as share of non-wage income in business sector (including executives' pay).
[f] From 1987.
[g] Weighted cost of unindexed credit, CPI-indexed credit, and foreign-currency-indexed credit; from 1993.
[h] Deflated by actual inflation.
SOURCE: Based on Central Bureau of Statistics data.

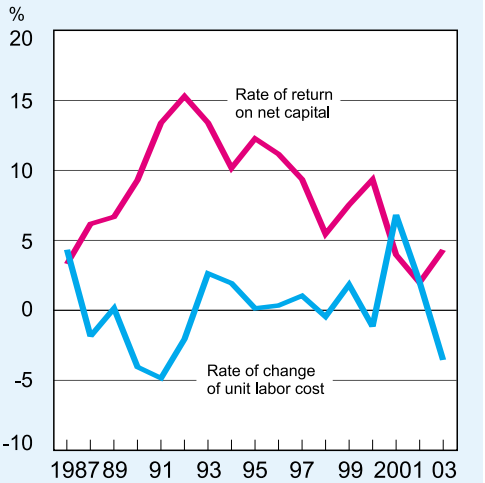
The process of adjustment is continuing in the labor market: hours worked in the business sector remained unchanged, with foreign workers being replaced by Israelis.

The recovery has not yet gathered momentum. Processes of adjustment are still under way in the labor market, as changes in it lag somewhat behind macroeconomic developments (Table 1.5 and Chapter 2, below). While hours worked in the business sector did not expand, the number of persons employed rose by 1 percent, with the replacement of foreign workers (including Palestinians)—whose number fell by 21,000—by Israeli workers, whose number rose by 40,000. The number of hours worked per employee dipped by 0.9 percent as a result of the substitution of Israelis for foreign workers, who work long hours, and the steep increase in the proportion of part-time positions. Stagnation in hours worked in the business sector is not consistent with the acceleration of economic activity, although an analysis of replies to the Bank of Israel's Companies Survey in 2003:IV yields a mixed picture: in manufacturing, no improvement in domestic demand is expected, while export orders have risen; in commerce, transport and communications, and business services orders have increased; in construction and hotels, however, no acceleration of activity is foreseen in the near future.

Unit labor cost in the business sector was down by 3.6 percent, after a cumulative 8.6 percent rise in the two preceding years.

In contrast with developments in the last few years, the unit cost of labor in the business sector fell by 3.6 percent in 2003 (Figure 1.6): a 2.1 percent increase in labor productivity (output per hour worked) was accompanied by a 1.6 percent decline in the hourly wage. This decline followed a cumulative 8.6 percent rise in unit labor cost in the preceding two years, so that since the beginning of the recession labor costs have risen by about 5 percent more than labor productivity (an annual average of 1.6 percent). Although in the long term the two should be cointegrated, i.e., over time labor productivity and the real wage should rise in step with one another,[8] an examination of the period between 1996 and 2003 reveals that the real wage has deviated markedly and continuously upwards from labor productivity (by an annual average of 1 percent in the last eight years).

Figure 1.6
Business Sector: Rate of Return on Net Capital,* and Rate of Change of Unit Labor Cost, 1987–2003



*Excluding roads.

SOURCE: Based on Central Bureau of Statistics data.

Disequilibrium between the rise in the real wage and labor productivity is the result of the disinflationary process and other factors serving to make the labor market inflexible.

This imbalance between the cost of labor and labor productivity can apparently be attributed to the economic slowdown in 1996–99 and the recession since 2001. However, the link is a complex one. On the one hand, there is a long-term process of weakening the power of organized labor, and this, together with the employment of foreign workers, which accelerated in the second half of the 1990s, could offset pressures for wage increases in the economy in general, and the business sector in particular. On the other hand, the disinflationary process which was in evidence at the same time could explain the connection between the economic slowdown and the imbalance between real wage increases and the rise in labor productivity: when the rate of price increases undershot the inflation target, this was apparently taken into account by employers in determining the nominal wage, and this was translated into a real wage that exceeded productivity. At the same time, the high interest rate that was intended to restrain inflation took a toll in terms of short-term growth. Two additional factors which moderated the decline in the real wage were the frequent increases in the minimum wage, which made the labor market less flexible (at the lower end of the wage scale), and the expansion of the transfer payments system, which served to detach large segments of the population from the labor market and to deplete the labor supply despite the rise in the unemployment rate.

[8] Y. Lavi and N. Sussman (2001), "The Determination of Real Wages in the Long Run and Changes in Them in the Short Run: Evidence from Israel, 1968–98," Bank of Israel Research Department, *Discussion Paper* 2001.4.

It is clear, therefore, that the process of the adjustment of the demand for labor to output has not yet come to an end. In order for this to happen, several policy measures introduced in recent years should be helpful. The reduction of transfer payments, among them unemployment benefits and income support payments, as well as restricting eligibility for them, should impel many individuals to return to the labor market, and an enlarged labor supply will serve to moderate the rise in the real wage. The attainment of price stability will complete the process of dismantling the indexation mechanisms—the last vestiges of the era of galloping inflation—which hamper the process of bringing wages into line with labor-market conditions. Price stability and a low interest rate will enable productivity to rise faster, and the easing of the direct tax burden on labor, which should be completed by 2005, may in effect constitute an increase in wages by dividing the reduction between employer and employee, so that both parties could benefit: the cost of labor will fall and net wages will rise.

The process of adjusting labor costs to labor productivity was supported by policy measures: reduction of transfer payments, annulment of indexation mechanisms, and cuts in direct taxes on labor.

Other policy measures may operate to widen the gap between the real wage and labor productivity, however. First, the reduction of employment of foreign workers will serve to increase the average wage in construction[9] and the services, even though the Israeli workers who are taken on to replace foreign workers are at the bottom of the wage scale, and hence no 'chain reaction' is expected higher up the wage ladder in firms, as is the case when the minimum wage is increased, for example. Second, the increase in the pension age, as well as other new arrangements regarding pensions that were introduced in 2003 and will continue for several years, drove some veteran employees—whose wage apparently exceeds their productivity—to remain in the labor market for a few more years instead of leaving and enabling other employees, whose wage/productivity ratio is much lower, to take their place.

The reduction in the employment of foreign workers and new pension arrangements may hamper the full adjustment of real wages to labor productivity.

Reducing the share of labor compensation in business-sector product in 2003 prevented the further erosion of the return on net capital, which rose to 4.3 percent in 2003, after a trough of 1.9 percent in 2002 (Table 1.A.10). In spite of the indications of improvement in business-sector profitability, the deterioration in income-tax receipts from firms and self-employed persons persisted in 2003, as the offsetting of losses accrued during the recession (also expressed in an increase in tax rebates) reduces current tax collection. Although income-tax revenues from firms and individuals rose in the second half of the year—up by 15 percent over the first half—they were still lower than in 2002.

Lowering the cost of the labor component in business-sector product served to increase the return on net capital, after this had plummeted since the beginning of the recession.

Despite the budgetary difficulties and the growth of the deficit, the government acted vigorously in 2003 to divert sources to the private sector, in accordance with its long-term policy. In contrast with the preceding two years, when the aggravation of the statutory tax burden served as an instrument for reducing the budget deficit, no new taxes were imposed in 2003, except for the capital gains tax. However, as a result of the full-year effect of the tax increases instituted in 2002, the statutory tax burden rose slightly. This offset the contribution of the reduction of direct taxes on labor in

Despite the expansion of the budget deficit, the government acted determinedly to divert sources to the private sector, while reducing taxes.

[9] The extensive substitution in construction in 2003 was not expressed in an increase in wages in the industry (see section 4, below).

2003. Notwithstanding the taxation of capital gains (which brought NIS 1.3 billion into the State coffers), substantial tax reductions were introduced at the end of the year for profits accumulated on the stock market during the year.

TFP rose by 0.6 percent, after a 4.5 percent decline in 2002.

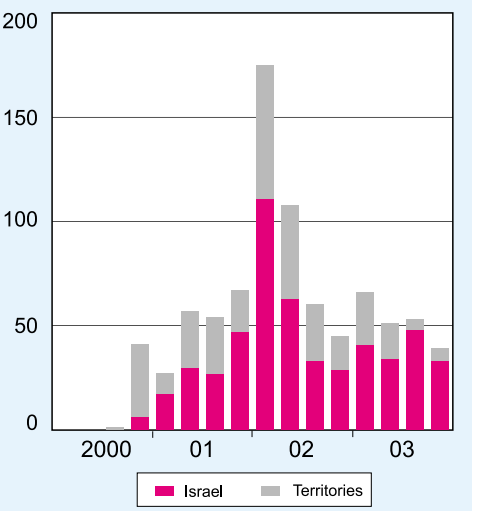
Total factor productivity (TFP) rose by 0.6 percent in 2003, after declining by 4.5 percent in 2002. TFP was negative in the previous decade, in contrast with its upward trend since the mid-1990s in the advanced economies. However, the reliability of the productivity estimates is open to question because of possible changes in industry production functions and a dearth of reliable data on capital stock in some major industries. According to the data for manufacturing, which are relatively reliable,[10] TFP rose by 1 percent in 2003, further to its 2.9 percent decline in 2002 (Table 1.A.16). This means that the process of increasing productivity, which is required in order to make Israeli firms more competitive in both the domestic and the export markets, has not yet gathered momentum.

c. The effect of the Intifada on GDP

The Intifada was one of the main causes of the recession that has afflicted Israel since late in 2000.

The Palestinian uprising that erupted in the Territories in 2000:IV was among the main causes of the recession that has affected Israel since then. In contrast with violent conflicts in the past, the current one strikes at civilian centers of population and employment, and over time has changed living patterns. Initially, the Intifada had an adverse effect only on incoming tourism and exports to the Territories, as well as on the employment of Palestinian workers. The latter had severe repercussions on agriculture and construction, and the damage incurred by these industries from the start of the Intifada until the end of 2001 is estimated at NIS 12.2 billion, accounting for 2 percent of GDP (see Chapter 1, Bank of Israel, *Annual Report* 2001).

Figure 1.7
Israeli Fatalities in Terrorist Attacks, 2000–2003



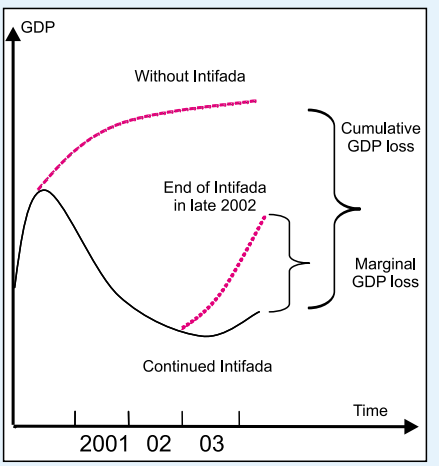
SOURCE: Counter-Terrorism Institute, Interdisciplinary Center, Herzliya.

The deterioration of the security situation in 2002 had a grave effect on the economy, and the loss is estimated at 3.1–3.8 percent of GDP.

As the conflict accelerated, its deleterious effects spread to additional spheres, first and foremost investment and private consumption. Contending with terrorism naturally requires an increase in the resources allocated to the security forces, and hence it contributed to the marked expansion of public consumption. The recession and the

[10] Z. Eckstein and H. Regev (1999), "Increasing Productivity in Israel's Manufacturing Industries, 1975–94," *Economic Quarterly,* 46 (2) (Hebrew).

Figure 1.8
GDP Loss Due to Intifada, Marginal and Cumulative, 2001–2003



SOURCE: Based on Central Bureau of Statistics data.

expanding budget deficit made it necessary to take steps that further hampered economic activity, and these combined with the negative effect of the security incidents. The damage caused by the Intifada in 2002, estimated from the aggregate uses side, ranges from 3.1 to 3.8 percent of GDP (see Box 1.1 in Chapter 1, Bank of Israel, *Annual Report* 2002). This expresses the marginal economic damage caused by the continuation of the Intifada for another year, but not the cumulative damage and the growth path that would have emerged if it had not erupted at all.[11] The gap between the cumulative assessments according to these two approaches is widening as the Intifada persists, as illustrated by Figure 8.

The loss of GDP due to the Intifada in 2003 is estimated at only 0.7–1.8 percent because of the relative security calm.

The loss of GDP due to the persistence of the Intifada in 2003 is estimated by comparing the actual situation with the one that would have emerged if the Intifada had been concluded at the end of 2002. We model this situation by means of two scenarios regarding the possible path of economic development after the end of the conflict with the Palestinians. The difference between the two scenarios expresses varying assessments of the implications of each termination of the conflict. According to our assessment, the loss of GDP in 2003 due to the Intifada amounts to 0.7–1.8 percentage points (Table 1.6). Since the assumptions regarding the expected development of all the aggregate uses were discussed in detail in the Annual Report of 2002, here we present only assumptions regarding inventory investment, public consumption, and exports—the three components whose development in 2003 requires their re-evaluation.

Investment in inventory: two developments characterized this in 2003—a sharp reduction in the first half of the year, apparently in connection with the war in Iraq, and the continued drawing down of stocks later in the year. The cessation of the Intifada in 2002 would not have prevented the first development, but it seems reasonable to assume that the business sector would subsequently have responded to the improvement in the security situation by accumulating stocks while preparing for the renewal of growth. We have therefore assumed that after a decline of about NIS 4.5 billion in the first half of the year, inventory investment would have risen by approximately NIS 1–2 billion by the end of the year.

[11] According to Z. Eckstein and D. Tziddon (2003), "The Macroeconomic Implications of Terrorism: Theory and Practice in Israel," (mimeo; Hebrew), the cumulative loss of GDP (until 2003:III) due to the Intifada is over 11 percent.

Table 1.6
The Effect of the Intifada on the Economy, 2003

(annual rate of change, percent)

		Without the Intifada[a]		Difference	
	Actual	Scenario A	Scenario B	Scenario A	Scenario B
Uses and sources					
Total domestic investment[b]	–13.4	1.8	–1.4	15.2	12.0
of which Nonresidential[b]	–5.3	7.0	5.0	12.3	10.3
Residential	–4.1	5.0	3.0	9.1	7.1
Private consumption	1.7	3.7	2.9	2.1	1.2
of which Excl. durables[b]	1.8	3.2	2.7	1.4	0.9
Durables[b]	–0.2	10.0	5.0	10.2	5.2
Public consumption	–1.8	–2.0	–2.3	–0.2	–0.5
of which Domestic defense expenditure	–2.0	–12.0	–10.6	–10.0	–8.5
Exports	6.1	8.7	7.2	2.6	1.1
of which Tourism services	16.8	40.0	25.0	23.2	8.2
GDP	1.3	3.1	2.0	1.8	0.7

[a] Under the assumption that the Intifada ended at the end of 2001.

[b] An econometric analysis of the effect of terrorist atacks (until end-2002) on the components of private consumption and investment (Samer Haj-Yehia (2003), "Terrorizing Consumers and Investors," MIT) shows that the expected response of these aggregates to the cessation of such attacks would be as follows: in the first year after the cessation of attacks, consumption excluding durables would rise by 1.5 percent, consumption of durables by 7.9 percent, and fixed investment by 5.5 percent.

SOURCE: Based on Central Bureau of Statistics data.

Security expenses in 2003 due to the Intifada are estimated at NIS 3–3.5 billion.

Public consumption: military activity in the Territories declined in 2003, and the estimated cost was NIS 1.5–2 billion (*less* alternative expenditure, such as training exercises not held). Additional expenses, e.g., building defenses for settlements in the Territories and along the Green Line, reinforcing the police and border police forces, hospitalization costs, compensation to victims and their families, etc., are estimated at over NIS 0.5 billion. The cost of erecting the security fence in 2003 amounted to NIS 1 billion. Thus, the security expenses incurred as a result of the Intifada exceeded NIS 3–3.5 billion. This estimate is based on the assumption that the cuts in defense expenditure in 2003 were made possible by the reduction of geo-political risks in the wake of the victory of the US and its allies in Iraq, and does not take the decline in the intensity of the Intifada into account. As regards public civilian consumption, it was assumed that if the Intifada had been concluded at the end of 2002 the budget deficit in 2003 would have deviated from the target, but by less than it actually did, so that the cuts in government expenditure would have been more moderate and public civilian consumption would have risen by 1–2 percent, after increasing by over 3 percent in 2001 and 2002.

[12] "Twenty-Seven Months: Intifada, Closures, and the Palestinian Economic Crisis: An Assessment," *Executive Summary*, The World Bank, September 2003. According to this assessment, per capita income in the Palestinian Authority plummeted by over 50 percent between 1999 and the end of 2003, and about 60 percent of the population is below the poverty line (defined as subsistence on approximately $ 2.1 a day per person).

Exports

Tourism: it is assumed that after plummeting in 2003:I due to the war in Iraq, incoming tourism would have recovered more rapidly, so that as an annual average there would have been a 25–40 percent increase, compared with the actual rise of 17 percent.

Exports to the Territories: because of the severe blow to the Palestinian economy,[12] interruptions to orderly commerce, and the refusal to buy Israeli goods on nationalistic grounds, exports to the Territories plunged during the Intifada. We assume that in the short run the extent of these exports will not return to the level evident before the Intifada.

The damage to Israel's exports arising from the Intifada was relatively great in 2003.

Nondiamond manufacturing exports: the damage to Israel's exports associated with the Intifada in 2003 was relatively substantial, as it also accounts for a dispute with the EU regarding the rules governing the labelling and taxation of these exports (indirect evidence of this is given in Figure 4). The gap that has emerged in the last two years between the rate of expansion of global demand and that of Israel's exports is also connected, at least in part, with Israel's unstable security situation. Purchasers abroad are apprehensive about obtaining supplies on a regular basis from Israel, contracts are not renewed because business-people are loth to visit Israel at times of security unrest, and there is little investment in a region which is characterized by ongoing conflict; the adverse effect of all these is estimated at 1–2 percent.

3. THE REAL EXCHANGE RATE, SAVING AND INVESTMENT

a. The real exchange rate

An examination of the various indices of the real exchange rate in 2003 yields a mixed picture (Table 1.7, Figure 1.9): while there was 2 percent appreciation in terms of export prices and the GDP deflator vis-à-vis the US, there was 1.9 percent depreciation in terms of import prices. It is therefore difficult to suggest an integrated explanation for the effect of the real exchange rate on economic activity. There does, however, seem to have been a trend reversal following the sharp depreciation of 2002. This could have been expected in view of the positive shift in economic activity,[13] but not with the intensity that actually occurred: the real appreciation that originated in increasing productivity is not consistent with the more rapid growth of the nontraded than the traded sector (Table 1.A.8).

According to indices of export prices and the GDP deflator vis-à-vis the US, there was real appreciation of 2 percent, whereas in terms of import prices there was real depreciation of 1.9 percent.

Hence, the main explanation for the real appreciation in 2003 is connected with nominal developments, namely, local-currency appreciation against the dollar and the decline in prices in Israel. Local-currency appreciation vis-à-vis the dollar was expressed in two ways: the reduction of export prices and capital inflow to Israel. The sharp depreciation of the dollar against the other main currencies made exports from the US

The main explanation for the real appreciation is connected with local-currency appreciation against the dollar and decline in prices in Israel—all of which were also affected by the influx of foreign investment.

[13] D. Romanov (2003), "The Real Exchange Rate and the Balassa-Samuelson Hypothesis: An Appraisal of Israel's Case Since 1986," Bank of Israel, Research Department, *Discussion Paper* 2003:09.

Table 1.7
The Real Exchange Rate and World Trade, 1986–2003

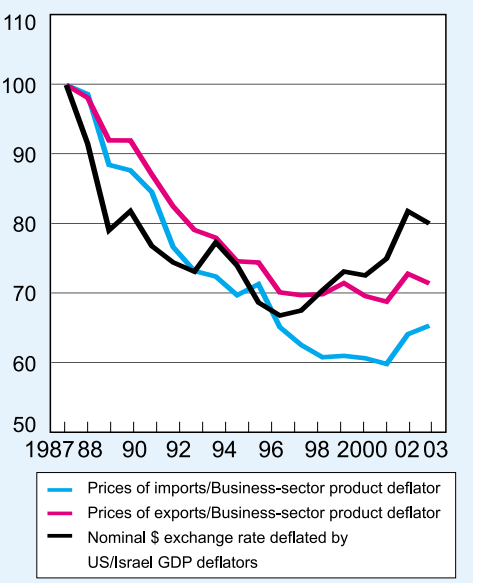
(rate of change, percent)

	1986–89	1990–95	1996	1997	1998	1999	2000	2001	2002	2003
Real exchange rate (export terms)[a]	–5.1	–3.5	–5.8	–2.7	0.2	2.3	–2.6	–1.2	5.8	–1.9
Real exchange rate (import terms)[b]	–6.8	–3.4	–8.6	–6.5	–2.8	0.3	–0.6	–1.4	7.2	1.9
Exchange rate adjusted by GDP deflator vis-à-vis US	–8.4	–2.9	–2.7	1.1	4.3	3.8	–0.8	3.3	9.1	–2.2
Nominal exchange rate vis-à-vis currency basket	16.9	9.6	3.5	4.3	9.6	8.3	–4.7	1.4	14.2	1.2
Terms of trade[c]	1.8	–0.1	3.2	4.1	3.1	1.9	–2.0	0.2	–1.3	–3.7
World trade, volume growth	6.4	5.9	7.0	10.4	4.4	5.8	12.6	0.1	3.2	2.9
World export prices	5.8	2.1	–1.9	–6.5	–5.8	–1.8	–2.0	–3.7	–0.1	–
World import prices	2.7	1.8	–1.5	–5.6	–6.6	–2.1	0.6	–3.7	–1.0	–

[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] Ratio of export prices (excluding diamonds) to import prices (excluding diamonds).
SOURCE: IMF, IFS, US Dept. of Commerce, Bureau of Economic Analysis, and based on Central Bureau of Statistics data.

and China (whose currency is pegged to the dollar) cheaper, and because of the share of these two countries in international trade this served to moderate global export prices. Israel's exports, which rose in 2003, especially those of the traditional and mixed technology industries, was doubtless affected by the global moderation of prices. As regards capital flows, in 2003 Israel benefited from the trend of expansion of foreign investment in emerging markets, because of the marked reduction in its country risk and relatively large interest-rate differentials (both nominal and real) between Israel and the advanced economies, despite the reduction in nominal interest. In these conditions, and given the decline in the GDP deflator due to the recession, local-currency appreciation against the dollar led to real appreciation.

Figure 1.9
Real Exchange Rate Indices, 1987–2003
(1986 = 100)



SOURCE: Based on Central Bureau of Statistics data.

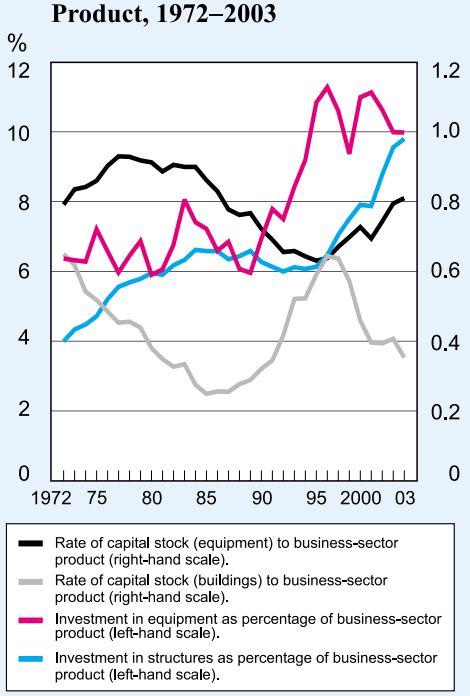
Despite the deterioration in the terms of trade, the trade deficit contracted because exports rose and imports declined; the current account deficit of the balance of payments almost disappeared.

Despite the deterioration in the terms of trade (a 3.7 percent decline in the export/import price ratio), nondiamond exports rose by 6.3 percent, compared with a 7 percent decline in 2002, while civilian imports dipped by 1.5 percent (a more moderate decline than in 2002, when they fell by 3.1 percent). As a result, the trade gap contracted, and the (net)

current-account deficit of the balance of payments was only $ 0.1 billion, compared with $ 1.4 billion in 2002 (Table 1.A.1.7). Since the expansion of nondiamond goods exports derived largely from a rise in the exports of the traditional and mixed technology industries—which are affected by the exchange rate to a greater extent than the high-tech industry because of small profit margins and fiercer price competition in the target markets—it seems that the real depreciation of 2002 was in fact behind the acceleration of exports due to the lengthy transmission mechanism. The revival of advanced industry exports (goods towards the end of the year, services throughout the year) was led by the acceleration of demand in this market segment, and the real exchange rate did not contribute much to this. This being the case, the appreciation of 2003 might moderate the expansion of traditional industry exports in 2004. It is to be hoped that this effect will be offset by the acceleration of high-tech exports, as the demand for these products increases.

b. Saving, investment and the current account

Figure 1.10
Composition of Ratio of Gross Capital Stock to Business-Sector Product, and Investment as Percentage of Business-Sector Product, 1972–2003



SOURCE: Based on Central Bureau of Statistics data.

The national saving rate fell for the fifth successive year, to reach 14.6 percent, compared with 15.8 percent in 2002 (Table 1.A.17 and Figure 1.11). Israel's saving rate has not been so low since the early 1980s, when the private saving rate was far higher,[14] while the public saving rate was then a negative 10 percent, compared with –4.1 percent in 2003. The expansion of the deficit in public saving from 2.1 percent to 4.1 percent caused the national saving rate to decline; the private saving rate rose in 2003 for the first time since 1999.

The decline in the national saving rate persisted, for the fifth consecutive year.

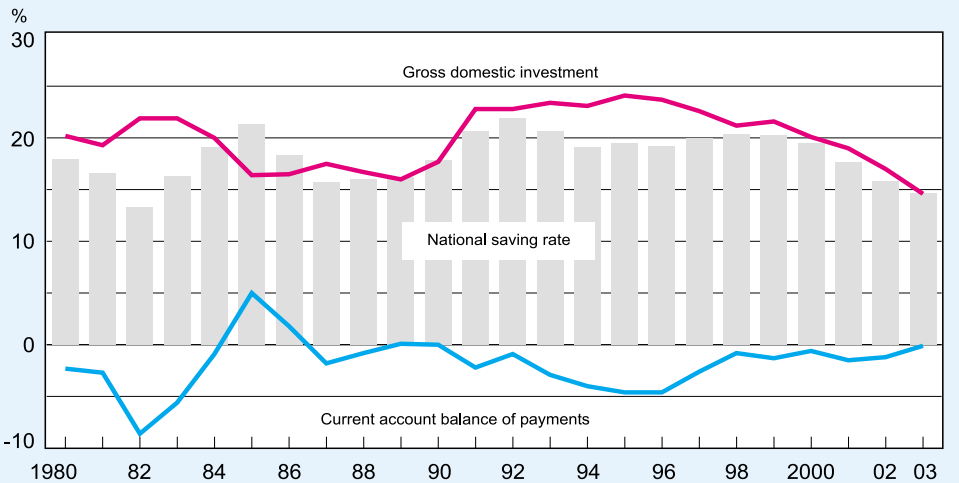
The expansion of private consumption in spite of the erosion of disposable wage income (Table 1.A.9) is surprising even after the consumption smoothing of 2002 (stability in private consumption alongside a 4 percent decline in disposable income). This may be explained by the public's expectations of the imminent conclusion of the recession due to the improvement in the security situation in Israel and abroad, especially in view of

The rise in private consumption, in view of the erosion of disposable wage income, expresses consumption smoothing; this is explained *inter alia* by individuals' expectations of an imminent end to the recession.

[14] After the bank shares crisis of 1983 the private saving rate contracted by one quarter, and stood at 20 percent, compared with 16.8 percent in 2003.

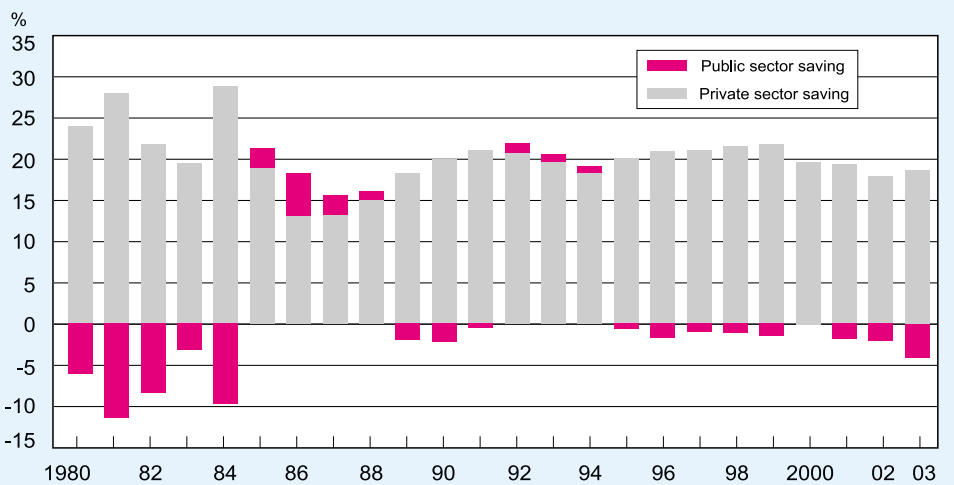
expectations that the tax burden would be eased. The increase in consumption may have been supported by the financial 'wealth effect,' due to the rise in share prices on the stock exchange (for example, the Tel-Aviv100 Index rose by 60 percent in 2003). The decline in the yield on secure savings channels due to the reduction of long- and short-term interest rates during the year, the taxation of this income from the beginning of the year, and the continuing decline in real-estate prices may also have served to divert the financial wealth of households to consumption.

Figure 1.11
National Saving Rate, Gross Domestic Investment, and Current Account Balance of Payments, 1980–2003 (percent of total national income, at official exchange rate)



SOURCE: Based on Central Bureau of Statistics data.

Figure 1.12
Gross National Saving Rate, By Sector, 1980–2003 (percent of total national income, at official exchange rate)



SOURCE: Based on Central Bureau of Statistics data.

Naturally, the expansion of private consumption did not extend to all segments of the population, and large parts of it, i.e., those with borrowing constraints, had to reduce both consumption and saving as a result of two years of wage erosion and notable cuts in transfer payments. Hence, in view of the increase in consumption and erosion of disposable wage income, the rise in the private saving rate stemmed from a marked expansion of saving by firms due to the improvement in firms' profitability and decline in the effective tax burden on profits (Table 1.5).

The rise in the private saving rate stems from the marked increase in saving by firms.

The gross domestic investment rate contracted by 2.4 percentage points, falling to 14.6 percent. This decline reflects a sharp fall in investment in inventory and a more moderate reduction in nonresidential investment, while the rate of residential investment stabilized, after a protracted decline.

The share of gross domestic investment in total income fell, continuing the trend evident since 1996.

Fixed investment as a share of GDP has been declining since 1995, when it was 26.2 percent, and in 2003 it reached 16.5 percent. Short-term factors, such as uncertainty regarding the rate of economic recovery in the coming years and expectations of a further decline in long-term interest, which will be beneficial to investment, combined with the long-term contractionary trend evident after the period of accelerated growth in the early 1990s (Figure 1.10 and Table 1.A.3). The high interest rate, the expression of the tight monetary policy during the period of disinflation, also contributed to this. The decline in investment and profitability is clearly reflected by the sharp drop in the return on capital (Table 1.A.1.10), which has been declining since 1996.

Fixed investment as a share of GDP continued to fall, and reached 16.5 percent; the contractionary trend developed after investment accelerated in the early 1990s, and was affected by the high interest rate prevailing during the disinflationary period.

Residential investment went down by 4.1 percent in 2003, after a cumulative 38 percent decline since 1997. Investment in nonresidential construction, which has also been declining since 1997, contracted by 9 percent in 2003. Although the downward trend was checked in 2002, when there was a transient rise in building starts and mortgages taken, these signs came to a stop and did not resume in 2003. Housing density, which constitutes a rough indication of the accumulation of 'suppressed demand' which could emerge once the conditions are right, did not rise exceptionally in the years of the recession (see section on construction later in this chapter). Moreover, a comparison between the rate of building starts and the number of new households in the last two years shows that they are nearly balanced. It would seem, therefore, that the stagnation in investment in construction derives primarily from slack demand. The ongoing decline in apartment prices also attests to this.

Residential investment declined by 4.1 percent, after a cumulative 38 percent reduction since 1997. Nonresidential construction investment contracted by 9 percent.

Table 1.8
Investment in Inventory, 1998–2003

(percent of business-sector product, current prices)

	1998	1999	2000	2001	2002	2003
Total investment in inventory	1.08	2.18	1.58	1.97	0.69	–2.44
Fuel	0.04	–0.02	–0.13	0.18	–0.36	0.08
Diamonds	–0.27	–0.24	–0.15	–0.30	0.18	–0.37
Total investment excl. fuel and diamonds	1.31	2.45	1.86	2.09	0.87	–2.15
of which						
Manufacturing	0.30	0.49	0.73	–0.46	0.02	–0.75
Other	0.36	0.40	–0.87	–1.04	–1.32	–2.86
Start-ups	0.63	1.57	2.06	3.57	2.18	1.47

SOURCE: Based on Central Bureau of Statistics data.

Investment in inventory plummeted.

Investment in inventory declined steeply in 2003 (Table 1.8), mainly in the first half of the year, though inventories continued to be drawn down later in the year despite the accelerated rise in imports of raw materials. Stocks in manufacturing and commerce were reduced, and the rate of investment in start-ups slowed. In general, inventory investment is subject to wide annual fluctuations, as it is via the inventories of the business sector that unexpected demand shocks are absorbed. In the course of normal business life it is reasonable to assume that the level of inventories will fall if a surge in demand is not expected, and rise if there are indications or expectations that the market will rally. Thus, in the first two years of the slowdown the rate of inventory accumulation in manufacturing and commerce slowed, and it is apparently for the same reason that inventories were drawn down at the beginning of 2003, when there was considerable uncertainty regarding the military campaign in Iraq. Inventory investment continued to contract in the second half of the year, however, when a positive shift in economic activity was evident.

The deficit on the current account contracted from 1.2 percent of total income in 2002 to 0.1 percent in 2003.

The current-account deficit contracted from 1.2 percent of total income in 2002 to 0.1 percent in 2003, due to a 2.4 percentage-point reduction in gross domestic investment (mainly in inventory), which was partly offset by the reduction in the national saving rate. Note that since the early 1970s the deterioration in the current account has generally been due to a greater rise in investment than in saving, while an improvement in it derived from an increase in saving. The trend of the last two years, when both saving and investment contracted and the deficit declined only because investment fell more steeply than saving, is unprecedented in the last thirty years.

4. THE PRINCIPAL INDUSTRIES

1. Main developments[15]

The improvement in the exports of the electronics industry during the year, and the rise in the exports of the traditional industry, served to expand manufacturing exports in general. Domestic sales and profitability remained low, and investment in manufacturing continued to decline.

In the first half of 2003 there was a turnaround in manufacturing activity: the industry's product began to rise, after three years of decline and stagnation, the reduction of labor input was checked, and exports began to expand. The shift stemmed from the recovery of global demand for the products of the electronics industry, which had been in recession since 2000, dragging the index of manufacturing production down. The improvement in the exports of this industry during the year, alongside the continued rapid expansion of exports of other industries, led to a turnaround in manufacturing exports as a whole. On the other hand, sales to the domestic market declined in 2003, despite the stabilization of domestic demand; this development reflects the persistent trend of substitution of imports for domestically-produced items. Manufacturing profitability remained low in 2003, mainly because of the low level of capital utilization and deterioration in the

[15] The following sections deal with business-sector product and productivity as measured in the principal industries (Table 1.A.1.11) and not from the uses side, as in the National Accounts—the measurement used in the first part of this chapter.