

## Chapter 3

# *Inflation and Monetary Policy*

- ◆ The Consumer Price Index rose by 2.4 percent in cumulative terms in 2005, more than in recent years but within the price-stability target range of 1–3 percent.
- ◆ The upturn in inflation in 2005 traced mainly to relatively rapid NIS depreciation against the dollar (after two years of appreciation) and the continued upward march of oil prices globally.
- ◆ Domestic demand and wage increases did not generate perceptible pressure on prices, despite the acceleration in growth. The restraining effect of prices that typified the past few years, however, has diminished and may even have passed.
- ◆ Monetary policy continued to strive for price stability and was supported by a fiscal policy that was aimed at reducing the budget deficit and the government debt, and that made the target attainable at relatively low interest rates.
- ◆ In the first two months of the year, in view of very sluggish price developments and below-target inflation expectations, the rate-cutting process continued. Subsequently, until September, the Bank of Israel key rate was left unchanged at a low 3.5 percent.
- ◆ Only in Q4, when forces auguring pressure on prices became visible, did the Bank of Israel begin to raise the rate and increased it by a total of one percentage point by the end of the year.

### 1. MAIN DEVELOPMENTS

The Consumer Price Index climbed in 2005 by 2.4 percent in cumulative terms, more than in recent years but within the price-stability target range of 1–3 percent (Table 3.1). The annual inflation rate began to increase in mid-year, after a lengthy period (since 1999, except for the first half of 2002) in which Israel's inflation rate had approximated the lower bound of the target and at times was negative (Figure 3.1).

The upturn in inflation in 2005 traced mainly to relatively rapid NIS depreciation against the dollar (after two years of appreciation) and the continued increase in global oil prices. In contrast, domestic demand and wage increases did not generate perceptible pressure on prices, despite the acceleration in growth. The restraining

The Consumer Price Index climbed by 2.4 percent in 2005 in cumulative terms, more than in recent years.

**Table 3.1**  
**Main Indicators of Inflation and the Monetary Policy, 2000–05**

	2000	2001	2002	2003	2004	2005
<b>A. Inflation<sup>a</sup> (percent)</b>						
1. Inflation target	3-4	2.5-3.5	2-3	1-3	1-3	1-3
2. Actual inflation	0.0	1.4	6.5	-1.9	1.2	2.4
3. One-year inflation expectations derived from the capital market <sup>b</sup>	2.5	1.9	3.3	2.0	1.5	2.0
4. Three- to nine-year inflation expectations derived from the capital market <sup>b</sup>	3.0	2.3	4.2	4.2	3.6	3.0
5. Forecasters' 1-year-inflation forecasts <sup>b</sup>	3.1	2.2	2.6	2.0	2.1	2.1
<b>B. Yields (percent)</b>						
1. Bank of Israel key interest rate <sup>b</sup>	9.3	6.8	6.8	7.5	4.2	3.7
2. Nominal interest rate in Bank of Israel auctions <sup>c</sup>	9.8	7.1	7.3	7.8	4.4	3.8
3. Expected real interest rate <sup>d</sup>	7.8	5.8	4.5	5.8	2.7	1.7
4. Nominal yield to maturity on unindexed government bonds <sup>e</sup>	8.5	6.8	9.2	8.0	6.6	5.5
5. Real yield to maturity on CPI-indexed government bonds <sup>e</sup>	5.8	4.9	5.0	4.9	4.0	3.3
<b>C. Depreciation of the NIS (percent)<sup>f</sup></b>						
1. Against the currency basket <sup>f</sup>	-6.3	3.7	14.2	-0.5	1.8	1.8
2. Against the dollar <sup>f</sup>	-2.7	4.8	9.8	-6.4	-1.2	6.2
3. Against the euro <sup>f</sup>	-13.7	4.2	25.5	12.7	8.0	-6.1
<b>D. Change in asset prices (percent)</b>						
1. Total (nominal) return on shares <sup>f</sup>	6.9	-15.4	-8.6	44.4	17.8	34.5
2. Apartment prices <sup>g</sup>	-8.2	-2.3	4.4	-5.2	-1.2	4.8
<b>E. The monetary aggregates (nominal rate of change, percent)<sup>f</sup></b>						
1. Money supply (M1)	7.5	15.4	4.9	7.7	17.9	24.1
2. Total credit (C3)	10.5	8.0	9.6	-3.0	2.0	3.7
<b>F. Actual budget deficit (percent of GDP)</b>						
1. Domestic deficit excluding credit granted	0.5	3.5	3.5	6.1	3.2	1.1
2. Total deficit excluding credit granted	0.7	4.4	3.8	5.6	3.8	1.9
<b>G. Other background data (percent)</b>						
1. Rate of unemployment <sup>d</sup>	8.8	9.3	10.3	10.7	10.3	9.0
2. Rate of GDP growth <sup>h</sup>	7.7	-0.3	-1.2	1.7	4.4	5.2
3. Share of total government debt in GDP <sup>i</sup>	88	93	102	104	103	100

<sup>a</sup> Change in CPI during the year.

<sup>b</sup> Annual average.

<sup>c</sup> Effective rate, in annual terms.

<sup>d</sup> Nominal rate of interest on Bank of Israel auctions minus inflation expectations, annual average.

<sup>e</sup> Annual average for all terms. Up to and including 2002, gross relative yield; from 2003, gross yield.

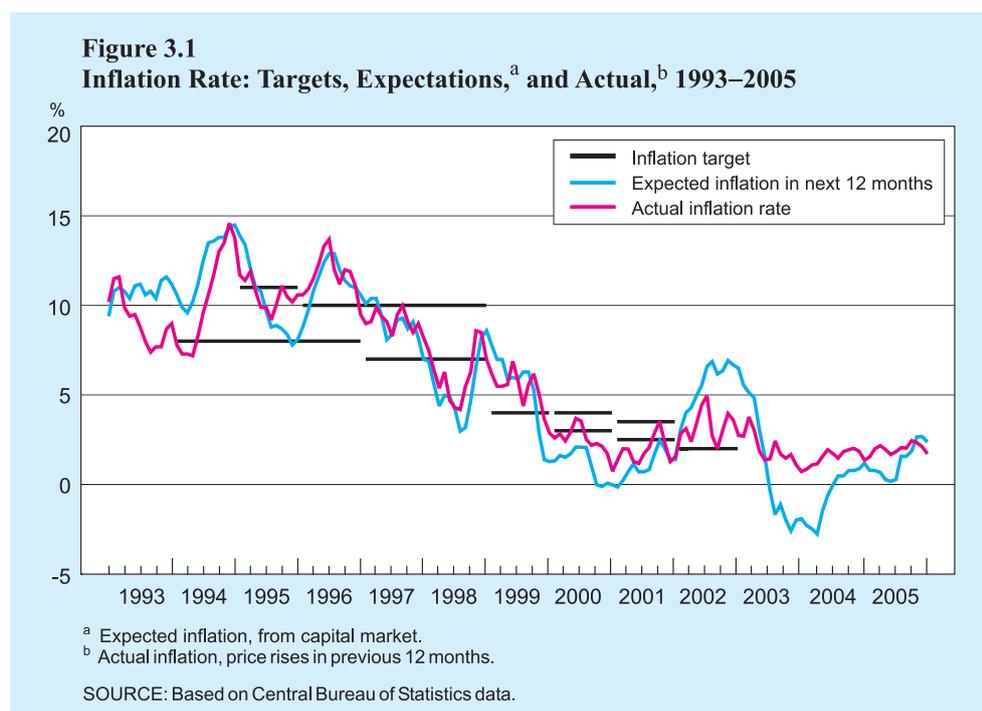
<sup>f</sup> December average vis-à-vis December average in previous year.

<sup>g</sup> According to the Central Bureau of Statistics Survey of Housing Prices.

<sup>h</sup> Annual average vis-à-vis that of previous year.

<sup>i</sup> End of year.

SOURCE: Based on Ministry of Finance and Central Bureau of Statistics data.



effect of prices that typified the past few years, however, has diminished and may even have passed.

The depreciation, which had an upward effect on prices of housing, imports, and import substitutes, was occasioned by the appreciation of the dollar in world markets and, as a result, against the NIS as well. Cumulative depreciation against the dollar was 7 percent during the year and 10 percent until the middle of November. Global factors aside, exchange-rate changes in 2005 were influenced by the continued narrowing of the NIS–dollar interest spread and the ongoing implementation of financial reforms, including the tax-rate equalization on investments in foreign and domestic securities. The exchange rate was also affected by short-term uncertainty factors, including uncertainty surrounding the disengagement plan, which had most of its effect near the end of the first half of the year. As opposed to the pro-depreciation forces, several forces eased the intensity of the depreciation, including the continued decline in Israel’s risk premium and stabilization of the premium at very low levels, the current-account surplus, and upward trends in global capital flows to emerging-market economies.

The NIS depreciation made a perceptible contribution to price increases in 2005, in view of the relatively high rate of depreciation and the large share (about 40 percent) of imported and import-substitute consumer goods in the consumption basket. The depreciation also affected housing prices, which contributed an estimated 1.2 percentage point to price increases in 2005.

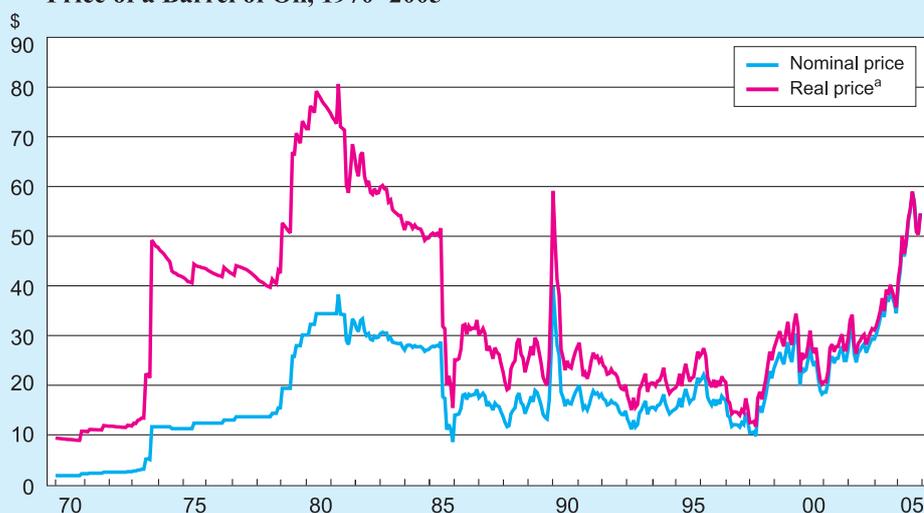
Global oil prices continued to rise for the third consecutive year due to a combination of stronger demand and inelastic supply. Oil prices were also affected in 2005 by

One reason for the upturn in inflation was depreciation of the NIS against the dollar, which had an upward effect on prices of housing, imports, and import substitutes.

Surging oil prices for the second straight year were another factor in inflation in 2005.

temporary disruptions of global production due to the hurricanes in the Gulf of Mexico, resulting in a spike in August and a gentle decline afterward (Figure 3.2). Despite the steady and steep increase in oil prices, the global economy continued to grow rather vigorously and global inflation rates net of energy prices remained low (Box 3.1). In Israel, too, the increase in oil prices did not have significant second-round effects and the inflation rate net of energy was actually below the middle of the target range. The direct contribution of energy prices (including electricity and gas) to inflation in 2005 is estimated at 0.6 percentage points.

**Figure 3.2**  
Price of a Barrel of Oil, 1970–2005



<sup>a</sup> Discounted for US Consumer Price Index, December 2005 prices.

SOURCE: Bloomberg.

### Box 3.1

#### The effect of oil prices on the global economy - is it going to escalate?

In this box we wish to answer two questions:

(a) Why has the increase in oil prices had only a gentle effect on the global economy so far?

(b) Will the effect become more serious if oil prices remain high?

Oil prices have been climbing steeply since May 2003. The reasons include ongoing tension in the Middle East, a steep upturn in demand for oil due to the surge in global growth (foremost in East Asian economies), and temporary disruptions of global supply.

A future increase in the price and price volatility of oil may slow global growth and spur inflation. Indications of these effects were visible in 2005 but the effects themselves were much weaker than in previous upsurges in oil prices. Although inflation rates in several developed countries rose, inflation

excluding energy prices remained low. Furthermore, the high oil prices have not led to large wage demands in developed countries thus far, and long-term inflation expectations have remained very low. Thus, despite the increase in overall global inflation, core inflation (excluding oil prices) has remained low and the increase in energy prices seems to have had no second-round effects to date.

Several factors may explain the relatively mild impact of the increase in oil prices on the global economy:

- The importance of oil in production processes has been declining saliently over time. The reasons include a changeover from capital-intensive to technological industries, proportional growth of the service sector in GDP, more efficient use of energy in production, and a changeover to oil substitutes.

- Due to the rising share of East Asia in global trade, the huge supply of goods from the east has been dampening the prices of goods, thereby offsetting some of the effect of the increase in oil prices.

- The increase in oil prices during the past two years was gradual and originated more in a steep upturn in demand for oil products than from disruptions in production, which usually had only a brief impact. In the 1970s, in contrast, oil prices rose swiftly due an abrupt cut in production by the OPEC countries; therefore, the price increase had a stronger impact on the economic confidence of the business and household sectors, as reflected in output and consumption.

- Inflation rates in the 1970s were higher than today and the credibility of monetary policy in regard to its goal of price stability was lower. Therefore, the increase in oil prices passed through to prices more quickly. In response, central banks, led by the Fed, had to apply a very tight monetary policy to bring inflation down. This policy contributed to a rather strong economic slowdown in 1973–1981.

- Due to the credibility of monetary policy and the stability of inflation expectations, it is harder for firms to roll the increase in energy prices onto customers and labor is less able to demand wage increases in response to the upturn in prices. These two factors stanch an inflationary eruption. For these reasons, and in view of the low rates of actual inflation and long-term interest, central banks were able to act prudently and adjust monetary policy to the changing environment gradually, thereby creating convenient conditions for continued growth.

- Despite the steep increase in prices, real oil prices are still below their historical peak.

Prices in forward contracts for oil indicate that no significant price decrease is foreseen in the medium term and that high oil prices will persist in the future. The reasons, evidently, are expectations of relatively strong growth in industrialized

and emerging-market economies—resulting in a continued increase in demand for oil—and the absence of expectations of a significant rise in production. If oil prices do remain high, their impact on the economy will probably grow. If they remain at their current high level, for example, temporary supply disruptions will probably have a stronger effect due to the sensitivity of the oil markets (as observed during the Gulf of Mexico hurricanes in 2005).

When high oil prices persist and are not expected to fall significantly, firms are more inclined to adjust their prices to the new price level and there is a greater likelihood of pass-through to the prices of other goods that use oil in their production processes. When firms expect the increase in oil prices to be transitory, in contrast, they usually tend to absorb the increase because price adjustments also come at a cost. The combination of continued upturns in oil prices and second-round effects may raise inflation expectations and prompt labor to seek wage adjustments. Consequently, there will be greater concern about the possibility that the increase in oil prices will lead to an inflationary outbreak. In the event of concern about a surge that will carry the inflation rate beyond the desired level, monetary policy should take more restrictive actions—which, in turn, may impede growth.

The financial markets remained stable and inflation expectations settled at around the middle of the price-stability target, despite steep increases in the share market in the second half of the year and relatively steep currency depreciation. The market stability stood out in view of the continued narrowing of the NIS-dollar interest spread, the continued steep and protracted increase in oil prices, and expectations of a tighter monetary policy both abroad and in Israel. Due to the credibility of the macroeconomic policy, the effect on the domestic markets of domestic events, political and other, was short-lived and did not upset stability. Conspicuous events during the year included (in order of occurrence) opposition to the disengagement, the resignation of the Minister of Finance, serious natural disasters in the Gulf of Mexico, and domestic political developments in Q4, which ultimately caused the elections to be moved up.

Monetary policy continued to strive for price stability within the bounds of the government's long-term target (of 1-3 percent) and was supported by a fiscal policy that aimed at reducing the budget deficit and the government debt and made the target attainable even at relatively low interest rates. In the first two months of the year, in view of very sluggish price developments and below-target inflation expectations, the rate-cutting process that began in early 2003 continued (Table 3.2). In subsequent months until September, the key rate was kept unchanged at a low 3.5 percent, in the belief that at this rate it would be possible to position inflation firmly in the middle of the target range. Only in Q4, after forces applying pressure on prices came into sight,

did the Bank of Israel adopt a policy of rate hiking. After cumulative increases of 1 percentage point, the key rate ended the year at 4.5 percent. (For a detailed description of the policy and the considerations behind it, see section 2 below.)

**Table 3.2**  
**Nominal and Real Interest Rates, Inflation Expectations, and Price Increases, 2000–05**

	Bank of Israel key interest rate	Nominal monetary interest rate <sup>a</sup>	1-year inflation expectations		Expected real interest <sup>c</sup>	Real yield to maturity on CPI-indexed bonds <sup>d</sup>	Change in CPI	
			From capital market <sup>b</sup>	Forecasters' average			During period <sup>e</sup>	Monthly <sup>f</sup>
Period average, percent								
2004								
January	4.8	5.0	0.9	1.5	4.1	3.8	-2.3	-2.4
February	4.5	4.7	1.1	1.7	3.5	3.9	-2.5	2.4
March	4.3	4.5	1.2	1.7	3.3	4.0	-2.7	-1.2
April	4.1	4.3	1.6	2.1	2.7	4.0	-1.5	14.1
May	4.1	4.3	2.0	2.6	2.3	4.0	-0.6	4.9
June	4.1	4.3	1.7	2.3	2.5	4.0	0.0	0.0
July	4.1	4.3	1.5	2.0	2.7	4.0	0.5	-2.4
August	4.1	4.3	1.9	2.4	2.4	4.0	0.5	2.4
September	4.1	4.3	2.0	2.5	2.3	3.9	0.8	-2.4
October	4.1	4.3	2.0	2.4	2.2	3.8	0.8	0.0
November	4.1	4.2	1.9	2.2	2.3	3.8	0.9	-1.2
December	3.9	4.1	1.4	2.0	2.7	3.7	1.2	1.2
2005								
January	3.7	3.9	1.6	2.0	2.3	3.6	0.8	-6.9
February	3.5	3.7	2.0	2.2	1.6	3.2	0.8	2.4
March	3.5	3.7	2.2	2.1	1.5	3.1	0.7	-2.4
April	3.5	3.7	2.0	2.1	1.6	3.2	0.3	8.7
May	3.5	3.7	1.7	2.2	2.0	3.2	0.2	3.6
June	3.5	3.7	1.9	2.0	1.8	3.2	0.3	1.2
July	3.5	3.6	2.1	2.3	1.5	3.2	1.6	13.9
August	3.5	3.6	2.1	2.1	1.5	3.0	1.6	2.4
September	3.5	3.6	2.5	2.0	1.1	2.8	1.9	1.2
October	3.75	3.9	2.4	2.2	1.5	3.0	2.7	9.8
November	4.0	4.1	2.1	2.2	1.9	3.3	2.7	-1.1
December	4.5	4.6	1.7	1.9	2.8	3.6	2.4	-2.3

<sup>a</sup> Effective interest; in annual terms.

<sup>b</sup> Until 2002 expectations were calculated from relative gross yields; since 2003, from gross yields.

<sup>c</sup> Nominal interest rate on Bank of Israel auctions minus inflation expectations.

<sup>d</sup> Averages for all maturities; up to and including 2002—relative gross, and from 2003—gross.

<sup>e</sup> Change over the same month in the previous year.

<sup>f</sup> In annual terms.

SOURCE: Monetary Department, Bank of Israel and Central Bureau of Statistic data.

Economic growth continued—GDP expanded by 5.2 percent and business-sector product by 6.6 percent.

The rapid economic growth that began in the second half of 2003 accelerated in 2005. Gross Domestic Product increased by 5.2 percent and product of the business sector advanced by 6.6 percent. However, in contrast to growth in 2004, which was largely export-oriented and supported by a rapid increase in global trade and stronger demand for high-tech products, growth in 2005 was more balanced and included all components of domestic uses—private consumption, public consumption, and gross investment. Although the pace of export expansion slowed, exports, especially of high-tech industries, continued to figure importantly in the economic recovery and were able to continue growing due to the continuation of strong global growth. The continued GDP growth was also abetted by the relative absence of security tension and a macroeconomic policy that allowed the government to lower the deficit and the debt/GDP ratio amid continued price stability and financial stability at relatively low real interest rates. (See expanded discussion in Chapter 2.)

Despite the rapid growth rates, demand-side pressure on prices was not yet evident.

The rapid growth rates gradually reduced the excess production capacity that had built up during the recession years. This factor, coupled with the increase in the proportion of domestic uses in growth, helped to exhaust the effect of the GDP deflator on domestic prices in recent years. Despite rapid GDP growth and the change in its composition, demand-side pressure on prices was not yet evident, mainly because of the stage of the business cycle in which the economy was positioned; the excess production capacity that still existed allowed GDP to respond rapidly to an increase in demand without a significant buildup of pressure on prices.

On the wage-cost side, too, there was no perceptible pressure on prices.

Wage increases, too, did not generate perceptible pressure on prices, even though wages in both general government and the business sector rose more vigorously in 2005 than in recent years. Despite the increase in wages, nominal labor cost per unit of GDP declined moderately in 2005 for the third consecutive year of decrease, due to the upturn in productivity that usually typifies the emergence from a recession. The productivity growth was composed of a steep upturn of nominal product and a modest pace of hiring, abetted by efficiencies that firms made during the recession years and by structural reforms.

In contrast, the prices of imported intermediates increased substantially in 2005 due to the increase in fuel prices. This contributed to an increase in firms' production costs, even though the share of oil in firms' production costs has been declining considerably due to more efficient energy use and changeover to oil substitutes. Another indicator that may attest to an increase in firms' production costs was a 4.3 percent cumulative increase in industrial output (wholesale) prices, not including fuel, after brisk increases in the previous three years. The high rates of increase in wholesale prices, surpassing the Consumer Price Index, may be indicative of a future upturn in the rate of increase of consumer prices, although the existence of a correspondence between wholesale prices and consumer prices is not clear. (See Bank of Israel, Recent Economic Developments, no. 109.)

In view of the steep and protracted increase in oil prices and relatively strong rates of GDP growth, 2005 was a year of expectations of an increase in interest rates around

the world. The US key rate (hereinafter: the Fed rate) was raised gradually to 4.25 percent in December as against 2.25 percent at the end of 2004 and only 1.0 percent at the end of 2003.<sup>1</sup> The eurozone rate, too, was raised to 2.25 percent at year's end after more than two years without change. The hiking of short-term interest rates was reflected in only a mild increase in long-term interest rates, which are set in the financial markets. Moreover, global inflation expectations remained low, probably due to the awareness that central banks were committed to the maintenance of price stability and due to an abundant supply of goods from East Asian countries, foremost China, which dampened prices of goods and offset some of the effects of the increase in oil prices. These factors in the aggregate allowed central banks around the world, led by the Fed, to raise their rates gently and gradually. This, in turn, permitted the Bank of Israel to continue lowering its rate in the first two months of the year and to hold the rate at the resulting low level until September. Only when signs of a buildup of pressure on prices gathered strength during Q4 did the Bank of Israel set a rate-hiking process in motion, but this, too, was moderate and gradual (until the relatively large increase in December, as described in detail below).

The year was noted for expectations of higher interest rates around the world.

**Figure 3.3**  
Israel's Risk Premium as Measured  
by CDS Spread, till 2006



SOURCE: Based on Ministry of Finance data.

The NIS-dollar interest spread continued to narrow during the year and fell to zero for the first time in August, due to continued rate increases by the Fed without corresponding increases by the Bank of Israel. The contraction of the interest spread between Israel and the rest of the world, in the absence of a concurrent increase in the exchange rate, reflected the decline in Israel's risk premium due to the credibility of its macroeconomic policy and an improvement in national security (Figure 3.3). In September, the interest spread became negative and the pace of depreciation accelerated slightly, as it continued to do even when the Bank of

The NIS-dollar interest spread continued to narrow.

Israel began to raise its rate in October. The depreciation that occurred at that time may indicate that the interest spread between Israel and the rest of the world had fallen to an especially low level that did not properly reflect Israel's risk premium. Only upon the relatively large domestic rate increase for December (half a percentage point), coinciding with depreciation of the dollar in foreign markets, did the NIS stop losing ground and undergo some appreciation.

Despite the relatively steep depreciation in 2005, foreign-currency trading was generally stable even though exchange-rate volatility increased somewhat. The NIS

<sup>1</sup> Since July 2004, the Federal Reserve has raised its key rate 13 times, by 0.25 percentage points on each occasion.

Despite relatively steep depreciation, forex trading was usually stable amidst a slightly increase in exchange-rate volatility.

lost more ground against the dollar than the currencies of other emerging-market economies did but less ground than the currencies of developed economies. Despite the upturn in exchange-rate volatility, the implicit standard deviations derived from trading in NIS-dollar options remained very low (except for short-term increases that coincided with specific events), reflecting a relatively low level of exchange-rate risk.

The NIS depreciation—coupled with continued rate-cutting by the Bank of Israel in the first two months of the year, the maintenance of a stable low rate until September, and the rapid increase in demand—caused one-year-ahead market inflation expectations to rise gradually, from under the middle of the target range at the end of 2004 to the middle of the range or slightly higher at the beginning of 2005 (Figure 3.4). Expectations gradually sank to the middle of the range in Q4, when the Bank of Israel began to raise the rate, and fell below that level in December. The decline in inflation expectations amid rate increases is a manifestation of the credibility of monetary policy.

The share of public expenditure in GDP continued to decline and the credibility of fiscal policy became much firmer. (See expanded discussion in Chapter 6.) This was supported by the government's compliance with its deficit and expenditure targets and the continued decline in the debt/GDP ratio. The deficit in 2005 was 1.9 percent of GDP, far below the 3.4 percent deficit planned in the budget and much lower than the 3.9 percent and 5.6 percent deficits that were amassed in 2004 and 2003, respectively.

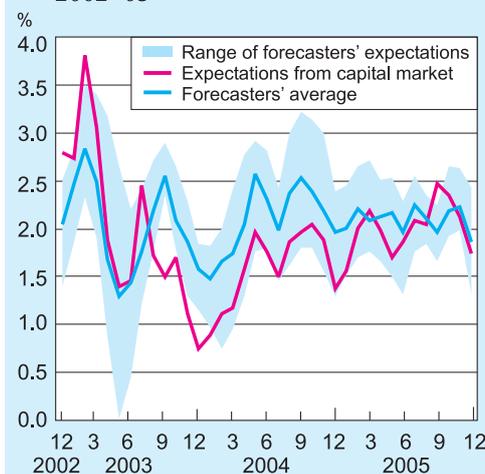
While slashing its deficit, the government continued to proceed with important structural reforms—chiefly the completion of legislation related to the Bachar reform, continuation of the pension reform, and reforms in taxation—and sped up the privatization process, using all privatization revenues to reduce its deficit.

The combination of the steep decrease in the government deficit and accelerated privatization reduced the government's borrowing needs and abetted the continued decline of bond yields throughout the first half of the year. The decrease in yields during this time, furthered by the decline in yields abroad (except in March), helped to reduce financing costs not only for the government but also for the private sector, which uses government bond yields as a benchmark. The contraction of domestic borrowing by the government also freed sources for the business sector's financing

The share of public expenditure in GDP continued to decline in 2005 and the credibility of fiscal policy solidified perceptibly.

The steep decrease in the government deficit, coupled with accelerated privatization, reduced the government's need to raise capital and abetted the continued decline in market yields.

**Figure 3.4**  
Inflation Expectations for 12 Months Ahead Derived from Capital Market and Forecasters' Expectations, 2002–05



SOURCE: Based on forecasters' reports.

needs and expedited the development of nonbank credit sources for the same purpose. In the second half of the year—mainly in Q4—the downturn of yields slowed and an upturn ensued under the influence of the increase in political uncertainty toward year's end, the Bank of Israel's rate hikes<sup>2</sup>, and an increase in yields abroad. (See expanded discussion in Chapter 4.)

The escalation of political uncertainty, against the background of very low interest spreads between Israel and the rest of the world, joined forces with an increase in actual inflation to necessitate a relatively strong interest response at year's end in order to maintain stability.

The continuation of rate-cutting at the beginning of the year, coupled with the increase in inflation expectations from under the lower bound of the target range at the end of 2004 to the middle of the range or slightly above it in September, was reflected in a corresponding decline in real expected short-term interest for Bank of Israel sources—from 2.7 percent at the end of 2004 to 1.1 percent in September 2005. Only later in the year, when the rate was raised and inflation expectations were dampened, did real expected interest begin to rise gradually again, coming to 2.8 percent in December. Even this rate, however, was relatively low in view of the acceleration of growth in the past two years and the gradual contraction of excess production capacity.

Liberalization and the structural reforms in recent years have opened the domestic economy to the rest of the world and made the economy more sensitive to global developments. For example, because the foreign-currency market is allowed to operate freely, with no intervention by the Bank of Israel in trading and no restrictions on capital flows, the domestic exchange rate has become more sensitive to global exchange-rate trends and capital flows to emerging-market economies. The changes in domestic yields, including those in the bond markets, also correlate strongly with yield trends in international markets. However, despite the growing strength of cross-border relations and dependency on global markets, the domestic markets are affected primarily by the credibility of macroeconomic policy—a factor that, among other things, influences the risk premium and, in turn, capital inflows. The solidification of policy credibility during the past two years made it possible to lower the interest spread between Israel and the rest of the world to unprecedented levels, reflecting a decline in domestic risk.

## 2. MONETARY POLICY IN 2005

Since 1992, monetary policy in Israel has been operating under a regime of government-set inflation targets. Until 2000, the inflation targets were short-term and susceptible to occasional adjustments. Since 2001, however, the targets have been multiyear and the target since 2003 has been long-term price stability within a 1–3

<sup>2</sup> The Bank of Israel interest rate affects primarily short-term nominal yields.

percent range. The establishment and announcement of a multiyear inflation target makes monetary policy more transparent and credible by reflecting consistency and a long-term commitment to price stability. Furthermore, such a target pegs inflation expectations to the bounds of the range (as has been the case in Israel in recent years), making the target easier to attain.

The main tool that the Bank of Israel uses to attain the inflation target is the monetary lending rate. By adjusting this rate, the Bank controls the short-term price of money and influences the inflation rate along several channels—aggregate demand, inflation expectations, and the exchange rate.

To determine the desired interest rate, the Bank of Israel monitors a series of indicators from the capital, financial, and foreign-currency markets, as well as macroeconomic data on inflation and real activity. Using these indicators along with discretion based, among other things, on econometric models, the central bank determines each month the most appropriate interest rate for the attainment of the inflation target during the current year and the two following years. When the interest-rate tool is used, a maximum effort is made to avoid abrupt interest changes (i.e., the interest rate is “smoothed”) because such changes may lead to severe volatility in the exchange rate, inflation expectations, actual inflation, and real activity, and may also upset financial stability. Interest smoothing also allows the central bank to continually test the public’s response to interest changes and to adjust its policy accordingly.

In the first two months of 2005, the Bank of Israel continued to lower the monetary interest rate, having begun doing so in December 2004 after a hiatus that had started at the beginning of the second quarter of 2004. The rate cuts were resumed in view of severely subdued price developments and market inflation expectations below the middle of the target range. The continued decline of bond yields also suggested continued rate-cutting, as did indicators from the foreign-currency market that pointed to continued stability. These factors convinced the Bank of Israel that a lower interest rate was needed to bring inflation back to the middle of the target range; therefore, the central bank lowered the rate by 0.2 percentage points in January and again, by the same increment, in February. Including the rate cut for December 2004, the cumulative decrease was 0.6 percentage points, bringing the rate at the end of February to a historically low 3.5 percent.

The Bank of Israel suspended the rate-cutting process in March–September 2005. In March and April, it left the rate unchanged as inflation expectations stabilized at around the middle of the target range, the downward trend of yields in the financial markets stopped, and the rate of real expected interest was low. Observing these trends, the Bank believed that the chosen rate of interest was the right one for the attainment of the target. Its conviction was supported by the growth data for 2004 and early 2005, which indicated faster growth than had initially been estimated. It was also necessary to stop the rate-cutting process in order to test the cumulative effect of the three consecutive reductions that had been made, especially since the NIS–dollar interest spread had been narrowing and was expected to continue doing so because of expectations of further rate increases in the US.

In the first two months of 2005, the Bank of Israel continued to lower the key rate amidst very sluggish inflation and inflation expectations that fell below the middle of the target range.

In March–September, the interest rate was held at a low rate of 3.5 percent in the belief that at this rate inflation could be secured at the middle of the target range.

The inflation rate climbed gently in Q2, although, due to the price decreases in Q1, the cumulative inflation rates from the beginning of the year and during the previous twelve months remained very low. Moreover, inflation estimates for the year had fallen slightly and some forecasters projected inflation at slightly lower than the middle of the target range. Market yields began to decline again and foreign-currency trading remained placid, suggesting a low level of exchange-rate risk. However, after the NIS–dollar interest spread narrowed to 0.5 percentage points in June and was expected to continued contracting due to additional foreseen rate hikes in the US, the Bank of Israel left its rate unchanged in May and June.

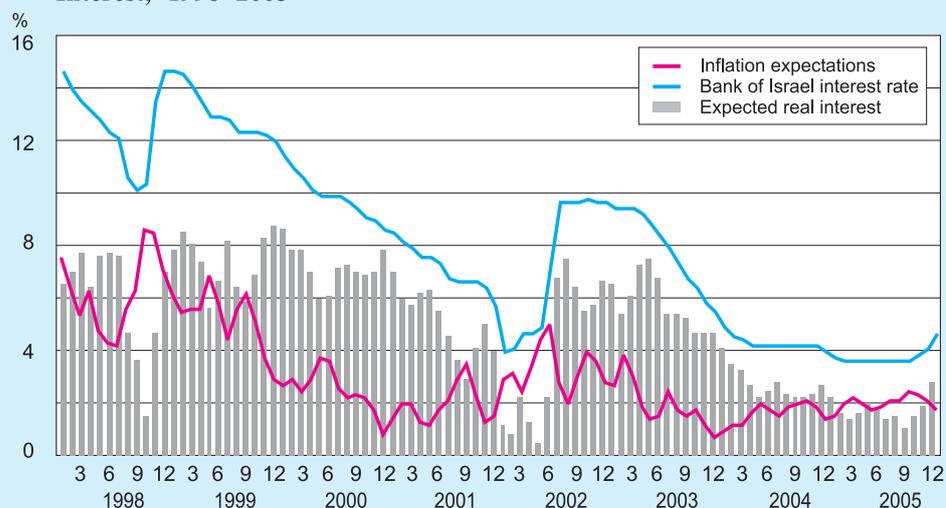
Late in Q2 (second half of May to early July), the cumulative rate of depreciation accelerated to 5.6 percent, including 3.6 percent in June alone. The depreciation during this time, although supported by the appreciation of the dollar around the globe, was aggravated by heightened foreign-currency purchases by households amid growing concern about difficulties in carrying out the disengagement plan. Despite the depreciation, inflation expectations did not rise and the trends in the financial markets remained favorable, although uncertainty in the foreign-currency market surged briefly. Despite the large depreciation and its expected effect on future price developments, the Bank of Israel believed that the interest rate that it had set was appropriate for the attainment of the inflation target, in consideration of the moderate price increases since the beginning of the year and inflation expectations that were positioned around the middle of the target range. Therefore, it left the interest rate for July unchanged.

In July, the foreign-currency market became increasingly jittery even though the NIS appreciated during the month. Nominal yields stopped trending down and yields abroad climbed. Political uncertainty escalated due to a surge in protest actions against the impending disengagement. Despite the increase in political uncertainty and the continued narrowing of the NIS–dollar interest spread, inflation expectations hardly advanced and remained around the middle of the target range. For these reasons, the Bank of Israel decided to leave its interest rate unchanged in August as well.

In late August, there were increasing indications of a buildup of pro-inflation forces—including the unexpectedly high July CPI and a level of economic activity that proved substantially higher than had been estimated, reflecting an increase in domestic demand. The combination of an upturn in domestic demand and contraction of excess production capacity due to rapid growth is liable to generate pressure on prices later on. Furthermore, it was increasingly believed that the Fed rate would be raised to levels higher than had been estimated previously in response to rapid US growth data, and oil prices continued to spiral upward due to disruptions of global production occasioned by the Gulf of Mexico hurricanes. Despite all these factors, the domestic capital market remained stable against the background of the successful culmination of the disengagement process. Standard deviations in the foreign-exchange market receded, depreciation was mild, and bond yields came down again. For all these reasons, the Bank of Israel left its key rate unchanged in September, too, even though the Fed’s rate hikes had closed the NIS–dollar yield spread.

Indications of upward pressure on prices gathered strength in September and October. One-year-ahead inflation expectations exceeded the middle of the target range, the currency continued to depreciate from early September, and oil prices remained very high despite a slight decline. The financial markets also signaled increases in uncertainty and expectations of a rate hike. The downward trend of bond yields stopped and turned around. The decline of real expected interest to historically low levels also signaled the need to raise the nominal rate, chiefly in view of almost two and a half years of relatively rapid economic growth and gradual contraction of excess production capacity (Figure 3.5). For these reasons, coupled with the NIS-dollar interest spread (which became negative in September) and expectations of continued rate hiking abroad, the Bank of Israel decided to raise its rate for October and November by 0.25 percentage points each month. The increases were relatively mild, since the foreign-currency market remained calm and the fiscal policy sent a message of credibility.

**Figure 3.5**  
**Bank of Israel Interest Rate,<sup>a</sup> Inflation Expectations<sup>b</sup> and Expected Real Interest,<sup>c</sup> 1998–2005**



<sup>a</sup> The effective rate of interest in Bank of Israel auctions.

<sup>b</sup> For 12 months, derived from the capital market.

<sup>c</sup> Bank of Israel interest rate minus inflation expectations.

SOURCE: Bank of Israel.

Indications of the emergence of pressure on prices mounted during Q4. Accordingly, the Bank of Israel raised its rate by a quarter percentage-point in October and in November, and by a half percentage-point in December.

Despite the two rate hikes, estimates of an upward trend in inflation proliferated by mid-November, including expectations of a slight overshooting of the upper bound of the target in the first months of 2006. Evidence in support of this belief included the continued depreciation, which came to 10 percent in cumulative terms from the beginning of the year to the middle of November; the continued rapid economic growth; and the upward trend of global inflation rates. Although one-year-ahead market

inflation expectations and forecasters' estimates were receding toward the middle of the target range, they continued to reflect expectations of continued rate hiking. For all these reasons, coupled with the upturn in political uncertainty toward year's end—which eventually led to a decision to move up the elections—and expectations of continued rate hiking abroad, the Bank of Israel raised its key rate for December by a larger increment, 0.5 percentage points.

After three consecutive rate increases that amounted to 1 percentage point, the monetary lending rate in December stood at 4.5 percent—still lower than the typical rate in recent years. The future path of domestic interest rates depends mainly on the behavior of inflation and the credibility of macroeconomic policy. However, it also hinges strongly on global exchange-rate trends, which depend on global rates of growth and inflation.

The key rate for December climbed to 4.5 percent.

### 3. BACKGROUND FACTORS IN MONETARY POLICY

#### a. Fiscal policy

The government's budget policy played an important supportive role in the price stability and low-interest environment that prevailed in 2005. The government continued to restrain its expenditure (notwithstanding nonrecurrent expenditure for the disengagement) and to lower taxes. The combination of spending restraint and tax revenues that corresponded with the budget plan (despite the tax cuts) allowed the government deficit to contract steeply again in 2005. The resulting deficit was 1.9 percent of GDP, perceptibly lower than the programmed deficit—3.4 percent—and smaller than the 3.8 percent and 5.6 percent deficits amassed in 2004 and 2003, respectively. (For an expanded discussion, see Chapter 6.)

The government's budget policy made an important contribution to price stability and the low-interest environment in 2005.

The government continued to promote important structural reforms, including the completion of legislation related to the Bachar reform, continued application of the pension reform, and tax reforms such as the tax-rate equalization of all capital income, including that from investments in foreign securities. The privatization process gathered momentum in 2005 and the resulting receipts were used to reduce the government debt. Privatization actions included the sale of the government's shares in Israel Discount Bank and some of its holdings in Bank Leumi le-Israel, as well as the privatization of Bezeq.

The combination of a smaller deficit and the privatization receipts allowed the government to continue reducing the amount of capital that it had to raise in order to finance the budget. Thus, total net capital raised fell to NIS 4.7 billion in 2005 as against NIS 20 billion in 2004 and domestic issues were negative, at NIS 2.2 billion in net payback as opposed to NIS 12 billion in net issues in 2004 and more than NIS 20 billion in 2002–03 (Table 3.3). This change in direction, along with the discontinuance of earmarked-bond issues for pension funds and the referral of these funds to the

The combination of a smaller deficit and larger privatization receipts allowed the government to continue reducing the amount of capital that it had to raise in order to finance the budget.

tradable market, contributed to a decline in bond yields to historically low levels and continued rapid development of nonbank sources of credit for the business sector.

**Table 3.3**  
**Government Borrowing, 2003–05**  
(NIS billion)

	2003	2004	2005				Total annual borrowing in 2005
			I	II	III	IV	
<b>Borrowing on domestic market</b>							
Total domestic borrowing, gross	57.5	39.8	11.2	12.6	7.7	4.4	35.9
Total domestic repayment	35.1	27.8	7.8	16.5	5.7	8.1	38.2
Total domestic borrowing, net	22.4	12	3.4	-3.9	2.0	-3.7	-2.2
<b>Borrowing abroad</b>							
Total borrowing abroad, gross	19.9	17.9	5.1	2.9	2.5	6.8	17.3
Total repayment abroad	13.3	10.1	1.7	3.8	1.8	3.1	10.3
Total borrowing abroad, net	6.6	7.8	3.4	-0.9	0.6	3.7	6.9
<b>Total net borrowing, domestic and abroad</b>	29	19.8	6.8	-4.8	2.6	0.0	4.7
<b>Privatization proceeds</b>							
Privatization abroad	0.0	0.0	0.0	0.0	0.0	1.3	1.3
Domestic privatization	0.3	1.0	1.2	0.0	0.6	6.7	8.6
Total privatization proceeds	0.3	1.0	1.2	0.0	0.6	8.0	9.8
<b>Deficit (-)/surplus (+)</b>							
Domestic	-26.6	-17.4	3.7	-2.5	-1.0	-6.3	-6.1
Abroad	1.1	3	0.0	-2.5	-0.8	-1.4	-4.6
Total	-27.7	-20.4	3.7	-4.9	-1.8	-7.7	-10.8
<b>Absorption (+)/injection(-)<sup>a</sup></b>	-3.9	-4.4	8.3	-6.4	1.6	-3.3	0.2

<sup>a</sup> The domestic deficit plus domestic borrowing and domestic privatization proceeds.

SOURCE: Based on Ministry of Finance data.

The combination of less government borrowing and faster economic growth abetted the continued decline in the government debt/GDP ratio, from 103 percent at the end of 2004 to 100 percent a year later (Table 3.1). Despite the decrease, Israel's debt/GDP ratio remains much higher than the standard among developed countries and forces the government to spend much of its budget sources on interest, thereby leaving it with less flexibility in directing more sources to growth-conducive channels such as infrastructure investment.

The decline in the government deficit, the acceleration of privatization, and the advancement of structural reforms cemented the credibility of fiscal policy and helped the Bank of Israel to maintain price stability at very low interest rates.

### b. The foreign-currency market, capital flows, and import prices

During the review period, the NIS depreciated at a cumulative rate of 6.8 percent against the dollar and by 1.7 percent against the basket of currencies, after 9 percent cumulative appreciation against the dollar in the preceding two years (Figure 3.6). The exchange rate behaved unevenly during the year: in March–July and September–November, the NIS lost ground as the dollar appreciated around the globe; in the other months it appreciated in tandem with dollar depreciation in the rest of the world.

Apart from the global forces, the exchange-rate changes in 2005 were affected by the continued narrowing of the NIS–dollar interest spread and the

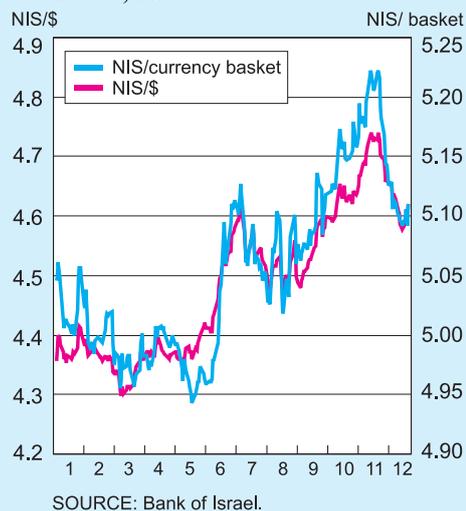
continued implementation of structural reforms, including the tax-rate equalization of investments in foreign and domestic securities. The exchange rate was also affected by short-term uncertainty factors, including the uncertainty surrounding the disengagement plan—the main impact of which centered on the latter part of the first half of the year. Countering the forces that acted to weaken the NIS were other forces that eased the depreciation, including the continued decline in Israel’s risk premium and the stabilization of the premium at very low levels, the current-account surplus, and the upturn in capital inflows to emerging-market economies (see Chapter 4).

The NIS–dollar interest spread continued to contract until September, when it became negative (Figure 3.7). This was mainly the outcome of successive rate hikes in the US that were accompanied, during the first two months of the year, by rate cuts by the Bank of Israel. In October, the Bank of Israel began to raise its rate in tandem with continued increases by the Fed, maintaining a zero spread in October and November and re-establishing a positive spread (0.25 percentage point) in December.

Long-term spreads, determined in the financial markets, also continued to narrow in 2005 due to a decrease in domestic long-term yields and an upturn in American yields, especially in the second half of the year.

Despite the perceptible narrowing of interest spreads, the foreign-currency market was largely calm and the indicators of exchange-rate risk remained negative (with the exception of short-term increases coinciding with various political events, especially the disengagement and the moving up of the elections). The NIS depreciated more severely against the dollar than the currencies of other emerging-market economies

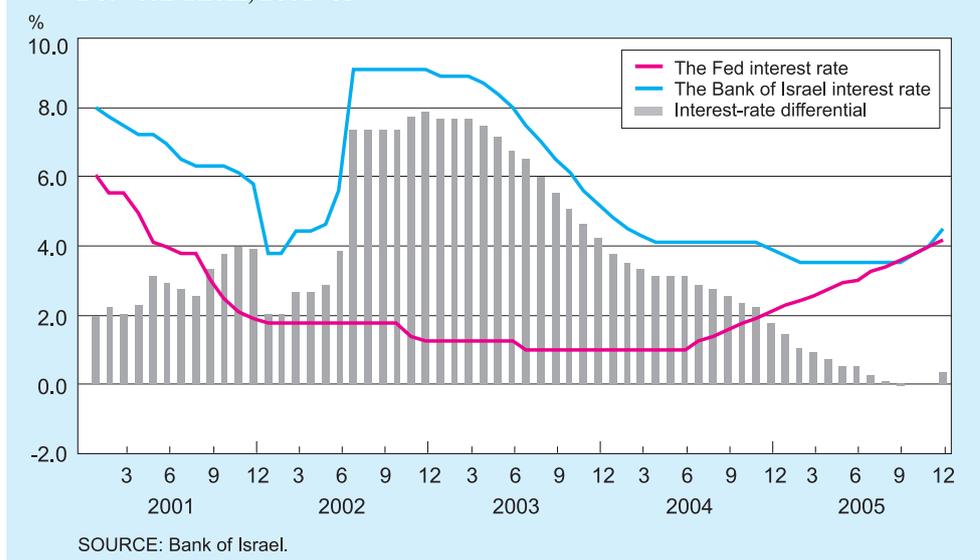
**Figure 3.6**  
Exchange Rate Against the  
Currency Basket and the  
Dollar, 2005



The NIS/\$ exchange rate was affected by global and domestic factors, including global dollar appreciation, the narrowing of the NIS–dollar interest spread, structural reforms, and short-term uncertainty factors such as those related to the disengagement plan.

The interest-rate spread between the NIS and other currencies contracted in 2005, but uncertainty also declined, enabling stability in the financial markets to be maintained also at spreads significantly lower than those to which the economy had become accustomed in the last few years..

**Figure 3.7**  
**Short-Term Interest Rates in Israel and the US, and the Differential**  
**Between Them, 2001–05**



did but lost less ground than the currencies of developed economies. The actual standard deviations of the exchange rate increased in 2005 but the implicit standard deviation, derived from trading in options and options issued by the Bank of Israel, remained very low.

Capital inflows are affected not only by yield spreads between the domestic economy and the rest of the world but also by the level of economic uncertainty. Israel's macroeconomic policy in the past two years, coupled with the relative paucity of security tension, dampened the uncertainty and helped the financial markets to remain stable even at interest spreads that were considerably smaller than those to which the economy had been accustomed in recent years.

The elimination of the exchange-rate trading band in June was a mere formality. Although it probably had no evident effect on the behavior of the exchange rate, it did allow Israel's foreign-currency market to be classified as a totally free one and may have helped to induce greater involvement of international investors.

The dollar exchange rate has a considerable influence on price developments in Israel, via the housing component of the Consumer Price Index and the prices of imports and import substitutes (tradable goods). The share of tradable goods in the domestic consumption basket has been rising gradually as the Israeli economy is opened up to the rest of the world, and the domestic prices of these goods are affected by their global prices and by changes in the exchange rate. The extent to which exchange-rate changes are passed through to the prices of domestic goods depends on several factors, including the intensity of the exchange-rate change, expectations about its persistence, the structure of demand, and the credibility of

The NIS/\$ exchange rate has a considerable influence on price developments in Israel, via the housing component of the Consumer Price Index and the prices of imports and import substitutes.

**Table 3.4**  
**The Exchange Rate, Import Prices, GDP Prices and Consumer Prices, 2000–05**

	Import prices <sup>a</sup> (\$)				CPI						
	Consumption	Investment	Excluding fuel	Fuel	Total	Housing	Fuel	Excluding fuel and housing			
	Production inputs										
	NIS prices				Business-sector						
	of consumer goods imports <sup>b</sup>				product prices <sup>a</sup>						
	Dollar exchange rate <sup>a</sup>				Total						
	(Compared to previous period, annual averages)				(Compared to previous period, annual averages)						
2000	-4.3	-5.1	1.0	54.5	-1.6	-5.7	0.9	1.1	13.3	-2.1	1.6
2001	-1.7	-1.3	-0.6	-11.3	3.1	1.4	1.1	1.1	-3.3	3.8	0.5
2002	0.3	2.1	-1.4	0.8	12.7	13.1	3.8	5.7	6.7	11.5	4.2
2003	4.7	5.0	7.9	12.0	-4.1	0.6	1.1	0.7	9.2	-4.8	2.1
2004	4.2	2.1	8.0	27.9	-1.4	2.7	-1.1	-0.4	8.9	-2.7	-0.1
2005	0.9	-2.4	2.7	37.2	0.2	1.1	0.9	1.3	12.5	-1.0	1.3
	(Compared to equivalent period in previous year, last quarter average)										
2000	-5.8	-6.5	-0.5	32.4	-3.0	-8.7	0.6	0.0	6.2	-4.3	1.0
2001	-0.1	0.9	-1.6	-30.2	4.3	4.2	0.5	1.6	-7.2	5.8	0.8
2002	1.4	4.7	2.4	25.4	10.6	12.2	5.4	6.7	16.4	9.5	5.7
2003	6.8	4.2	9.0	8.1	-6.0	0.4	-1.3	-2.1	2.0	-7.3	-0.7
2004	2.8	1.0	8.0	45.3	-1.0	1.8	-1.5	1.0	16.6	-1.7	1.1
2005	-2.2	-5.7	-2.1	24.5	5.7	3.5 <sup>c</sup>	3.3	2.6	13.8	3.6	1.6
	(Compared to previous quarter, quarterly average)										
2004											
I	1.4	0.5	2.8	5.6	0.5	1.9	-1.0	-0.3	3.1	-1.2	-0.2
II	-1.6	-0.2	1.7	10.2	2.0	0.4	0.5	1.4	7.1	1.7	1.0
III	0.8	-0.2	0.4	14.0	-0.9	-0.1	1.0	0.0	1.3	0.2	-0.1
IV	2.1	0.9	3.4	9.9	-2.4	-0.3	-2.0	-0.1	4.3	-2.3	0.4
2005											
I	0.9	0.1	2.2	0.1	-0.9	0.0	0.5	-0.5	-3.2	-2.6	0.0
II	-1.4	-2.8	-1.2	12.2	1.2	-0.2	1.2	0.9	7.4	0.5	0.7
III	-0.6	-0.8	-3.0	17.8	2.8	2.2	0.1	1.4	7.8	4.2	0.4
IV	-1.2	-2.3	-0.1	-5.8	2.5	1.3	1.5	0.8	1.7	1.6	0.5

<sup>a</sup> Average change in 2005, based on change in first three quarters compared to first three quarters of previous year. Data for 2005:IV based on 2005:III compared to 2004:III.

<sup>b</sup> The change in dollar import prices of goods (excluding fuel) multiplied by the exchange rate.

<sup>c</sup> The change in the price of consumer goods (2005:III compared to 2004:III) plus the annual depreciation of the NIS (2005:IV compared 2004:IV).

SOURCE: Based on Central Bureau of Statistics data.

the macroeconomic policy. For example, if depreciation occurs in a recessionary economy, producers tend to absorb some of the price increase because they find it difficult to roll the increase onto the customer. Depreciation occasioned by a crisis of confidence in macroeconomic policy, in contrast, is quickly rolled onto prices (as happened in 2002) even in a recessionary economy (due to the lack of credibility). In an economy where credibility prevails, however, if producers believe the depreciation is temporary or if the rate of depreciation is still small, they will tend to wait, since frequent price changes come at a cost to them. Consequently, the depreciation has no immediate effect on the prices of tradable goods and sometimes takes several quarters to leave its full imprint.

In 2005, the increases in the global prices of imported consumer goods were mild (Table 3.4) but, in consideration of the relatively steep depreciation, at least some of the upturn passed through to prices before year's end. Furthermore, since some of the effect of the exchange rate on prices of goods is manifested at a lag, the impact of the depreciation in 2005 has probably not been fully manifested and will have a further effect later on, if the depreciation is preserved.

The share of imported consumer goods in the domestic consumption basket is estimated at around 10 percent and that of imported and import-substitute consumer goods is thought to be about 40 percent. Thus, even if the rate of pass-through to prices was relatively low due to the absence of excess demand, it had a considerable effect on price increase in 2005 due to the high share of tradable goods in the domestic consumption basket and the rather steep rate of depreciation.

The domestic exchange rate also affects the Consumer Price Index via the indexation mechanisms of the prices of certain services, especially the indexation of housing rent to the dollar exchange rate. Unlike the prices of other goods and services, which are not automatically indexed to the exchange rate, housing rent levels usually undergo short-term changes commensurate with changes in the dollar exchange rate. Consequently, a change in the exchange rate is reflected almost immediately in the housing component of the CPI, and since the share of the housing component in the index is high—more than 20 percent—it has a perceptible effect on the total index. For example, housing contributed 1.2 percent to the CPI increase in 2005—closely approximating the rate of exchange-rate increase relative to the share of the housing component in the index. For this reason, the NIS-dollar exchange rate has a stronger effect on prices than corresponding exchange rates in other small and developed economies. This relationship also makes Israel's inflation relatively volatile.

Housing prices contributed an estimated 1.2 percentage point to price increases in 2005.

The rise in economic activity accelerated in 2005, helped by rapid global growth, relative calm in the security situation, and a macroeconomic policy mix that supported growth.

### c. Real activity

The expansion of economic activity that began in the second half of 2003 gathered speed in 2004 and 2005. (See expanded discussion in Chapter 2.) Gross Domestic Product advanced by 5.2 percent in 2005 as against 4.3 percent in 2004 and product of the business sector moved ahead by 6.6 percent as against 6.2 percent in 2004. Several factors abetted the continuation of growth in 2005, including rapid global

growth, relative absence of security tension, and the integrated application of pro-growth macroeconomic policies. The last-mentioned factor was manifested in a tight fiscal policy, which acted to attain the deficit targets and to reduce the debt and tax burdens in GDP, and a relatively expansionary monetary policy (until the beginning of the last quarter), with very low real interest rates and no disruption of price and financial stability. The continued upward spiral of oil prices had a slightly dampening effect on the global and domestic growth rates and pushed inflation rates up gently, but oil prices seem to have less of an effect on the global economy than they once had (Box 3.1).

The rapid growth rates gradually reduced the excess production capacity that had built up during the recession years. Coupled with the proportional increase in domestic uses in growth, they exhausted the dampening effect of the GDP deflator on domestic prices in recent years. Despite the vigorous GDP growth and the change in

**Table 3.5**  
**Nominal Labor Cost per Unit of GDP, Unemployment Rate, and Prices, 2000–05**

	Nominal labor compensation per hour in business sector	Real business- sector product per hour of labor	Nominal unit labor cost in business sector <sup>a</sup>	CPI	Unemployment rate
	(average annual change over previous year)				(period average)
2000	6.1	7.4	-1.2	1.1	8.8
2001	4.5	-1.3	5.9	1.1	9.3
2002	-0.5	-7.2	7.1	5.7	10.3
2003	-1.3	2	-3.2	0.7	10.7
2004	1.8	6.4	-4.2	-0.4	10.3
2005	2.2	3.9	-1.6	1.3	9.0
	(change from same quarter in previous year)				
2003					
I	-2	0.3	-2.4	5.2	10.7
II	-3.2	-0.9	-2.3	1.4	10.5
III	-2.1	3.9	-5.7	-1.6	10.9
IV	2.1	4.9	-2.6	-2.1	10.8
2004					
I	1.1	3.7	-2.6	-2.5	10.9
II	1.6	5.1	-3.3	-0.7	10.5
III	1.3	7.1	-5.5	0.6	10.1
IV	3.3	9.4	-5.5	1	9.8
2005					
I	0.8	4.6	-3.6	0.8	9.2
II	0.2	1.3	-1.1	0.3	9.1
III	1.1	0.9	0.2	1.7	8.9
IV	6.8	8.8	-1.8	2.6	8.8

<sup>a</sup> Net domestic product

SOURCE: Based on Central Bureau of Statistics data.

the composition of growth, demand-side pressure on prices was not yet evident, chiefly because of the stage of the business cycle in which the economy was positioned—persistence of excess production capacity that allowed GDP to respond quickly to the increase in demand without significant pressure on prices.

The unemployment rate continued to decline in 2005 and fell to 8.8 percent in Q4.

The expansion of economic activity was reflected in the continued decline in unemployment rates, coupled with an increase in the labor-force participation rate and the number of persons employed in full-time posts. The unemployment rate fell to 8.8 percent in Q3 as against 9.8 percent in Q4 of 2004 and a peak of 10.9 percent in Q3 of 2003 (Table 3.5). General-government and business-sector wages increased after upturns in 2004. Even so, labor cost per unit of GDP in the business sector declined gently in 2005, pursuant to two consecutive years of decrease (Table 3.5). The decline in GDP unit labor cost helped firms to reduce their wage expenses and indicated an absence of pressure on prices from the labor market.

#### **d. Inflation expectations and estimates**

Inflation expectations are an important variable in the management of monetary policy for two main reasons:

- Since some of the effect of interest on inflation occurs at a lag, interest decisions are made on the basis of inflation forecasting. The interest rate is adjusted to expected developments in the main; past developments are taken into account only insofar as they influence the future behavior of inflation.

- Inflation expectations affect changes in actual prices via the price-adjustment mechanisms that firms use and the setting of wages in the labor market. Firms do not adjust their prices continually because adjustments come at a cost. Therefore, when the adjustment is made the firms take account of expected increases in prices, which are reflected in inflation expectations. Adjustments of labor wages are also not continual; they are based, among other things, on estimates of future inflation.

The Bank of Israel derives information about the public's estimations of future inflation from several sources: the capital market, regular publications of private forecasters, and the Companies Survey. The Bank also uses econometric models that it has developed for the forecasting of future inflation. Since the models find it difficult to predict inflation at times of changes in macroeconomic conditions—e.g., structural changes—the other sources of information about expected inflation become more important.

Caution is in order when monetary policy is set on the basis of inflation expectations, since expectations may remain around the middle of the target even when the public believes that pro-inflation or anti-inflation forces are at work. This typically happens when the policy commands a great deal of confidence; stable inflation expectations reflect the public's conviction that the central bank will make the interest change that is needed to preserve price stability. For this reason, the Bank of Israel monitors not only the behavior of inflation expectations but also the public's beliefs about expected

changes in interest. In certain situations, an interest change is needed even though inflation expectations are positioned in the middle of the target range.

The behavior of main indicators of future inflation in 2005 is described below:

*(1) One-year-ahead market inflation expectations*

One-year-ahead market inflation expectations, measured on the basis of yield differentials between unindexed securities (Treasury bills) and CPI-indexed bonds (Galil), trended upward in Q1 from below the middle of the target range to around the middle of the range, concurrent with continued rate cutting in January and February (Figure 3.4). Later on, inflation leveled off at around the middle of the target range and in September–October climbed to the vicinity of the upper bound of the range due to depreciation that was brought on by dollar appreciation around the world, the elimination of the NIS–dollar interest spread, and the escalation of political uncertainty. In the last two months, expectations receded to the middle of the range, as the Bank of Israel raised the interest rate from October and despite the continuation of NIS depreciation until mid-November.

Inflation expectations stayed within the target range all year.

*(2) Private forecasters' one-year-ahead inflation estimates*

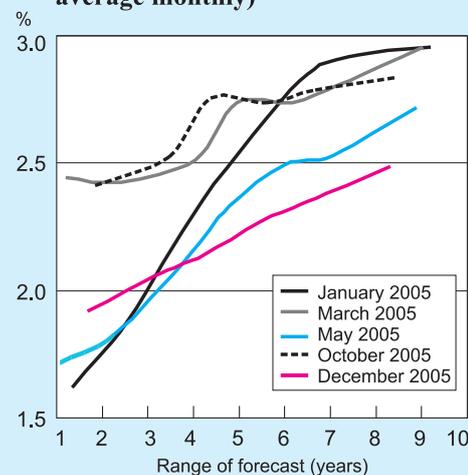
Average estimates spent the entire year within a relatively narrow band slightly above the middle of the target range. The span of the estimates (the distance between the highest and the lowest outlook each month), an indicator of the level of certainty, was relatively small all year long and became even smaller during the second half.

Notably, throughout the year both the market and the forecasters expected the Bank of Israel to raise its rate within a one-year period. Furthermore, the forecasters' estimates of the extent of the increase hardly changed (remaining at about 1 percent) even after the Bank raised the actual interest rate by a cumulative 0.5 percentage point in October and November. Only after the additional 0.5 percentage point rate increase in December did these estimates decline to 0.7 percentage point on average.

*(3) Market inflation expectations to longer terms (2–9 years)*

Inflation expectations to longer terms may be derived from differences between the nominal yield curve (Shahar) and the real yield curve (Galil) to the respective terms ahead (Figure 3.8). Long-term inflation

**Figure 3.8**  
**Expected Inflation Curve, 2005**  
(capital market data, average monthly)



SOURCE: Based on Bank of Israel data.

expectations fluctuated within the target range during the review period; expectations to the longest terms (7–9 years ahead) slightly overshot the upper limit of the target during the first half of the year but returned to the target range in the second half. Since these expectations include a risk premium that rises in tandem with the horizon of the expectations, the overshooting at the beginning of the year was probably negligible.

#### **e. Monetary and credit aggregates and the public's portfolio of financial assets**

##### *(1) "Narrow money" (the M1 aggregate)*

The money supply continued to expand in 2005, at a 24 percent annual rate.

The M1 aggregate continued to expand swiftly in 2005, at a 24 percent annual pace [Since this is for the full year, is it necessary to say "annual"?] after an 18 percent increase in 2004 (Table 3.6). The rapid expansion of M1 in the past two years, far outpacing GDP growth plus inflation, is a response to the low interest environment, the tax reform, and the continued expansion of activity on the stock exchange. Although the share of deposits in M1 climbed in 2005 as before, the cash component also grew considerably.

It should be borne in mind that, under an inflation-target regime that uses the target as the nominal peg and the interest rate as the policy instrument for its attainment, M1 is not very important as a leading indicator of expected price increases, since under such a regime the money supply is determined on the basis of the public's demand. Nevertheless, the Bank of Israel, like other central banks that operate under an inflation-target regime, is monitoring this indicator in order to determine whether it will continue to expand rapidly without a reasonable explanation. Such a development may point to instability of demand and/or the destabilization of the macroeconomic indicators that inform the setting of the interest rate.

##### *(2) "Wide money" (the M2 aggregate)*

This aggregate, composed of M1 plus fixed-term (up to one-year) unindexed NIS deposits, expanded by about 5 percent in 2005, much as in 2004. The growth rate of M2 has slowed considerably in the past two years relative to the 30 percent annual average rate observed in the 1990s. The reasons for the slowdown include the taxation of NIS deposits since the beginning of 2003 and the low interest rates paid on deposits, which prompt the public to seek alternative investment avenues such as shares and negotiable bonds. The larger supply of Treasury bills, which the Bank of Israel has been providing since Treasury bill ceiling was abolished at the end of 2001, has also been slowing the growth rate of deposits.

Total bank credit expanded at a modest pace in the past two years, for reasons including the development of nonbank credit alternatives.

##### *(3) Total bank credit (the C3 aggregate)*

Total bank credit expanded at a mild 3.7 percent pace in 2005 after an increase of only 2 percent in 2004. This gentle growth rate stands out in view of relatively swift GDP growth in the past two years and the rapid expansion of bank credit during most of the

**Table 3.6**  
**Rates of Change in the Monetary Aggregates, 2000–05**  
 (end of period, percent change from equivalent period in previous year)

	Total credit to public C3	CPI-indexed credit to public	Unindexed NIS credit C1	Credit in and indexed to foreign currency		Monetary aggregates		Monetary base
				In \$ terms	In NIS terms	M1 <sup>a</sup>	M2 <sup>b</sup>	
2000	10.5	2.9	28.9	10.0	7.1	7.5	18.8	11.6
2001	8.0	6.7	11.1	2.0	6.9	15.4	14.3	16.1
2002	9.6	6.2	5.5	7.1	17.6	4.9	-2.1	4.3
2003	-3.0	-5.6	3.1	1.6	-4.9	7.7	2.0	6.3
2004	2.0	-4.1	8.4	4.5	3.3	18.0	5.6	8.3
2005	3.7	2.0	10.8	-6.8	-1.0	24.1	5.3	14.8
2002								
I	9.4	9.0	5.5	1.2	13.4	25.9	4.1	18.2
II	12.7	8.4	5.0	5.4	25.1	21.8	1.9	17.0
III	9.5	7.5	5.4	4.4	15.3	7.7	0.2	6.1
IV	9.6	6.2	5.5	7.1	17.6	4.9	-2.1	4.3
2003								
I	5.8	3.4	5.2	6.4	9.0	-4.8	2.1	2.7
II	-1.6	-0.7	7.4	2.1	-9.5	-6.8	0.6	-2.3
III	-2.2	-4.2	4.0	1.9	-4.7	3.4	1.9	4.1
IV	-3.0	-5.6	3.1	1.6	-4.9	7.7	2.0	6.3
2004								
I	-2.4	-6.0	5.5	1.4	-4.5	14.1	3.5	4.8
II	1.4	-4.5	3.6	3.1	6.3	21.0	5.4	11.0
III	2.0	-4.6	7.3	4.2	5.0	22.8	4.7	10.6
IV	2.0	-4.1	8.4	4.5	3.3	18.0	5.6	8.3
2005								
I	1.2	-4.6	10.3	3.7	-0.3	15.0	5.3	6.8
II	1.6	-3.6	9.4	1.0	0.3	16.6	7.8	8.6
III	2.5	-0.7	10.8	-2.5	-1.6	15.0	5.1	9.6
IV	3.7	2.0	10.8	-6.8	-1.0	24.1	5.0	14.8

<sup>a</sup> M1: cash and demand deposits.

<sup>b</sup> M2: M1 plus NIS time deposits.

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

1990s (outpacing the rate of GDP growth during those years). The moderate expansion of C3 is also salient in view of the strong earnings of the banks in the past three years, which improved their capital adequacy and left them with surplus resources.

The modest growth rate of C3 traces, among other things, to the development of alternative sources of credit outside the banking system. These alternatives—foremost bond issues on and off the exchange—have expanded vigorously in the past three years due to falling domestic interest rates and continued structural reforms such as the pension-fund reform and the liberalization of institutional-investment regulations. The effect of banking-supervision limits on lending to single borrowers and borrower

groups has furthered the development of nonbank credit alternatives by prodding large borrowers to arrange financing alternatives outside the banking system. This development is mitigating the banks' dominance in business finance, enhancing competitiveness, and lowering firms' financing expenses. The share of nonbank credit in business-sector financing (including that provided by nonresidents) was 35 percent of total credit to the business sector at the end of 2005 as against 23 percent at the end of 2002. (See Chapter 4.)

*(4) The public's portfolio of financial assets*

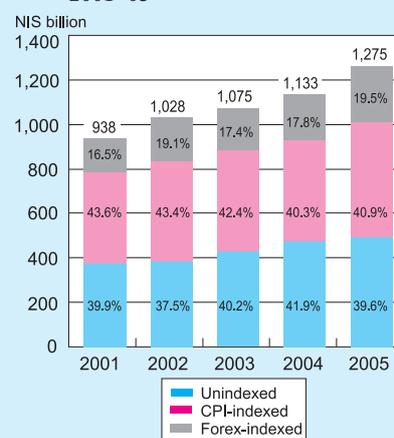
The assets portfolio appreciated by around 20 percent, mainly due to rising prices of equities on the stock exchange.

The portfolio appreciated by 20 percent during the year and was worth NIS 1.8 trillion in November. All components grew but the main contributor to the growth was domestic shares, which gained 42 percent during the year, mainly due to rising prices on the stock exchange. The growth of the portfolio was also abetted by components indexed to the CPI and to exchange rates, which increased due to the depreciation of the NIS, rising bond prices, and corporate bond issues.

Examination of the distribution of the portfolio by types of indexation (excluding shares) shows, in a departure from the trend in recent years, the proportion of CPI-indexed assets increased and that of unindexed assets declined (Figure 3.9). The reason for the change was the upturn of inflation to the middle of the target range and the stabilization of domestic interest rates at very low levels, amid expectations of a rate hike. Under such conditions, investors may incur capital losses on unindexed assets, which carry an element of inflation risk. Therefore, in 2005 the public—especially people who invested through mutual funds—preferred to build up their investments in CPI-indexed assets issued by the private sector.

The exchange-rate-indexed component also increased in 2005, due to the NIS depreciation and larger investment abroad to the tax-rate equalization of foreign and domestic securities at the beginning of the year.

**Figure 3.9**  
Development of Public's Assets Portfolio (excl. Shares) By Indexation, 2001–05



SOURCE: Based on Bank of Israel data.

The Consumer Price Index rose by 2.4 percent in cumulative terms: in Q1 prices went down by 0.6 percent and rose by 3 percent (cumulative) in Q2–Q4.

#### 4. PRICES

The Consumer Price Index rose in 2005 by 2.4 percent in cumulative terms, slightly above the middle of the 1–3 percent inflation target range that had been established in 2003 as the long-term price-stability goal. The CPI net of its volatile components

(clothing and footwear, food and vegetables) rose by 3.1 percent and the index net of housing climbed by only 1.3 percent. In 2005, as in the previous two years, wholesale prices excluding fuel rose much faster than the CPI—4.3 percent (Table 3.7).

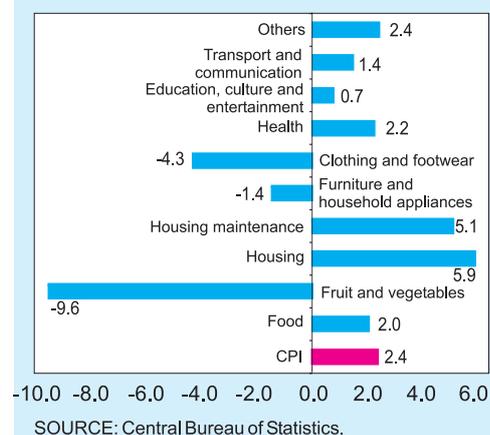
The acceleration of price increases in 2005 followed six years (with the exception of the first half of 2002) in which prices either advanced very slowly or declined. The upturn was due mainly to the NIS depreciation and the increase in oil prices. One the manifestation of the powerful effect of these two factors on prices in 2005 was the mildness of the CPI increase net of housing and fuel—only 0.9 percent.

Prices advanced unevenly during the year. In Q1, they fell by 0.6 percent cumulatively, pursuant to the declines that typified the low inflation environment in recent years. From Q2 onward, the cumulative rate of price increases accelerated to 3 percent.

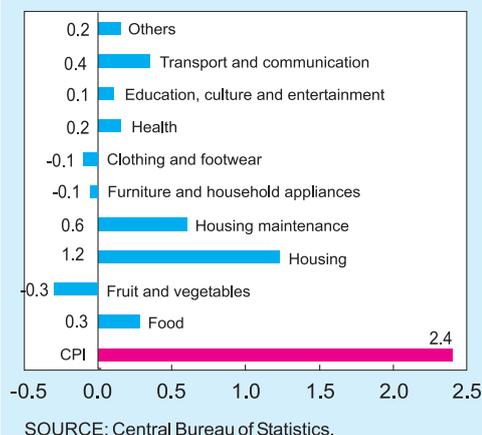
The decline early in the year traced mainly to decreases in seasonal components such as clothing and footwear and fruit and vegetables, coupled with a downturn in housing prices. The increases later in the year are explained largely by the upturn in oil prices, the NIS depreciation, and rises in the prices of seasonal goods. Thus, most inflation occurred in components such as transport and home maintenance, which are strongly affected by increases in fuel prices, and in housing, which is seriously affected by the exchange rate. Increases also occurred in the prices of the seasonal components—clothing and footwear, fruit and vegetables—which had declined in Q1 (Figures 3.10 and 3.11).

Oil prices climbed by about 50 percent in 2005 (and by 65 percent through August), after cumulative increases of 75 percent between May 2003 and the end of 2004. Importantly, consumer prices of fuel in Israel, as in other countries, rose much more gently than the commodity-exchange price of a barrel of oil, since consumer fuel prices include additional components such as refining costs and taxes. Thus, domestic fuel prices increased by 12 percent in 2005 whereas the dollar price of a barrel of oil

**Figure 3.10**  
Changes in the Components of the CPI,  
2005 (percent)



**Figure 3.11**  
CPI Components' Contribution to  
Rising Prices 2005 (Percent)





on the global market climbed by some 50 percent and, with currency depreciation factored in, by around 60 percent. The increase in energy prices (including electricity and gas) contributed an estimated 0.6 percentage point to the CPI. This, however, is only the direct contribution to the prices of products in which production processes include direct consumption of oil. Oil prices also indirectly affect the production costs of other products and services that, while using non-petroleum intermediates, consume oil as they are being produced, e.g., in the form of electricity. An increase in oil prices may also affect the prices of goods due to substitution effects—in which the prices of substitute products rise due to an increase in their use—and may lead to adjustments in the prices of miscellaneous products due to the increase in the inflation rate.

The increase in oil prices in 2003 and 2004 had only a moderate effect on changes in domestic prices; the impact was greater in 2005 but had hardly any second-round effects. The upturn in the effect of higher oil prices on prices at large was furthered by the high cumulative rate of increase in oil prices and the belief that high oil prices would persist into the medium term. Consequently, firms were less willing to absorb the increase in the prices of intermediates and adjusted the prices of their goods upward. The end of the recession also seems to have made it easier for firms to roll price increases onto their customers.

Clothing and footwear prices have been falling steadily in recent years. Since 1999, they have been coming down steadily at a cumulative rate of 23 percent, thereby helping to ease inflation at large during that time. The downturn of clothing and footwear prices is the result of globalization processes and a large supply of goods from Eastern Asia, mainly China.

The month-to-month volatility of the CPI was greater in 2005 than in the previous two years, despite the low rate of inflation in recent years. Relatively high volatility makes it difficult to estimate the inflation environment on the basis of current data. The volatility is related, among other things, to the powerful effect of the exchange rate in Israel on price developments. The impact of the exchange rate passes through to prices via housing prices—which in large part are dollar-denominated—and large share of the housing component in the CPI (more than 20 percent), along with the prices of imported goods that are included in the consumption basket.

## 5. SOURCES OF CHANGE IN THE MONETARY BASE AND INSTRUMENTS OF MONETARY POLICY

Each month, the Bank of Israel announces the monetary interest rate, from which the public's demand for the monetary base is derived. The Bank meets this demand by means of three instruments: auctions for banks' deposits, Treasury bills, and monetary loans.

There are three sources for change in the monetary base: government injections, conversion of foreign exchange by the public, and injection by the Bank of Israel.

Since the Bank of Israel has not intervened in foreign-currency trading since 1999, forex conversions in the business room have not contributed to change in the monetary base since then. The Bank of Israel studies the first two factors in order to determine the extent of injection/absorption that it should make to meet the public's demand for more money at the interest rate that it has set.

The monetary base grew by NIS 7.3 billion in 2005 due to NIS 9.9 in monetary injection by the Bank of Israel and NIS 2.5 billion in absorption by the government and the National Institutions.

In 2005, the monetary base grew by NIS 7.3 billion—NIS 9.9 billion in injection by the Bank of Israel and NIS 2.5 billion in absorption by the government and the Zionist National Institutions (Table 3.8). The Bank of Israel performed the injection by reducing the size of its deposit auctions, exercising swap transactions, and absorbing more liquidity by means of Treasury bills.

Several changes in the use of monetary instruments took place in the first half of 2005, including the elimination of swap transactions and monetary loans by quota, opening a window for loans and deposits by banks with the Bank of Israel, and cancellation of the arrangement that allowed banks to make interbank transfers at the previous value day. These measures, coupled with additional reform measures that were applied in the financial markets in recent years or are in various stages of planning and implementation, are meant to enhance the domestic financial market by making it more efficient and bringing it into line with the standards of countries that have modern and well developed financial markets. (See Box 3 in the Inflation Report for the second half of 2005.)

The use of Treasury bills for absorption purposes continued to increase in 2005 and the use of deposits continued to decline.

The use of Treasury bills as an absorption instrument continued to increase in 2005 and the use of deposits continued to decline (Tables C.9 and C.10). This is an outcome of the abolition of the Treasury bill ceiling at the beginning of 2002, which allowed the Bank of Israel to shift gradually to policy management by means of instruments on the market, to which the public has access, instead of deposits, which only banks can make. Greater use of Treasury bills instead of deposits makes the stock exchange more tradable and allows new information to find expression in the market more quickly and efficiently. Thus, it can help monetary policy to attain its targets with less interest-rate volatility.

After the Treasury bill ceiling was abolished, the Bank of Israel continued to increase the size of Treasury bill issues and reduce the extent of banks' deposits that it holds. The balance of outstanding Treasury bills climbed to NIS 81.3 billion at the end of 2005 as against NIS 68.8 billion a year earlier, and the balance of deposits fell to only NIS 5.9 billion at the end of 2005 as against NIS 17.1 billion a year earlier and NIS 43.9 billion at the end of 2001.

**Table 3.8**  
Sources of Change in the Monetary Base, 2000–05

	2005									
	2000	2001	2002	2003	2004	2005	I	II	III	IV
1. Monetary injection, government and the Jewish Agency of which: Government	(2,729) (3,493)	(2,611) (4,341)	(6,065) (7,634)	3,479 1,969	1,600 244	(1,452) (2,681)	(8,657) (8,951)	4,371 4,021	(1,981) (2,233)	4,815 4,482
2. Conversions of foreign currency <sup>a</sup> of which: Dealing room	286 0	(723) 0	(1,748) (7,813)	(1,358) 2,121	(1,751) 0	(1,086) (2,538)	(183) (8,840)	(353) 0	(239) 0	(311) 0
3. Total (1+2)	(2,443)	(3,334)	(7,813)	2,121	(150)	(2,538)	(8,840)	4,018	(2,220)	4,504
4. Monetary injection by Bank of Israel of which: Monetary loan	2,754 (3)	7,697 21	9,251 68	1,446 (236)	1,117 154	9,894 (757)	4,912 16	(1,904) (88)	6,768 (715)	118 30
Treasury bills	(4,855)	(4,866)	(8,566)	(9,387)	(17,992)	(10,509)	(2,993)	(2,925)	(2,682)	(1,909)
Swaps	145	(252)	(573)	379	(53)	6,216	0	9	6,207	0
Banks' term deposits	(1,800)	5,500	10,500	4,243	14,257	12,440	7,000	282	3,303	1,855
Interest <sup>b</sup>	4492	3,411	2,679	2,772	1,105	431	116	76	174	65
5. Change in monetary base	311	4,363	1,437	3,568	965	7,356	(3,927)	2,114	4,546	4,623

<sup>a</sup> This item includes *inter alia* Bank of Israel and government receipts from and payments to the private sector, such as income tax payments. These payments do not change the monetary base, and appear in the item Government Injection, and with the opposite sign in this item.

<sup>b</sup> Excluding Treasury bills.

SOURCE: Bank of Israel.

**Table 3.9**  
**Monetary Instruments:<sup>a</sup> Time Deposits and Treasury Bills, December 2004–December 2005**

(monthly averages, NIS million)

	Total deposits	Time deposits		Treasury bills total	of which: held by banks	Total time deposits plus Treasury bills
		Daily	Weekly			
2004						
December	17,096	9,419	7,677	68,842	6,554	85,938
2005						
January	14,806	7,903	6,903	71,484	6,322	86,290
February	14,509	9,259	5,250	72,133	6,213	86,642
March	8,671	5,461	3,210	73,309	7,080	81,980
April	8,781	6,414	2,367	74,171	6,934	82,952
May	5,710	4,387	1,323	74,909	7,308	80,619
June	10,557	7,190	3,367	74,914	7,868	85,471
July	8,114	6,179	1,935	77,250	9,415	85,364
August	11,060	9,254	1,806	77,824	10,510	88,884
September	10,588	7,321	3,267	78,903	11,095	89,491
October	6,118	6,118		80,441	11,539	86,559
November	7,266	7,266		80,398	11,075	87,664
December	5,920	4,114	1,806	81,328	12,155	87,248

a Other monetary instruments, not shown in this table, include monetary loan auctions, monetary loans by quota, the credit window and the deposits window.

SOURCE: Monetary Department, Bank of Israel.

**Table 3.10**  
**Monetary Deposits, 2002–05**

(total system, quarterly average)

	Utilization of auction deposits			Cost of auction deposits	
	Daily	Weekly	Total	Daily	Weekly
	NIS million			percent	
2002					
IV	12,655	20,000	32,655	9.64	9.62
2003					
I	13,175	20,718	33,892	9.45	9.40
II	11,954	18,330	30,284	8.81	8.78
III	11,284	18,102	29,386	7.30	7.30
IV	10,245	18,370	28,614	5.86	5.87
2004					
I	10,559	15,688	26,247	4.71	4.71
II	9,762	9,783	19,545	4.29	4.28
III	9,383	11,829	21,213	4.29	4.28
IV	9,437	7,568	17,005	4.20	4.19
2005					
I	7,541	5,121	12,662	3.71	3.71
II	5,997	2,352	8,349	3.66	3.66
III	7,585	2,336	9,921	3.57	3.56
IV	5,833	602	6,435	4.18	4.34

SOURCE: Monetary Department, Bank of Israel.