Chapter 3

Prices

In 1997, the rise in the Consumer Price Index (CPI) slowed to 7.0 percent, the lower limit of the inflation target and the lowest rate recorded in Israel for the past 28 years. Other major price indices also eased considerably. The slowdown was felt particularly during the last months of the year.

This year, most of the macroeconomic factors contributed to the decline in the rate of price increases. Monetary and fiscal policy were restrictive, and helped to reduce the rate of price increases through their moderating effect on domestic demand, inflation expectations, and the exchange rate, the latter remaining near the lower limit of the exchange-rate band for most of the year. The dampening effect on domestic demand was greater than the reduction on the supply side. This was reflected in higher unemployment, which—through its moderating effect on demand—also helped to lower prices. The slowdown in price increases this year was also influenced by a sharp decline in import prices in dollar terms. On the other hand, development of business-sector wages prevented a greater decline in the rate of price rises in 1997.

Inflation expectations fell considerably in 1997, and the average annual rate of increase of most main price indices fell by between one and three percentage points relative to their average annual rise in 1992–96. These findings indicate a decline in the inflation environment. Even though it is difficult to ascertain at this point whether this will persist, it is a step towards attaining the policy target, i.e., convergence to OECD levels of inflation by the beginning of the next decade.

1. MAIN DEVELOPMENTS

In 1997, the inflation target was achieved and the rate of price increases slowed down considerably: the CPI rose by 7.0 percent—the lowest rate recorded in Israel over the past 28 years, and equal to the lower limit of the 7-10 percent target range for inflation—significantly below the rise of 10.6 percent in 1996. This year, for the first time in many years, most of the factors that affect inflation played a part reducing it. Indeed, the rate of increase of most price indices—including those that exclude short-term effects as well as most of the implicit indices derived from the national accounts, clearly indicate a slowdown. Nevertheless, the substantial moderation in the rate of price rises only became clear in the last months of 1997 (Table 3.1). Restrictive monetary and

In 1997, the rise in the Consumer Price Index (CPI) slowed to 7.0 percent, the lower limit of the inflation target range and the lowest rate recorded in Israel for the past 28 years.

Table 3.1
Rates of Price Changes, 1995–97

(annual rates of change during year, percent)

	Annual			Semi-annual			
	1995	1996	1997	1996		1997	
				Jan–Jun	Jul–Dec	Jan–Jun	Jul–Dec
Price index							
CPI	8.1	10.6	7.0	14.6	6.8	10.2	3.9
Core CPI[a]	9.2	10.2	7.8	13.4	7.1	8.8	6.7
CPI excluding fruit and vegetables and housing	8.8	10.1	6.7	12.3	7.9	8.5	5.0
Wholesale goods[b]	10.0	7.0	5.9	10.3	3.8	6.8	5.1
Housing	13.6	13.2	7.5	23.1	4.1	12.5	2.8
Domestic uses[c]	7.6	9.7	7.0	15.3	4.2	11.3	2.9
GDP	6.7	11.2	8.3	17.5	5.3	14.7	2.2
Business-sector product	4.4	10.0	8.3	10.7	9.3	11.3	5.3

[a] CPI excluding housing, fruit and vegetables, clothing and footwear, and goods whose prices are controlled by the government.
[b] Index of manufacturing output for domestic destinations.
[c] Domestic use of resources excluding direct defense imports.

Most macroeconomic factors in 1997 had a downward effect on the rate of price increases.

fiscal policy was an important cause of the slower rate of price increases in 1997, helping to achieve it mainly via its effect in moderating domestic demand, inflation expectations, and the exchange rate, which remained near the lower limit of the exchange-rate band throughout most of the year. This policy—in addition to other significant factors—led to considerable moderation of domestic demand, beyond the extent of the slowdown on the supply side. This was reflected by an increased unemployment rate, which also helped to lower prices—through its moderating effect on demand. A sharp decline in import prices in dollar terms also played a part in lowering prices this year. On the other hand, the development of business-sector wages prevented a greater decline in inflation in 1997. The indication of the decline in the inflation rate is derived, as mentioned, from a large number of indices. At this stage, however, it is difficult to ascertain whether it is a passing phenomenon, or whether conditions have been created for further reductions along a path towards single-digit inflation.

There was a considerable decline in upward pressures on prices, as domestic demand moderated by more than the slowdown on the supply side.

The drop in the rate of price rises in 1997 can be attributed primarily to a significant decline in domestic demand, which led to a continued slowdown of economic activity (a slowdown that began during the second half of 1996), and to higher unemployment. The marked decline in inflationary pressures on the demand side was reflected by the rate of increase of the domestic use of resources. These rose only by 1.1 percent, i.e., less than the low (1.9 percent) rise in GDP. Thus, the decline in overall demand was more severe than that in supply, so that the import surplus fell, with accelerated export growth and a considerable slowdown in the rise in imports (for details, see Chapter 2).

In 1997, fiscal policy was restrictive: the government attained the deficit target, in contrast to the deviations in 1995–96, and the share of public debt in GDP—a major variable influencing the course of inflation in the medium and long term—declined. In the short term, the slower rise in general government expenditure meant a moderation of demand, thus helping to reduce the rate of price increases. Legislative changes introduced in 1997 increased the tax burden and reduced the public's disposable income; this may explain some of the considerable slowdown in the rise of private consumption.

In 1997, a restrictive fiscal and monetary policy helped to reduce the rate of price increases.

Contractionary monetary policy continued: The Bank of Israel interest rate dropped by about 1.7 percentage points in 1997 (to an average for the year of 14.4 percent compared with 16.1 percent in 1996). This was made possible by the reduction in the inflation environment. However, despite considerable fluctuation during the year, and in line with the Bank's policy of attaining the inflation target, the effective real interest rate remained at the high level (5.0 percent) it had reached in the second half of 1996, thereby dampening domestic demand, which contributed towards curbing price increases, and exercising a moderating effect on the exchange rate. The exchange rate remained close to the lower limit of the crawling band for most of the year, and its slower rise contributed towards reducing inflationary pressures. Both monetary and fiscal policy played a part in the significant decline in inflation expectations (see below).

The slow rise in the exchange rate acted to ease inflationary pressures.

Other factors also helped to reduce inflation in 1997, for example a reduction in foreign-trade prices: in dollar terms, import prices fell by about 5 percent (annual average).[1] However, these price reductions were not fully reflected in the prices of tradables (a similar, but even more marked, process was evident in 1996). With regard to nominal production costs, fuel prices declined and there was a slight reduction in NIS prices of imported intermediates.[2] In contrast, wages in the business sector rose by 12.7 percent, i.e., a real increase, despite the slowdown in the economy, the standstill in productivity, and higher unemployment. Real unit labor cost in the business sector (which reflects labor's share in GDP, and real wages (i.e., wages deflated by producer prices) also increased, by 3.9 percent, following increases of 2 to 3 percent in 1994–96. In contrast, wages in the public sector increased by 8.7 percent—a relatively low rise which reflects the structure of wage agreements signed in the past.

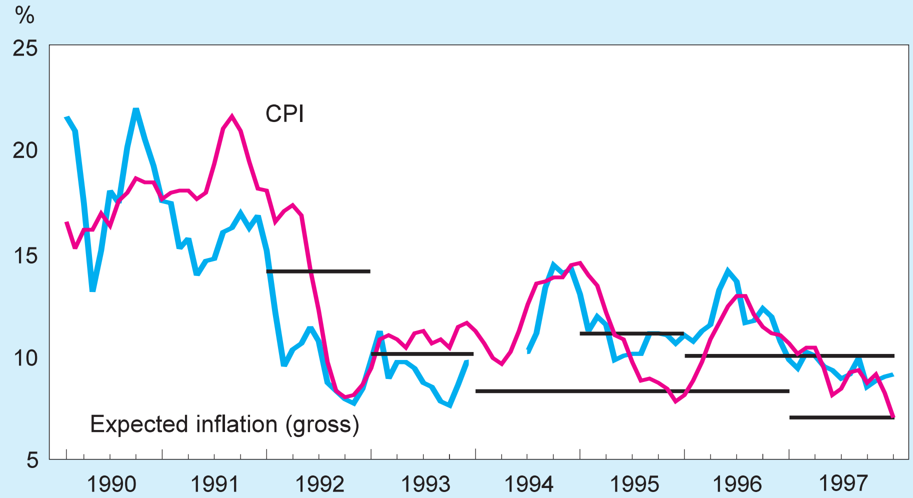
A sharp decline in import prices also served to slow down the rate of price increases. Developments in business-sector wages had the opposite effect.

The inflation environment can be viewed via changes in inflation expectations[3] (Figure 3.1), and via the annual average rates of increase of major price indices. Inflation expectations declined significantly in 1997, by 2.5 percentage points on the average, and, for the first time, fluctuated within a single-digit domain throughout the year, and within the target inflation range (except for a slight deviation in February). The annual average rate of increase of most price indices fell by between one and three percentage points relative to their long-term (1992–96) average rise. The CPI increased by an average of 9 percent—more than two percentage points (2.5 standard deviations) lower than its long-term average of 11.3 percent. Indices which deduct short-term effects

Inflation expectations declined considerably, and, for the first time, fluctuated within a single-digit path during the whole year.

[1] Mainly reflects the strengthening of the dollar against other currencies.
[2] Excluding fuel and diamonds.
[3] The discussion refers to estimates of 12-month inflation expectations derived from the bond market, and are calculated on the assumption of full tax exemption. For a detailed discussion, see Box 3.2 in the Bank of Israel Annual Report, 1995.

Figure 3.1
Expected Inflation Derived from the Capital Market, the CPI,[a] and the Inflation Target, 1990-97



[a] Rate of change in last 12 months.

The average annual rise of most major price indices declined.

(sometimes referred to as core inflation indices) also moderated. For example, the CPI excluding fruit and vegetables and housing rose by an average of 8.3 percent, compared with its long-term average of 9.8 percent. Implicit price indices of domestic use of resources based on national accounts data followed a similar trend (particularly the implicit price index of total domestic uses, which rose by 7.7 percent compared with the yearly average of 11.0 percent), as did many other indices (Table 3.2).

Prices did not develop uniformly during 1997: they accelerated in the first half of the year, and moderated significantly in the second half, mainly in the last months of the year.

However, prices did not develop uniformly during 1997. During the first half of the year, the CPI rose more rapidly than in the second half of 1996, reaching an annual rate of 10.2 percent, while in the second half of 1997 its annual rate decreased considerably, to only 3.9 percent. The indices that deduct short-term effects followed a similar pattern, i.e., accelerated rises during the first half of the year, and a slowdown during the second. However, compared with the development of the CPI, the indices derived from the national accounts, and the housing index, the pattern is less clearly defined. Hence, differences between the two halves of the year to some extent reflect seasonal and specific factors, but indicate mainly the delayed response of prices to the overall decline in demand.

Quarterly observations reveal a steady decline in the rise of the CPI during 1997, from 10.8 percent in the first quarter to 9.6 percent in the second, 5.4 percent in the third, and 2.4 percent in the fourth quarter (in annual terms). However, monthly observations show that the index was highly volatile in the second half of the year, and that a real slowdown occurred only in the last months of the year. In June and July, there was actually a general acceleration of prices owing to relatively rapid depreciation of the NIS against foreign currency. In September, November, and December, the CPI

Table 3.2
Indicators of the Inflation Environment, 1992–97

(annual average rates of change, percent)

	1992	1993	1994	1995	1996	Average 1992–96	Standard deviation 1992–96	1997	1997 Jan–Jun	1997 Jul–Dec
Price index										
CPI	11.9	10.9	12.3	10.0	11.3	11.3	0.9	9.0	9.2	7.9
Core CPI	10.9	8.3	8.6	9.3	10.5	9.5	1.1	8.6	7.7	9.0
CPI excluding fruit and vegetables and housing	11.9	9.0	8.7	9.3	10.2	9.8	1.3	8.3	7.6	7.7
Wholesale goods	10.2	8.2	7.9	10.7	8.6	9.1	1.3	6.3	6.0	7.0
Housing	11.2	19.3	23.6	14.3	15.9	16.8	4.8	10.8	12.0	10.3
Controlled and supervised goods	13.9	11.2	10.3	9.3	11.2	11.1	1.7	9.1	8.2	6.9
Domestic uses[a]	11.8	10.5	12.5	10.7	9.7	11.0	1.1	7.7	8.4	6.4
GDP	12.2	11.2	13.0	9.3	11.4	11.4	1.4	9.1	9.8	6.8
Business-sector product	11.8	9.9	8.8	6.5	10.2	9.4	1.9	9.2	9.0	8.2
Private consumption	11.6	10.7	12.2	5.6	10.4	10.1	2.6	8.0	8.2	6.6
Public consumption	11.9	11.1	17.6	23.7	10.7	15.0	5.6	8.4	10.7	4.4

[a] Domestic use of resources excluding direct defense imports. The data for this and the following indices are derived from national accounts data.
SOURCE: Based on CBS data.

went down (i.e., the changes from month to month were negative), whereas the October index was one of the highest recorded for the year. The CPI has not fluctuated so widely since 1992—the year when the economy shifted from a high inflation environment to a relatively low one.

Indications that the inflation environment declined were obtained from many indices, and reflect progress in attaining the policy target of reaching OECD inflation levels by the beginning of the next decade. Nevertheless, at this stage it is difficult to determine whether the reduction is permanent or temporary.

To summarize: indications that the inflation environment declined, obtained from many indices, reflect progress in attaining the policy target of reaching OECD inflation rates by the beginning of the next decade. Nevertheless, at this stage it is difficult to determine whether the reduction is temporary or permanent. The continued decline in prices of imports, the observance of fiscal and monetary discipline over a long period, to be expressed by a further reduction in the share of the public debt in GDP, and the continued fall of inflation expectations along the single-digit path attained this year, all of these should contribute to reducing inflation in the medium and long term. Structural changes which will increase competition in the economy are also expected to slow down inflation in the medium term. Nevertheless, while the considerable moderation of domestic demand pressures which is seen as a major factor in the easing of prices in 1997, can be partially attributed to constant factors (as the expansionary effects—particularly on investment—of the influx of immigrants waned), it is also affected by temporary factors related to the current contraction phase of the business cycle. The recovery process, which is usually accompanied by renewed demand, is likely to generate new inflationary pressures. Moreover, reduction of the government deficit in 1997 was not achieved by reducing the share of government expenditure in GDP, needed for the observance of long-term budgetary discipline.[4] Hence, since new public-sector wage agreements are due to be signed in 1998, it is still too early to determine whether the continuous fiscal adjustment, so important in the anti-inflation battle, will actually be implemented.

2. FACTORS AFFECTING THE DEVELOPMENT OF PRICES

This chapter provides a comprehensive presentation of the main factors that affected the development of price indices in 1997. Monetary and fiscal policy operated within the regime of inflation targets and a crawling exchange-rate band to reduce inflation. The moderation of domestic demands—the outcome of restrictive fiscal and monetary policy, of the exhaustion of some of the effects of the influx of immigrants, of political and security-related uncertainty, and of other factors related to the fact that the economy was in the contraction phase of the business cycle—had a strong impact in the same direction. Regarding production costs, business-sector wages had a notable effect, as they apparently prevented a greater drop in the rate of price increases, in contrast to most of the macroeconomic factors.[5]

[4] A. Alberto and R. Perotti (1995). “Fiscal expansions and adjustments in OECD countries,” Economic Policy. A. Alberto and R. Perotti (1996), “Fiscal expansions and adjustments in OECD countries: Composition and macroeconomic effects,” IMF Working Paper, 70-96.

[5] The reader may find Tables 3.3 and 3.4 of assistance in the analysis which follows.

A. Policy factors

(1) Inflation targets and the exchange-rate regime

In the last few years, economic policy-makers in Israel have considered the reduction of the inflation rate a long-term policy target. Since 1992, monetary policy has thus been conducted according to the inflation target, as occurs in several countries (e.g., Sweden, Finland, Canada, New Zealand, Britain, Spain, Mexico). In Israel, the inflation target is defined in terms of the rise in the CPI during a calendar year. The government formally declares the target and is committed to it. The main function of the Bank of Israel is to work towards attaining the target using the monetary instruments at its disposal.

In 1992, an inflation target regime was introduced. Since then, the Bank of Israel has focused its policy on attaining those targets.

The inflation target for 1992 was defined in terms of an upper limit.[6] For 1993 and 1994, specific inflation targets were set, but it was soon found that random and seasonal factors, which affect the CPI but do not reflect higher inflation, can generate deviations from the target and undermine public confidence that the target was attainable. Therefore, since 1995, the inflation target was set within a range of 2 to 3 percentage points.

At the end of 1996, the government decided that the "inflation target for 2001 will be the norm in OECD countries."[7] It was also decided that the inflation target for each year—to be used as the government's working premise for the budget framework—would be determined by the middle of the preceding year. (Prior to that time, the government would announce the inflation target only towards the end of the preceding year.) Thus, for the first time, the assumption regarding prices that served as a basis for planning the 1998 budget was consistent with the inflation target range. This range was set in the middle of 1997 at 7 to 10 percent. While it was similar to the 1997 target, it derived from the decision to "continue gradually lowering the rate of inflation with the intention of eventually achieving the long-term price stability customary in industrialized countries."[8]

'The norm in OECD countries' (4.5 percent) was set as the inflation target for 2001, and thereafter efforts will focus on attaining price stability.

For the first time, the assumption regarding prices that served as a basis for planning the 1998 budget was consistent with the inflation target range.

Overall fiscal policy has a considerable impact on success or failure in attaining the inflation target. In particular, the government's budget deficit and the way it is financed are among the main factors affecting the inflation rate in the medium and long term. In 1992, the government decided upon a downward path for the deficit in terms of GDP, and passed appropriate legislation (from 1992 to 1996, the law referred to the domestic government deficit, but since 1997 it has referred to the total government deficit). In 1997 the government attained the overall deficit target (2.8 percent of GDP). The target for 1998 is 2.4 percent of GDP.

The government is committed to a downward path for the deficit in terms of GDP.

The efforts of policy makers to bring down inflation in recent years have also been reflected in exchange-rate policy (Table 3.3): In 1992, when monetary policy began to

[6] At the end of 1991, the Minister of Finance and the Bank of Israel declared that the inflation rate in 1992 would not exceed 14-15 percent.

[7] An average of about 4.5 percent at the time.

[8] Note that the government's decision was made when the annual rate of inflation was 9.5-10 percent. Thus, the assumption regarding price increases for the 1998 budget (8.5 percent), like the inflation target itself, seemed consistent at the time with the government's intention to reduce the rate of inflation for the next year.

Table 3.3
Inflation and the Exchange Rate,[a] 1992–97

(rate of change during year, percent)

	CPI		Currency-basket exchange rate			
			Exchange-rate band			
	Target	Actual	Slope	Realignment	Width	Actual
1992	Up to 14–15	9.4	9	3	±5	14.9
1993	10	11.2	8	3	±5	8.0
1994	8	14.5	6	2	±5	5.4
1995	8–11	8.1	6		±7	5.8
1996	8–10	10.6	6	0.8	±7	3.0
1997[a]	7–10	7.0	6		±7	3.7
			Upper—6	8.2	±15	
			Lower—4			

[a] On 18 June 1997 the upper limit of the band was raised by about 15 percent, its slope remaining unchanged at 6 percent, while the slope of the lower limit was reduced to 4 percent. The realignment of the midpoint rate was the result of the higher upper limit.

Since 1992, the exchange rate regime has been a crawling band, whose slope is adjusted to the expected difference between the inflation target and the rate of inflation in Israel's trading partners.

be conducted according to the inflation target, it was decide to shift to an exchange-rate policy based on a crawling band, whose slope is adjusted to the expected differential between the inflation target and the inflation rate in countries with which Israel conducts trade (i.e., relative inflation). The width of the band and the extent of intervention in the market by the central bank essentially determine the nature of the system, which is an intermediate regime between a fixed exchange-rate and a floating one. In the last few years, the exchange rate regime has been made more flexible: the band has been widened several times, and since February 1996 the Bank of Israel has refrained from intervening in foreign-currency trading as long as the exchange rate does not cross the band's boundaries. These changes took place at the same time as the Bank of Israel's key interest rate became a central policy instrument, and were paralleled by liberalization of foreign-currency control.

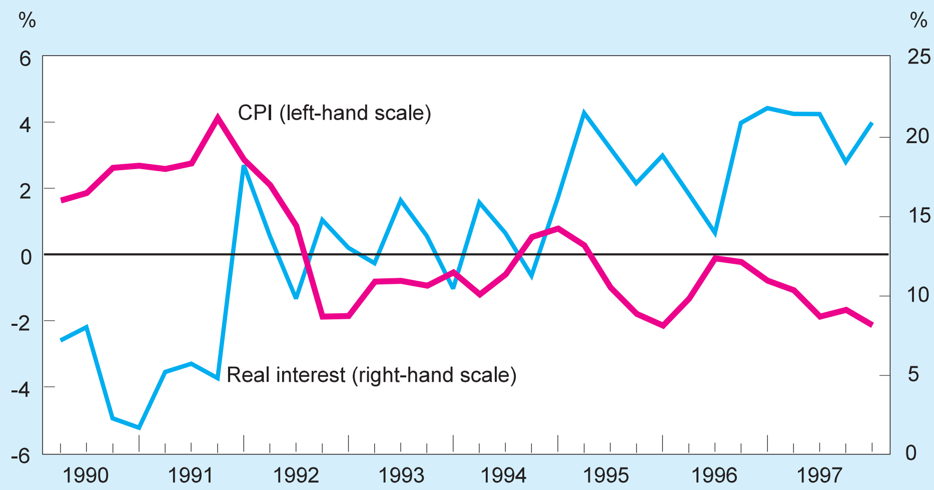
(2) Monetary policy, inflation expectations, and development of the exchange rate

In 1997 the Bank of Israel interest rate declined by about 1.7 percentage points and average real interest was 5.0 percent.

In 1997, as in 1995–96, the Bank of Israel implemented an interest policy in accordance with the Bank's policy of attaining the inflation target. Nominal interest declined by 1.7 percentage points from 16.1 percent in 1996 to 14.4 percent. Effective real interest on the Bank of Israel's sources averaged 5.0 percent, its level since the second half of 1996 (Figure 3.2) (see Chapter 7).

Monetary policy, using the interest rate as a central instrument, can act to attain the inflation target, mainly through its four-fold impact: on the development of the exchange-rate path, on the rate of expansion of the domestic use of resources, on inflation expectations, and on the expansion of the monetary aggregates. Research has shown a significant, negative correlation between changes in the Bank of Israel interest rate and the development of inflation (several months later). A description of how the policy has operated in each of these four channels follows.

Figure 3.2
Effective Real Interest (ex-ante) on Monetary Loan,[a] and CPI,[b] 1990-97



[a] Adjusted for net expectations.
[b] Average quarterly rate of change in last four quarters.

Interest policy affected the development of the exchange rate, which rose by 3.7 percent during 1997. The interest differentials between local-currency and foreign-currency credit, and the low assessments of exchange-rate risk,[9] resulted in considerable capital inflow, which slowed the rise in the exchange rate to less than one percent in the first five months of the year. In mid-June, the government, in consultation with the Bank of Israel, introduced structural changes in the exchange-rate band, including reducing the slope of the band's lower limit from 6 percent to 4 percent. Since the exchange rate remained close to the lower limit for the rest of the year[10]—mainly due to the import of long-term capital, essentially foreign investment—this step enabled a one percentage point reduction in total depreciation. The slow rise in the exchange rate relieved the upward pressure on prices, via the pass-through mechanism linking the exchange rate and price indices.[11]

For most of the year, the exchange rate remained close to the lower limit of the crawling exchange rate band.

Changes in the structure of the exchange-rate band enabled a reduction of one percentage point in overall depreciation.

[9] This was due to the prevailing assumption that the Bank of Israel would maintain the high interest policy, directed towards attaining the inflation target, and would only intervene in the foreign-currency market to protect the lower limit of the band.

[10] The only exception was an instance of accelerated depreciation (following the announcement of changes in the parameters of the exchange-rate band and a considerable lowering of interest), which eroded after a short time.

[11] Every depreciation, whether originating from market forces or the outcome of changing parameters in the exchange-rate regime, generated immediate acceleration of price indices, mainly of wholesale prices (due to the significant component of imported intermediates in them), of prices for tradables (due to the component of imported consumer goods) and, in the short term, of housing prices and services (since they are quoted in dollars). However, econometric studies have shown that in the last few years (1992-1997) this mechanism has weakened.

Interest policy played a role in the substantial decline in domestic demand.

Interest policy played a role in slowing down the expansion of the domestic use of resources: in 1997, investment, a variable significantly and negatively affected by increases in real interest,[12] slumped. High interest rates also curbed the increase in private consumption.

For the first time, inflation expectations remained within the inflation target range throughout the year. This was largely due to the credibility of the Bank of Israel's and the government's commitment to attaining the inflation target.

Interest policy apparently influenced inflation expectations (Figure 3.1). These expectations affect the process of price rises through the pricing mechanism for consumer goods and services, and through several main economic variables such as wage agreements and real (ex-ante) interest. In 1997, there was a significant decline of 2.5 percentage points in estimated inflation expectations, and for the first time, they were within the target range throughout the year (except for a slight deviation in February).[13] Moreover, during the first two quarters of the year expectations were below actual current and past inflation (a study of inflation expectations over the last few years found that expectations are based primarily on inflation rates in the past). It may be claimed, therefore, that lower expectations during the first half of the year, which preceded the actual slowdown in inflation, derived at least in part from the interest policy and from the credibility of the central bank's and the government's commitment to achieving the inflation target.

The money supply increased by 14.1 percent.

The monetary aggregates were also affected by the interest policy: the money supply, which is more closely linked with inflation than are the other aggregates, increased by 14.1 percent, more than the inflation rate and GDP growth. Studies of Israel's economy have shown a significant, positive correlation in several consecutive quarters between the amount by which the increase of the money supply exceeded GDP growth, and the development of inflation.[14] Nevertheless, it seems that in 1997 the inflationary danger of increased money supply receded since such an increase reflects, at least in part, greater demand for money due to falling interest rates and the sharp decline in inflation expectations.

(3) Fiscal policy

In 1997 fiscal policy was restrictive. The government attained the deficit target, in contrast to the deviations in 1995–96, and the share of public debt in GDP declined. In

[12] The impact of real interest on short-term credit was found to be significant, negative, and stable, according to a study on the impact of interest rates on business-sector investment in the principal industries from 1962 to 1988 (see Y. Lavie, 1990, *Economic Quarterly*, 143, Sapir Forum). Expansion of the sample to include the current period indicates that although the correlation is still significant and negative, it was weakened. This finding is consistent with increased liberalization of capital flows and with greater substitutability between local- and foreign-currency credit in recent years.

[13] Figure 7.3 indicates that inflation expectations of private forecasters were even lower than those derived from the capital market, which serve as a basis for the above discussion. For further details, see Chapter 7.

[14] See G. Bufman, and L. Leiderman, (1997): Monetary Policy and Inflation in Israel; and E. Azulay and D. Elkayam (1996), "The Impact of the Development of Money Quantity on Inflation in Israel in Recent Years," Bank of Israel, *Iyyunim Monetarim*, Book 1.

this way, the government contributed to the considerable reduction in inflation expectations, and enabled them to remain within the inflation target range throughout the year.

The share of the public debt in GDP declined, and the government achieved the deficit target.

Public expenditure—which constitutes a major component of total demand and which therefore has a considerable effect on the short-term development of prices—increased moderately in 1997, by only 2 percent, compared with 5.5 percent in 1996. The implicit price of public expenditure rose by only 8.4 percent compared with 10.7 percent in 1996 and 23.7 percent in 1995.

Fiscal policy curbed the expansion of domestic demand.

The tax burden increased by 1.6 percent of GDP, mainly due to the non-adjustment of marginal tax brackets. The adverse effect on disposable income and manufacturers' profitability apparently contributed to the considerable cutback of private consumption and of investment, and thus to the overall slowdown in the rate of price increases. Acting in the opposite direction, but to a lesser extent, were increases in tax rates on several products (e.g., fuel, air-conditioners for vehicles, and tobacco) and government fees and levies (for a more comprehensive discussion, see Chapter 5).

In 1997, the development of prices supervised or controlled by the government was also consistent with restrictive fiscal policy: The price index of controlled products rose by 7.6 percent, compared with 11.5 percent in 1996, and that of supervised products rose by only 5.0 percent, compared with 12.9 percent in 1996. Prices of supervised products are set according to clear criteria, and are based primarily on production costs (ensuring a certain level of profitability according to the nature of the relevant industry). The moderate increases of supervised prices may indicate that in 1997 nominal production costs did not exert strong upward pressure on prices.

Public-sector wages rose by 8.7 percent, compared with 13.4 percent in 1996, and with much higher increases in 1994 and 1995. The moderate wage increases in the public sector in 1997 resulted mainly from the implementation of wage agreements signed in the past. Government policy will be put to the test in 1998, when wage agreements are opened for negotiation.

The government acted to minimize its intervention in economic activity. Thus, for example, the opening of the communications industry to competition led to a sharp fall in the charges for international phone calls.

B. Domestic demand

The rate of annual growth in domestic use of resources provides an indication of the development of demand for GDP, so that expansion of domestic demand beyond the rise of GDP indicates excess demand. In 1997, most of the slowdown in the rate of price increases can be attributed to the sharp decline in the expansion of domestic demand in general, and the negative differential that developed between the rates of increase of supply and demand in particular. This slowdown began in the last quarter of 1996, when the rate of growth in total domestic use of resources fell sharply, compared with previous quarters.

Domestic use of resources grew by only 1.1 percent - almost one percentage point below GDP growth.

In 1997 domestic use of resources rose by only 1.1 percent, whereas in the past five years their rate of increase ranged from 5.2 percent to 8.1 percent.[15] Demand slowed more sharply than supply. The rate of increase of domestic use of resources was 0.8 percentage points less than that of GDP, in contrast with a positive differential averaging almost one percent in 1992–96. The significant easing of inflationary pressures on the demand side is even more evident in a comparison with 1992 and 1995, when inflationary demand pressures abated, too, and when inflation was relatively low. In those years, however, the differential between domestic use of resources and GDP was negligible compared with 1997 (Table 3.4). The exceptional slowdown in domestic demand[16] which began during the last quarter of 1996, allowed the import surplus to fall (with the rise in exports accelerating and the growth in imports slowing markedly), and made a considerable contribution towards moderating the rate of price increases.

C. Cost variables

(1) Wages

The nominal wage in the business sector rose by 12.7 percent, and apparently prevented a greater slowdown in the rate of price increases.

In 1997, the development of wages prevented a greater drop in the rate of price increases. The nominal wage per employee post rose by 11.5 percent, expressing a higher real increase than in 1996. Although wages in the public sector rose by 8.7 percent, i.e., reflecting a decline of 0.2 percent in real terms, wages rose in the private sector by 12.7 percent,[17] which constitutes a 3.4 percent rise in real terms despite the economic slowdown, a certain decline in labor productivity, and higher unemployment. In 1997 and in 1996, nominal business-sector wages, excluding the cost-of-living allowance (COLA), rose relatively steeply. This can be attributed to the considerable rise in the minimum wage in 1996–97, which resulted from changes in legislation and an increase in the average wage. This increase derived from wage increments in high-tech industries, where there is a shortage of workers, and from the exceptional public-sector wage agreements signed in previous years. Furthermore, in most sectors wage agreements still in effect were signed prior to the economic downturn (for a discussion of additional factors affecting wage increases, see Chapter 4).

Real unit labor cost in the business sector—which serves as an overall indicator of wage-cost pressures on manufacturers, as it reflects changes in wages, in hours worked, in productivity, and in labor taxes—rose by 3.9 percent in 1997, compared with an average of 2.5 percent in 1994–96. This comprised an overall increase of 2.7 percent in labor costs, and a decline of 1.2 percent in product per man-hour.

[15] The changes are in real terms. Domestic use of resources incorporate total uses, excluding direct defense imports *minus* exports.

[16] All components of demand indicate a slowdown. The drop in investments by about 6 percent is particularly noteworthy, although private consumption and public expenditure also moderated considerably. For a more comprehensive discussion of the reasons for the deceleration in demand, see Chapter 2.

[17] This figure refers to all employees, including workers from the Palestinian Autonomy and the administered areas, and registered foreign workers.

Table 3.4
Determinants of Prices, 1987–97

(average annual rates of change, percent)

	Average 1987-89	1989	1990	1991	1992	1993	1994	1995	1996	1997
Change in import and export prices[a]										
Imported intermediates[b]	17.1	22.9	7.3	7.9	4.5	9.1	9.1	14.0	2.3	2.1
Civilian imports[c]	16.0	23.0	13.8	10.1	8.1	11.6	8.4	10.0	3.8	2.7
Exports	16.7	22.9	11.1	15.1	7.1	11.2	6.0	4.9	6.7	6.4
Change in foreign trade prices[d]										
Private consumption imports	5.3	–1.0	6.6	–3.2	2.9	–0.7	0.5	7.5	–4.1	–4.4
Civilian imports[c]	6.4	2.6	8.2	–2.6	0.1	–3.0	1.9	10.0	–1.9	–5.1
Real change in product and uses										
GDP	3.7	1.4	6.0	5.5	6.6	3.4	6.8	7.1	4.5	1.9
Domestic uses[e]	3.5	–0.5	8.6	11.7	6.6	5.2	8.1	7.2	5.2	1.1
Rise in domestic uses beyond GDP	–0.2	–1.9	2.6	6.3	0.0	1.8	1.3	0.1	0.7	–0.8
Labor costs										
Wage per employee post										
Public sector	25.4	20.6	17.4	20.9	11.5	12.2	23.6	16.0	13.4	8.7
Private sector	23.1	18.3	15.6	13.0	13.8	11.2	11.8	10.7	12.9	12.7
Real unit labor cost, business sector					–1.7	2.9	2.8	2.3	2.4	3.9
Fiscal changes										
Total public-sector deficit	–2.7	–4.0	–3.7	–4.0	–2.9	–2.8	–1.0	–3.6	–4.6	–3.1
Public-sector domestic deficit	–4.3	–6.0	–6.5	–7.0	–6.2	–4.4	–2.1	–4.9	–5.7	–4.4
Monetary changes										
Money supply (MI)	40.5	25.8	26.8	28.2	22.5	23.7	20.6	8.4	14.9	14.2
Inflation expectations[f]		15.0	18.6	15.7	9.6	9.1	12.9	10.8	11.9	9.3
Real interest on 10-year bonds	4.1	2.5	1.9	2.9	2.6	2.9	3.2	4.3	4.5	3.9
Unemployment rate	**7.1**	**8.9**	**9.6**	**10.6**	**11.2**	**10.0**	**7.9**	**6.9**	**6.7**	**7.7**
Exchange rates										
Currency basket	9.1	16.1	10.6	12.3	10.2	12.1	7.8	4.6	3.5	4.3
Dollar	10.3	19.9	5.2	13.0	7.9	15.1	6.4	0.0	5.9	8.2

[a] Foreign trade prices *multiplied by* the exchange rate.
[b] Excluding fuel and diamonds.
[c] Excluding diamonds and capital services.
[d] Dollar prices.
[e] Domestic use of resources excluding direct defense imports.
[f] Estimate of inflation expectations for one year, derived from the capital market, and assuming full tax-exemption for the investor.

(2) Other costs

Fuel prices fell, and the rate of price increases, in local-currency terms, for imported intermediates declined slightly, following the substantial drop in 1996.

Local-currency prices of imported intermediates (excluding fuel and diamonds) rose slightly (by only 2.1 percent), similar to the 2.3 percent rise in 1996, but very different from the increases of 9.1 percent to 14.1 percent in 1993–95. Fuel prices actually declined by 0.4 percent, compared with an increase of 21.6 percent in 1996. Thus, the prices of imported intermediates can be considered a factor that played a part in the general slowdown of the rate of price rises in 1997.

In addition, scheduled financing costs were lower than in 1996. Despite the continuation of the contractionary monetary policy, average interest on nondirected local-currency credit fell by 2 percentage points. The effective cost of funding was apparently lower since the liberalization in the money markets enabled the business sector to diversify its sources of funding. (Indeed, there was a significant increase in the share of credit in and indexed to foreign currency in total nondirected credit.)[18] Note, however, that in a period of disinflation, the real cost of financing (ex-post) is higher.

Box 3.1: The Relative Contribution of Macroeconomic Variables to the Decline in the Rate of Price Increases in 1997

The question arises whether the slowdown in the rate of price increases can be explained statistically given the macroeconomic factors operating in the economy in 1997, and whether the relative contribution of each of these factors to the decline can be estimated. An econometric analysis based on several models is given below. The models use values in 1997 and in previous years of several explanatory variables, such as the unemployment rate, interest rate, foreign currency exchange rate and prices abroad to explain ex-post changes in inflation (on a quarterly basis).

G. Bufman and L. Leiderman's model,[a] predicted (based on their ex-post 'forecast') a rise in the CPI excluding fruit and vegetables during 1997 of 7.6 percent. The actual rise in that index was 7 percent. The rise in that index declined by 3.8 percentage points (from 10.8 percent in 1996 to 7.0 percent in 1997). The model succeeded in explaining 2.8 percentage points of the decline, of which 1.1 percentage points were attributed to the rise in unemployment, and 2.4 percentage points to the tightening of monetary discipline, *ceteris paribus*). 'Imported inflation' contributed 0.7 percent to the rise of that index, mainly due to the strengthening of the dollar.

[a] G. Bufman and L. Leiderman, (1997): Monetary Policy and Inflation in Israel. Bank of Israel, Research Department Discussion Paper 98.040.

[18] The lending rate on the total nondirected local-currency credit in 1997 was 18.7 percent. The 3-month EURO-rate, for example, was only 5.6 percent, and the dollar exchange rate rose by 8.2 percent during the year. The currency-basket rate rose more slowly, by 5.1 percent.

Y. Gibre's model,[b] gave a decline of 1.8 percentage points in the average annual rate of increase of the CPI excluding fruit and vegetables. The actual rise of this index declined by 2.9 percentage points (from an increase of 10.7 percent in 1996 to 7.8 percent in 1997). Analysis of the results of the estimation indicates that unemployment contributed 1.0 percentage points to the decline in the rate of price increases, and that the reduction in prices of imported intermediates (in local-currency terms) and the tightening of the monetary discipline contributed 1.7 percent each. On the other hand, the strengthening of the dollar against the NIS during the year contributed an increase of 2.7 percentage points to the rise in this index, all other things being equal.

The model of Y. Lavi and N. Sussman[c] yielded a decline of 4.9 percentage points in the rise of the CPI (from 10.9 percent in 1996 to 6.0 percent in 1997).[d] The actual recorded decline was smaller—2.8 percentage points. Analysis of the results indicates that unemployment contributed 1.9 percentage points to the drop in the rate of price increases, tightening of monetary discipline 0.7 percentage points, the decline in the proportion of new immigrants in the population 0.1 percentage points, and changes in fundamentals and in the inflation environment contributed another 2.2 percentage points.

To summarize: the findings reveal that a large part of the slowdown in the rise of the CPI can be attributed to monetary policy and to the rise in unemployment. The latter resulted from the contraction of domestic demand—which derived from policy as well as from other significant factors—and it reflects the fact that the economy entered the contraction phase of the business cycle.

[b] Based on an internal memorandum at the Bank of Israel Research Department.

[c] See Y. Lavi and N. Sussman, (1997). Phillips Curve Tradeoffs and Its Policy-Induced Shifts. Presented at a conference on the topic of Inflation. To be published in a collection of papers from the conference.

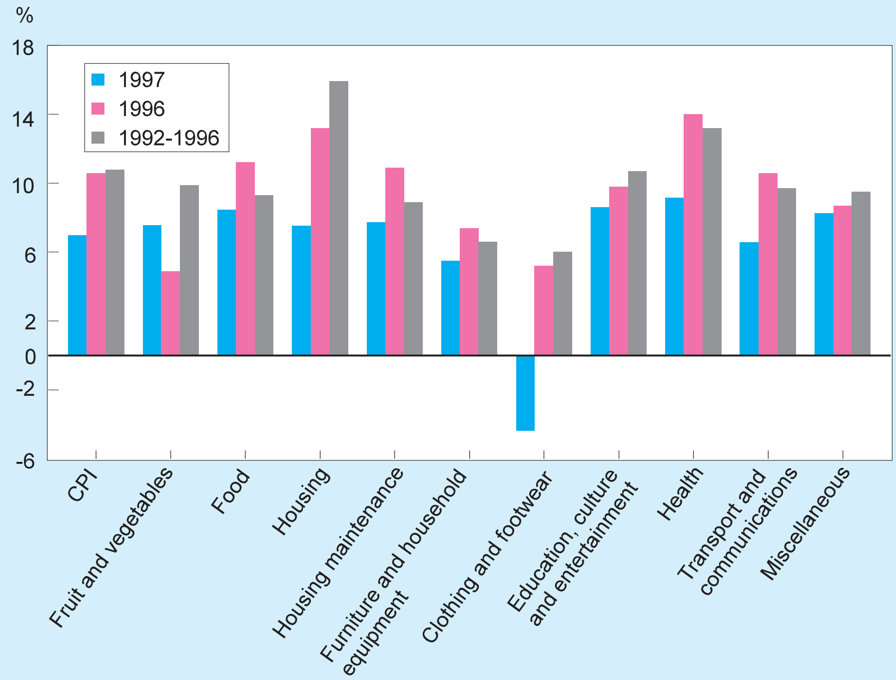
[d] The rate of increase in the quarterly average CPI, compared with the equivalent one in the previous year.

3. THE DEVELOPMENT OF PRICES

The price indices of nine of the ten categories of the CPI rose slowly in 1997 compared with 1996 and with their average increase in the five years from 1992 to 1996 (Figure 3.3). This was most notable in the housing index, which rose by only 7.5 percent, compared with an average increase of 15.9 percent in 1992–96 and 13.2 percent in 1996, and in prices of footwear and clothing, which went down by 4.4 percent in 1997, continuing the trend of moderation in that category (from a 7.7 percent rise in 1994 to 5.2 percent in 1996). The fall in the footwear and clothing index was accompanied by a considerable reduction in the volume of production and a sharp decline in the number of employees in those industries.

Price indices of nine of the ten items in the CPI rose more moderately.

Figure 3.3
The Ten Major Components of the CPI,[a] 1992-97



[a] Rates of change during the year.
SOURCE: Based on Central Bureau of Statistics data.

Housing[19]

Housing prices rose by only 7.5 percent—almost 6 percentage points below the rate in 1996.

The index of housing prices rose by 7.5 percent this year, compared with 13.2 percent last year. This reflects a clear slowdown in the main component of the index—prices of owner-occupied apartments, which rose by 7.2 percent this year, compared with 13.6 percent in 1996 and 14.9 percent in 1995. Compared with the CPI excluding housing, the real rise in prices of owner-occupied apartments in 1997 was negligible.

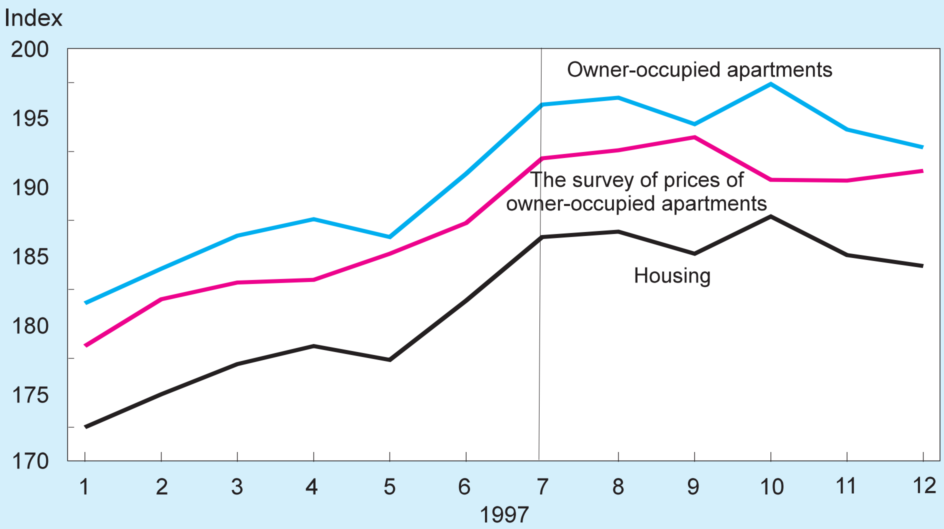
[19] The original weight of the housing index in the calculation of the CPI was 20.7 percent, compared with its actual weight of over 25 percent, mainly owing to a continuous increase in real housing prices. The three components of the index (and the weights attributed to them in the calculation) are: the index of prices of owner-occupied apartments (about 80 percent), the rental index (about 15 percent), and the index of other housing related expenses (5 percent). There are several conceptual and practical problems in measuring housing services in owner-occupied apartments (see Z. Shiffer, 1995. "On the Owner-Occupied Apartments Item in the Consumer Price Index," Discussion Paper Series 95.09.) In light of this problem, a committee was established in June 1996 to reassess the measurement of this item. The report of the committee is expected to be published in 1998, and its conclusions will be part of an overall revision of the CPI planned for 1999.

The slowdown in the rise of the housing index was not evident during the first seven months of the year (Figure 3.4)—a finding which is inconsistent with numerous indicators of a sharp decline in demand and activity in the real-estate market during that period. Following the continued decline in housing demand and the continued slowdown in the construction industry, prices of second-hand apartments and contract prices for new apartments fell sharply, leading to a decline in the index of housing prices during the last months of the year, according to calculations of the Central Bureau of Statistics (CBS). The price index for owner-occupied apartments rose by 8.9 percent during the first seven months of 1997, and fell by over one-and-a-half percent during the rest of the year. The Survey of Prices of Owner-Occupied Apartments and the overall index of housing prices revealed a similar dynamic. In addition to the differences between the two halves of the year, 1997 was characterized by considerable volatility of house price indices, which does not reflect true economic developments but a technical problem associated with the method of calculating the index of owner-occupied apartments, which in the short term is based on changes in the dollar exchange rates. (On the reasons for the recession in the construction industry, which started in 1996, see the section on construction in Chapter 2.)

The considerable slowdown in housing prices was reflected only during the last five months of the year, whereas there were many indications of a sharp decline in demand and activity in the housing market at the beginning of the year.

The rent index also slowed, albeit to a lesser extent, rising by 9.8 percent, vis-à-vis an increase of 11.8 percent in 1996, and an increase of 7.9 percent in the dollar exchange rate in 1997. The relatively high increase in the rent index compared with that of owner-occupied apartments may reflect excess demand in the rental housing market, and may indicate that the fall in demand for apartments to purchase can also be attributed to portfolio considerations. The index for other housing-related expenses (e.g., electricity, water, gas,

Figure 3.4
Changes in Housing Price Indices in 1997



SOURCE: Central Bureau of Statistics.

municipal property taxes, etc.) rose at a similar rate to that in 1996 (8.1 percent). In contrast, the index of residential-construction inputs accelerated slightly (8.3 percent), reflecting the construction costs side. This can be mainly attributed to the 11.3 percent rise in the wage index, despite the drop in the number of Israelis employed in the industry and the rise in the number of foreign workers, whose cost of employment is lower (for details, see Chapter 4).

Box 3.2: Historical Perspective of Inflation in Israel

Several periods can be distinguished in the development of inflation in Israel:

1. 1954–69 A period of rapid growth—a 5 percent inflation environment.
2. 1970–72 Continued rapid growth—but the inflation environment rises to 12 percent.
3. 1973–78 Increased defense expenditure following the Yom Kippur War. The first global energy crisis, and slowdown in world trade. Inflation environment of 40 percent.
4. 1979–82 The second energy crisis, the liberalization program, and an attack on the reserves (following the 1977 economic reform). Balance-of-payments deficit, budget deficit; increase in the external debt burden; constant rise in inflation—from 80 percent to 130 percent.
5. 1983–85 Years of crisis, very high inflation—an inflation environment of 270 percent (in November 1984 inflation reached a peak of 486 percent). Economic Stabilization Program (ESP) introduced in 1985.
6. 1986–91 Implementation of the ESP, continuation of the recovery process—inflation environment of 18 percent.
7. 1992–96 Following mass immigration, inflation targets were adopted and the policy of the Bank of Israel was directed towards attaining those targets. This period was also characterized by the introduction of a regime of a crawling exchange-rate band; passing of the Budget Deficit Reduction Law; the peace process; falling prices abroad, exposure of the economy to competitive imports, accelerated liberalization of capital flows—inflation environment of 10-11 percent.

4. DOES THIS YEAR'S SLOWDOWN IN PRICES SIGNAL A NEW INFLATION ENVIRONMENT?

The question which arises is, does the slowdown in price increases in 1997 signal a new inflation environment, as it did in 1992, or is it a passing episode? Comparison of the conditions that caused the reduction of the inflation environment in 1992 with the slowdown of prices this year may shed some light on this question.

Similarities and differences between the situations in 1992 and 1997 as reflected in the inflationary process

In both 1992 and—to a lesser extent—in 1997 there was a very significant decline in the rate of increases of all the major price indices.

Development of price indices: in 1997, as in 1992, a sharp decline in the rate of price increases was recorded—albeit to a lesser extent. This trend was reflected in the CPI, in many other indices—including those that exclude short-term effects—and in inflation expectations. However, comparison of the two periods indicates that in 1992 there were prior indications of a reduction in the inflation environment, whereas in 1997 signs of a slowdown in the indices only became clear during the last months of the year.

The downward trend in inflation in 1992 and the slowdown in 1997 can be attributed to a long line of macroeconomic variables which provided an environment conducive to a change in the rate of inflation.[20]

Import prices (imported inflation): the rate of increase in prices of imports in local-currency terms fell considerably from 1990 to 1992 (an average decline of about 12–16 percentage points compared with 1989). During the current period, too, the development of import prices supported the decline in inflation. In 1995–96, the rate of increase of prices of imports in local-currency terms declined by a cumulative 7–12 percentage points—even though the dollar strengthened in relation to the local currency.

Policy factors: Monetary and fiscal policies contributed toward maintaining inflation at a lower level.

Inflation target regime: At the end of 1991, for the first time, the Bank of Israel and the Ministry of Finance announced an inflation target for the following year. During the current period as well, the public perceives the Bank of Israel and the government as being more committed to reducing inflation. At the end of 1996, in addition to the annual inflation target that had been set, the government resolved that the "inflation target for 2001 will be the norm in OECD" (an average of 4.5 percent at the time). In 1997, the government also resolved that it was necessary to "continue gradually lowering the rate of inflation with the intention of eventually achieving the long-term price stability customary in industrialized countries."

Monetary discipline: During the last quarter of 1991, there was an increase in the Bank of Israel interest rate, the real interest moved from negative rates to positive rates, and the exchange-rate regime was changed: a crawling band was instituted, the slope of which corresponded to the difference between the inflation target and inflation in Israel's trading partners. Introduction of the crawling band contributed towards reducing the uncertainty and helped to reduce inflation. In addition, since the second half of 1996 Israel has adhered to a contractionary monetary policy. This was expressed by an increase of about 3 percentage points in the real interest rate (see Figure 3.2), and by several changes in the exchange-rate regime introduced in mid-1997. These changes made it possible to reduce the rate of total depreciation by one percentage point. The rate of increase in the money supply, which has a delayed effect on prices, declined

[20] Tables 3.3, 3.4, and 3.A.1A may prove helpful in this analysis.

during 1991 as it did in the first eight months of 1996. During the second half of 1992, and from September 1996, the trend changed, and the rate of growth in money supply accelerated. This change apparently reflects an increase in demand for local-currency assets following the decline in the inflation environment and in nominal interest rates.

Fiscal discipline: In both 1992 and 1997, budgetary discipline tightened. This was reflected in reduction of the total government deficit, and in a decline in the share of the public debt in GDP.[21] In 1992, the government's domestic deficit as a share of GDP also fell—in accordance with the Budget Deficit Reduction Law enacted in that year. Employers' tax was abolished as well, and there was a cumulative erosion, in real terms, in the minimum wage.

Excess demand: In 1992, which was characterized by rapid GDP growth (6.6 percent), the rate of expansion of domestic use of resources above that of GDP, which serves as an indicator of excess demand, was 0 percent, compared with significant excess demand in 1991, when the gap between the two exceeded 6 percent. The moderation of demand, compared with the increase in supply, was particularly notable in housing, and it reduced the rate of increase of housing prices from 30 percent in 1990 and 1991 to only 5.4 percent in 1992.

1997 was characterized by a slowdown in economic growth and an even greater decline in demand, so that inflationary pressure eased considerably. The rate of expansion of domestic use of resources above that of GDP was a negative 0.8 percentage points. This was the highest rate of negative expansion (in absolute terms) since 1989. In the housing market, too, there was a considerable slowdown of demand, and housing prices rose by only 7.5 percent—about half their rate of increase in the years 1992 to 1996 (on average).

The labor market: In and prior to 1992, there were substantial structural changes in the labor market, mainly due to the considerable expansion of the labor supply following the large influx of immigrants in the early 1990s, which was accompanied by a substantial rise in unemployment. These developments clearly contributed towards an appreciable decline in inflationary pressures from the production costs side. The rate of increase of the nominal wage, for example, declined by more than a cumulative 8 percentage points. The minimum wage, which is particularly relevant to employed immigrants from the former Soviet Union and to employees in traditional industries, also decreased steadily in real terms from the early 1990s.

The current period has also been characterized by higher unemployment since the second half of 1996. In 1997, unemployment contributed towards curbing private consumption and thus helped to reduce the rate of price increases. However, labor market developments in 1997 are completely different from those that characterized the beginning of the 1990s (for a more comprehensive discussion, see Chapter 4). Nominal wages in the business sector have actually risen in 1996–97, and, together with the slowdown in inflation, which was at least partially unexpected, a sharp rise

[21] See M. Dahan and M. Strawczynski, "Fiscal Policy and Shifts in the Inflation Environment," Discussion Paper Series 97.04, Bank of Israel, Research Department.

was recorded in real wages, which exacerbated the problem of unemployment. This year's developments in the labor market, in contrast to the beginning of the 1990s, prevented a greater drop in the rate of price increases and the considerable slowdown in real appreciation which occurred in 1992.

To summarize: the above analysis points to similarities between the overall conditions that led to the decline in the inflation environment in 1992, and the conditions that led to a slowdown in inflation in 1997. Moreover, both in 1992 and in 1997 (albeit to a lesser extent) the disinflation was expressed not only in the CPI, but by many other indices, too. Thus, comparative analysis of developments in 1992 and 1997 suggests that prices may rise moderately again in 1998. However, it is difficult to determine whether the inflation trend has changed, since 1997 provides only a single observed value. Moreover, the forces that brought about the slowdown in inflation in 1992 and the preceding period also included fundamentals which continued to operate and enabled a basis for a low inflation environment to be established: in the labor market, a long-term change took place, which weakened the linkage and COLA system. In monetary and fiscal policy, there was a change, in the form of the introduction of inflation targets and a crawling exchange-rate band, on the one hand, and the Budget Deficit Reduction Law, on the other, which was followed by structural revision of inflation expectations. Since in 1997 several contributory factors (some of which were short-term) helped to moderate prices, it may constitute a transitional year to a new low inflation environment. This will only prove to be the case if fiscal discipline, the development of inflation expectations, and additional macroeconomic factors which have an effect in the medium and long term, continue to act in the disinflationary direction.

There are some similarities between factors that led to a decline in the inflation environment in 1992 and those which generated the slowdown in price rises in 1997.