

Chapter 3

Prices

During 1998, the Consumer Price Index rose by 8.6 percent—a rate close to the middle of the inflation target (7-10 percent) and considerably higher than that in industrialized countries (about 2 percent). Price developments during the year can be divided into two parts: in the first eight months, continuing the trend which started in the last third of 1997, the rise in the index slowed significantly, to about 4 percent in annual terms. Inflation expectations also dropped markedly, as did a series of main price indices. The developments in this period indicated a decline in the inflation environment and a rapid approach to the long-term goal set by the government: the achievement over time of price stability common in industrialized countries. In September to November—following sharp depreciation of the NIS—the rate of price rises accelerated considerably. According to most available indicators (including the price indices for December 1998 to February 1999), the acceleration was temporary, since monetary policy is striving to attain the government's inflation target for 1999 (4 percent) and to continue converging with inflation rates in developed economies. This assessment is supported by the background conditions—the recession in demand and activity, the decline of foreign prices, and the relative calm in the world's financial markets at the beginning of 1999.

1. MAIN DEVELOPMENTS

The Consumer Price Index rose during 1998 by 8.6 percent, close to the middle of the inflation target (7-10 percent); in 1997 the inflation rate was 7 percent. These rates are considerably higher than the rates current in industrialized countries—about 2 percent. Price developments during the year can be divided into two parts: in the first eight months, continuing the trend evident in the last four months of 1997, the rise in the index slowed to 3.9 percent in annual terms, the lowest rate recorded in Israel since 1969, reflecting progress towards the government's long-term goal—price stability over time, as is the norm in industrialized countries. In contrast, in September to November price rises accelerated owing to the unusually sharp depreciation of the NIS from mid-August. Following a sharp rise in the Bank of Israel key interest rate in November and the relative calm in the world's financial markets, the indices for December 1998 to February 1999 indicate a marked weakening of the upward pressure on prices. The development of the main price indices in the economy during the year was similar to that of the Consumer Price Index (Tables 3.1 and 3.2).

The CPI rose by 8.6 percent during 1998.

From January to August, the CPI rose at an annual rate of about 4 percent, but it accelerated from September to November because of the sharp depreciation of the NIS.

Table 3.1
Prices and Exchange Rates, 1996-99

	(annual rates of change, percent)						
	Annual		Period of		Period of rapid		Period after
	1996	1997	1998	10% inflation Jan-Aug 1997	3 % inflation Sep '97-Aug '98	depreciation Sep-Nov 1998	depreciation Dec '98-Feb '99
Price index							
CPI	10.6	7.0	8.6	9.8	3.2	25.3	-4.6
CPI excluding fruit & vegetables and housing	10.1	6.7	8.5	7.8	3.8	23.3	2.1
Wholesale goods	7.0	5.9	8.2	7.3	1.2	35.1	-3.6
Housing	13.2	7.5	8.8	13.8	1.3	32.3	-21.9
Tradable goods	8.3	5.8	8.7	6.4	2.5	32.0	-0.4
Nontradable goods	12.0	7.7	8.6	11.8	3.5	21.7	-7.2
Tradable goods excluding clothing & footwear	8.9	7.6	9.1	9.9	2.8	30.5	3.2
Nontradable goods excluding fruit & vegetables and housing	11.8	7.9	8.1	9.2	5.2	15.2	3.9
Dollar	5.0	7.9	18.2	11.8	5.0	68.8	-14.2
Currency basket	3.0	3.7	20.6	4.3	4.9	86.3	-17.2

SOURCE: Based on Central Bureau of Statistics data.

The main challenge facing inflation policy this year was initially to ensure that the significant deceleration in the rate of price rises in the 12 months to August would be consolidated as a decline in the inflation environment to a rate of about 4 percent, and thereafter—that the price rise in the last period would be no more than a temporary shock rather than the onset of accelerating inflation. According to most of the available indicators, it appears that the price acceleration was indeed temporary, and that the economy is returning to the inflation rates prevailing from September 1997 to August 1998, as a result of monetary policy response which signaled an ongoing commitment to low inflation rates. Background conditions support this assessment—the recession in demand and activity, the fall of foreign prices, and the relative calm in the world’s financial markets at the beginning of 1999.

A number of principal macroeconomic factors this year acted to slow the rate of price rises: monetary discipline was maintained—so as to consolidate the decline in the inflation environment and prevent the rising prices of the last months of the year from developing into ongoing acceleration of the inflation rate; the level of the real interest rate on Bank of Israel resources (which displayed great volatility during the year) averaged 6 percent. Macroeconomic policy, the continued tapering off of the effect of the large-scale immigration, and the security-political uncertainty (as explained in Chapter 2), all contributed to the slowdown in domestic demand, which in turn have a major effect on price developments. In addition, world demand also declined owing to the financial shocks and crises that befell the world’s markets. This slowdown of domestic and world demand led to a further decline in the growth rate, which was reflected in yet another rise in the rate of unemployment, with more hard-core unemployment—also contributing to a slower rate of price rises through its moderating effect on demand and on wages. From the beginning of 1996, the development of import prices (in dollars) has also supported a decline in the rate of price increases: the sharp fall in the prices of fuel and other raw materials was particularly marked.

Fiscal policy appears neutral this year from the aspect of its influence on the aggregate change in demand and in activity (as explained in Chapter 5), neither accelerating the rate of price rises nor supporting further decline in the short- or longer-term rate of inflation. On the one hand, the government met its overall annual deficit target, and price assumptions in the national budget were consistent with the inflation target; on the other hand, it appears that attainment of the deficit target was largely due to an unplanned increase in Bank of Israel income, and that the domestic and total public-sector deficit grew, as did the debt/GDP ratio—factors which did not support a further decline in inflation. Public expenditure also increased and exceeded the rate of GDP growth, and part of that increase is of a permanent nature.

Pressure for price rises from the wage side declined this year; the rise in the nominal hourly wage in the business sector slowed compared with 1997. The hourly wage net of the cost-of-living allowance (COLA) and net of the increase in productivity showed a similar picture. Moreover, the unit cost of labor in the business sector actually fell, after rising in 1996–97.

Monetary policy and the background conditions—the slowdown of domestic and global demand, and the reduction of world prices—acted to slow price rises in 1998.

Fiscal policy did not accelerate the rate of price increases, but neither did it support a further decline in the rate of inflation.

Pressure for price rises from the wages side declined in 1998.

From January to July, exchange-rate developments and inflation expectations helped ease upward pressure on prices; but from August to November the exchange rate rose steeply, followed by a rapid rise in inflation expectations and in price increases.

In examining the development of the exchange rate and inflation expectations, a distinction should be made between two sub-periods—January to July and August to November. In the first period, both factors helped to ease the upward pressure on prices: for most of the period, the exchange rate remained close to the lower limit of the exchange-rate band, and estimates of inflation expectations fell steeply; in August to November the exchange rate climbed steeply, followed by a rapid rise in inflation expectation estimates, and price rises accelerated immediately. Although the immediate pass-through from the sharp depreciation to prices was fast, it appears that overall it will not be larger than in earlier depreciations in the nineties; this is because the monetary policy response—a sharp rise in the key interest rate in November which signaled the ongoing commitment to low inflation rates—against the background of the recession and the appreciation at the end of 1998 and the beginning of 1999, is currently acting to reduce the overall extent of the pass-through. This can be seen in the moderation of inflation expectations towards the end of the year, and in the decline in price indices in December 1998 to February 1999 (–1.1 percent).

2. DEVELOPMENTS DURING THE YEAR

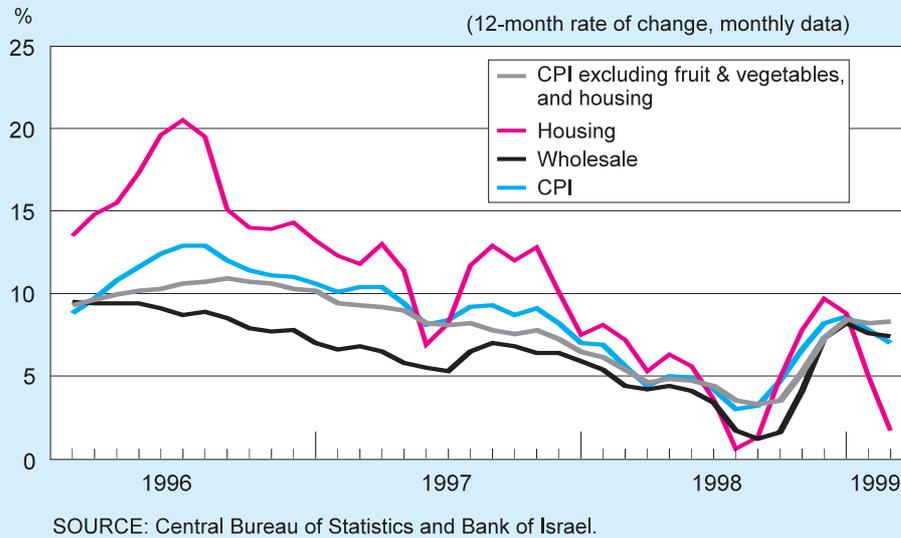
From January to August, the rate of increase of all the main price indices slowed, and inflation expectations fell considerably.

From January to August, a considerable decline in the rate of price rises was recorded, continuing the trend evident in the last four months of 1997. This was reflected in all the main price indices in the economy and was surprising in its strength (Table 3.1 and Figure 3.1). The rise of the CPI slowed to 3.9 percent in annual terms.¹ The indices which exclude seasonal and highly volatile items slowed, for example, the index excluding fruit and vegetables and housing, which rose by 3.3 percent; the wholesale goods index, which scarcely rose in the period; and indices derived from the national accounts—among them the index of domestic uses, which rose in the first half of the year by an average of 3.5 percent, compared with 8.3 percent in the corresponding period last year. The decline in the rise of the CPI encompassed all its components. Particularly noteworthy was the deceleration of the rise of the housing index—from 13.8 percent in the corresponding period in 1997, to 4.1 percent in January–August 1998. The decline in the average annual rise of the price indices is also noteworthy: the average annual rise in the CPI, for example, fell from 9 percent in 1997 to 5.4 percent in 1998 (Table 3.2). The public's inflation expectations, which influence the actual development of price indices and therefore serve as an indicator for the inflation environment, declined sharply and continuously to their lowest rate since they have been calculated from capital market data²—from 9 percent in December 1997 to less

¹ The rates of rise of the other indices mentioned in this paragraph are also presented in annual terms.

² 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 on how expectations are derived and the theoretical and practical problems entailed therein, see Box 3.2 in the Bank of Israel, *Annual Report*, 1995.

Figure 3.1
Main Price Indices, 1996-February 1999



than 5 percent from May to July 1998—and from the data of the Bank of Israel survey of companies. The business forecasters' index³ showed a drop to even lower rates (Figure 3.2). At the same time, the public changed the composition of its assets portfolio, enlarging the unindexed component and extending the terms of its deposit in that segment.

Developments in this period indicated a decline in the inflation environment and a rapid approach of the Israeli economy to the government's long-term goal—the achievement of price stability over time, as is the norm in industrialized countries. It was against this background that the inflation target of 4 percent was set for 1999. The slope of the lower limit of the exchange-rate band was reduced from 4 percent to 2 percent, following which the Bank of Israel lowered its key interest rate by 1.5 percentage points. Against the backdrop of the reduced interest-rate differentials, the NIS started to depreciate (by as much as 1.5 percent), but this waned towards the middle of August; but it was then that the crisis erupted in Russia. It had been preceded by the prolonged crisis in East Asia, and it led to the emergence of the risk of a financial crisis in South American countries, particularly Brazil. These developments undermined financial stability worldwide, which was also expressed in the capital, money and currency markets in Israel. From the end of August to the end of November—mainly

Israel's economy rapidly approached the government's long-term goal of achieving price stability over time, the norm in industrialized countries.

³ The inflation forecasts to a 12-month horizon made by the economics departments of the commercial banks and by a number of economic consulting and forecasting firms. For further details, see R. Amir (1998), 'Estimating the inflation expectations of the public in Israel,' presented at the Research Department conference on the subject of inflation, macroeconomics and the pass-through mechanisms (Summer 1998).

Table 3.2
Indicators of the Inflation Environment, 1992-98

	(average annual rates of change, percent)															
	5-year average										Standard deviation		1997		1998	
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	1992-96	1997	1998	1999	2000	
<i>Price index</i>																
CPI	11.9	10.9	12.3	10.0	11.3	11.3	0.9	9.0	5.4	9.2	7.9	2.4	9.1			
CPI excluding fruit and vegetables and housing	11.9	9.0	8.7	9.3	10.2	9.8	1.3	8.3	5.5	7.6	7.7	3.1	8.1			
Wholesale goods	10.2	8.2	7.9	10.7	8.6	9.1	1.3	6.3	4.2	6.0	7.0	1.7	6.5			
Tradable goods	10.9	7.3	7.8	8.1	9.0	8.6	1.4	7.0	4.5	6.5	7.1	1.0	9.2			
Nontradable goods	12.5	12.8	15.1	11.4	12.6	12.9	1.4	10.2	5.9	10.8	8.4	3.2	9.0			
Housing	11.2	19.3	23.6	14.3	15.9	16.9	4.8	10.8	5.7	12.0	10.3	1.9	9.2			
Domestic uses ^a	11.7	10.9	12.1	10.5	9.6	11.9	1.0	7.7	5.7	8.3	7.1	3.5	9.0			
GDP ^a	12.3	11.6	12.7	8.9	11.2	11.3	1.5	8.9	7.1	9.0	7.6	6.0	8.9			
Business-sector product ^a	12.0	10.3	8.5	6.4	10.0	9.4	2.1	9.2	7.5	8.6	8.3	5.5	11.0			
Private consumption ^a	11.3	10.9	11.7	5.6	10.2	9.9	2.5	7.8	5.1	7.7	6.8	2.4	9.3			
Public consumption ^a	12.8	11.5	18.0	22.9	10.9	15.2	5.1	7.8	7.0	8.5	4.6	9.2	5.1			

^a Derived from National Accounts data.

SOURCE: Based on CBS data.

the first ten days of October when the LTCM hedge fund ran into serious difficulties, affecting other investors in the emerging markets—the NIS depreciated by about 14 percent against the dollar and by about 17 percent against the currency basket (for further details on the causes of the depreciation, see Chapter 7).

Taking into account the extent of the depreciation, the characteristics of the Israeli economy—a small and open economy that cannot affect world prices, i.e., a ‘price taker’—and assessing that at least part of the depreciation is likely to persist, it would be confidently expected that prices of tradable goods would adjust, at least partially, to NIS prices of imports and exports. In fact, a certain rise in prices of nontradable goods was also expected, since the prices of many services and other nontradable goods are denominated in dollars. This practice started in the years of high inflation (the early 1980s)—as a means of maintaining the real prices of such goods and services in the short term—and to some extent still prevails. Thus, the prices of legal services, housing, rent, catering for social functions such as weddings, hotels, housing maintenance services, etc., all rose. The immediate response of prices to the depreciation is relatively weak compared with responses to depreciations which occurred in the 1980s, but is stronger than those in the 1990s. From September to November 1998 prices of tradable goods rose by 7.2 percent, those of nontradable goods by 5.0 percent, and those excluding fruit and vegetables and housing, by 3.6 percent.

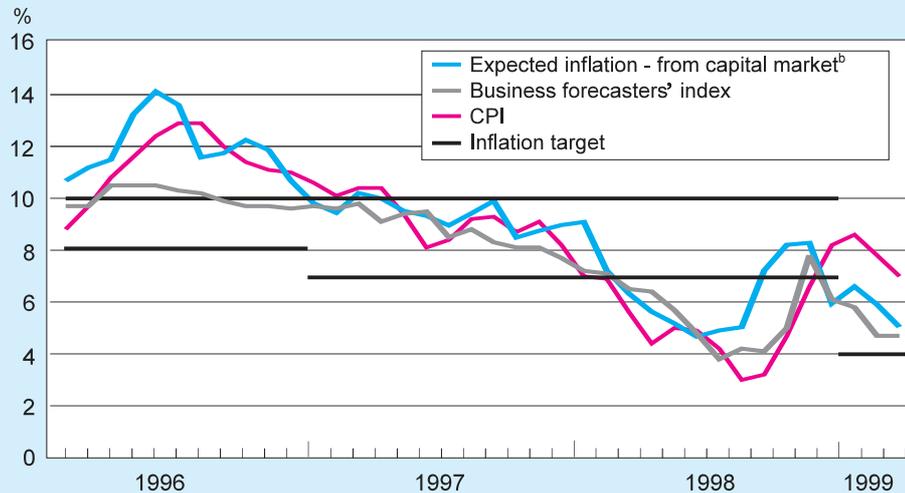
The question arises, why did the prices of goods rise so sharply, especially taking into account the further slowdown in the economy, the increased flexibility of the exchange-rate regime, and the other background conditions which act to generate real depreciation and to reduce the pass-through from the exchange rate to prices. The answer may lie in the size of the depreciation and in the assessment that it will persist (at least in part), combined with the concern that it will evolve into a rise in the inflation rate as occurred in the 1980s, when inflation was high. Such a large depreciation in such a short period, occurring suddenly and without central-bank intervention in the foreign-currency market, is an exceptional event, at least since the beginning of the decade, and therefore households and small financial entities were well aware of it. They feared a return to a higher inflation environment, and firms therefore immediately raised prices. During the three months September–November, most price indices rose more than they had in the preceding twelve months (Table 3.1 and Figure 3.1). The CPI rose by 5.8 percent. The indices which exclude seasonal and highly volatile items rose by similar percentages, and the wholesale index rose by 7.8 percent—five times as fast as in the preceding twelve months. Inflation expectations derived from the capital market also rose sharply, and showed extreme volatility. Part of the rise in expectations may reflect the increase in the risk premium in the capital market, related to global and domestic events.⁴ The business forecasters’ index showed a more moderate rise (Figure 3.2).

From end-August to end-November, mainly in the first ten days of October, the NIS depreciated by 14 percent against the dollar, and by 17 percent against the currency basket.

Factors acting to raise the immediate pass-through from the exchange rate to prices included the size of and reasons for the depreciation, concern that it would evolve into a rise in the inflation rate, and habits acquired in the years of high inflation.

⁴ See Chapter 6.

Figure 3.2
Expected Inflation, the Business Forecasters' Index, the CPI,^a
and the Inflation Target, 1996-February 1999



^a 12-month rate of change.

^b 12-month horizon, assuming full tax exemption for the investor.

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

The monetary policy response—a sharp rise in the key interest rate in November—prevented inflation from accelerating and reduced the extent of the pass-through.

To prevent price rises from evolving into accelerated inflation, the Bank of Israel raised its key interest rate (at the end of October and in mid-November) by a cumulative 4 percentage points (see Chapter 4). The monetary policy response, which signals the ongoing commitment to achieving low inflation rates, against a background of the continuing slowdown in activity, is expected to act to reduce the pass-through from the exchange rate to prices. This was reflected in the moderation of inflation expectation estimates in mid-November, in a slight appreciation of the NIS against the dollar and the currency basket in December, and in the CPI, which rose negligibly in December, fell by half of one percent in January and by a further 0.8 percent in February 1999. Moreover, in the period of accelerated depreciation most business forecasters predicted that the acceleration in prices would be temporary, and at the beginning of 1999 they predicted inflation slightly higher than the target for the year (4 percent). During the last few months the business forecasters' index has fallen, along with the fall in prices and the inflation expectations derived from the capital market.

Most indicators suggest that price rises from September to November 1998 constituted a temporary shock to the price level, and not a change in the inflation trend.

To summarize: in the first eight months of the year, continuing the trend evident in the last four months of 1997, a decline in the inflation environment was apparent. It appears that the acceleration in prices from September to November 1998 can be described as a temporary shock in the price level rather than a change in the trend of inflation; this assessment is supported by the monetary discipline being maintained while focusing on short- and long-term inflation targets set by the government, and the continued drop in import prices, against a backdrop of a slowdown in economic activity

which is expected to prevent ongoing acceleration in the rate of price rises. It appears that the moderation in the rate of rise of the CPI and many other main indices at the end of 1998 and the beginning of 1999 may be a preliminary indicator of this. Nevertheless, globalization and Israel's integration into the global economy are generating a certain vulnerability in the inflation environment, and significant shocks in Israel or abroad may be reflected in a sharp change in the rate of price rises. Therefore, if fiscal policy and wages policy are in accord with the downward inflation track as targeted by the government, and a broad consensus is achieved on the need to reduce inflation—the credibility and the effectiveness of monetary policy will increase and the economy's vulnerability to shocks will decline along with a fall in the cost of the process.

3. FACTORS AFFECTING THE DEVELOPMENT OF PRICES

A. The pass-through from the exchange rate to prices

The coefficient of the pass-through from the exchange rate to prices in the short term varies from country to country, and can even change between different periods in the same economy. In Israel, in the first half of the 1980s the pass-through was full and immediate, and since then has weakened, mainly against the background of the decline in the inflation environment and a weakening of the indexation mechanisms, and since the 1990s—also against the background of a gradual increase the flexibility of the exchange-rate regime. This flexibility was expressed mainly in a considerable widening of the exchange-rate band and in the Bank of Israel's nonintervention, in the past three years, in foreign-currency trading as long as the exchange rate is not about to cross the limits of the band.

The immediate reaction of prices to the sharp depreciation recorded from end-August to end-November 1998, while weaker than in the first half of the 1980s—the period of high inflation—was stronger than in previous instances of depreciation in the 1990s. Since only a short time had elapsed since the big depreciation and as the exchange rate affects prices after a lag, the extent of the pass-through in the present case is shrouded in uncertainty. In the following paragraphs we list some of the macroeconomic factors which may weaken the pass-through.

Several econometric models of the Israeli economy in the 1990s⁵ show that in periods of rising unemployment, the pass-through coefficient falls. Thus in 1992 the level was slightly above 0.2, in 1993 and 1994 it rose gradually, and in 1995, when there was almost full employment, it reached 0.5. On average, the pass-through was estimated at about 0.4, and its effect spread over two quarters. The current rise in unemployment is

The coefficient of the pass-through from the exchange rate to prices varies from country to country, and can even change between different periods in the same economy.

The pass-through in the 1990s was estimated at about 0.4, on average, and its effect spread over two quarters.

⁵ See: *Searching for Nominal Anchors in Shock-Prone Economies* (1995), Leiderman, L and Bufman, G., The Pinhas Sapir Center for Development, Tel Aviv University; *Inflation Targets and Exchange Rate Bands in the 1990s*, November 1995, Discussion paper No. 4-95, and also Bar-Or (1998), internal memo of the Bank of Israel Research Department.

The deceleration of demand and activity contributed to the current weakening of the pass-through.

contributing significantly, more than in the past, to a weakening of the pass-through from the exchange rate to prices, since it derives from falling demand and decelerating activity—a situation in which it is in any case difficult to sell goods;⁶ this is different from the situation in 1992, for example, when demand was booming and GDP flourishing, and the rise in unemployment derived from an exogenous shock—the influx of immigrants which increased the labor supply.

The monetary discipline which was imposed over a long period and gained credibility regarding the determination to lower the rate of inflation, acted to weaken the pass-through from the exchange rate to prices; fiscal discipline which was reimposed in 1997 and which was to some extent maintained this year also contributed to this effect.

The policy steps taken in the areas of capital movement and exchange-rate discipline⁷ acted and are acting to lower the pass-through, since they contributed to the assessment that they were designed to making the exchange-rate regime more flexible. It may be expected that in this situation the market will become accustomed to sharp and frequent fluctuations in exchange rates, weakening the link between the price of financial assets and the prices of goods, at least of nontradables. (The experiment in Canada, Ireland and other industrialized countries shows that in the transition from a fixed to a flexible exchange rate, the pass-through coefficient indeed fell.) On the other hand, there are a number of factors currently acting to strengthen the pass-through from the exchange rate to prices.

Monetary policy, committed to achieving low rates of inflation and to making the exchange-rate regime more flexible, helped and is helping to weaken the pass-through. The extent and nature of, and the reasons for, the depreciation acted in the opposite direction.

The pass-through coefficient is influenced by the frequency of changes in the exchange rate, by the size of the depreciation and its nature—permanent or temporary—as perceived by the players in the market. In the rare instances of large changes in the exchange rate, perceived as permanent, there is apparently some justification for opening contracts and raising wages and prices.⁸ The depreciation under discussion was sharp and exceptionally large, and occurred without the intervention of the central bank in the foreign-currency market—the first time this has occurred in the Israeli economy in the 1990s. This depreciation was also perceived, at least in part, as being permanent, being part of the global financial crisis, which was reflected, among other things, by the giant LTCM hedge fund running into difficulties, and was followed by other investors withdrawing from emerging markets. This took place against the background of the severe crisis in Russia which was preceded by the crisis in East Asia, which in turn led to a risk of financial crises in the countries of South America. The size of and reasons

⁶ When it is difficult to sell products, importers and exporters tend to absorb the fluctuations in the exchange rate in order not to lose market share ('pricing to market'), even if this leads to a measure of erosion in the adjustment markup.

⁷ Namely, the considerable broadening of the exchange-rate band, completion of the liberalization measures in the foreign currency market, and the non-intervention of the central bank directly in foreign currency trading.

⁸ See: 'Discrete Devaluation as a Signal to Price Setters; Suggested Evidence from Greece' (1986), Katseli, Louka, T., in: Edwards, Sebastian (ed), Ahamel, Liaquat (ed), *Economic Adjustment and Exchange Rates in Developing Countries*. Chicago and London: University of Chicago Press, pages 295–326.

for the depreciation, combined with concern that price rises would evolve into accelerated inflation, and with habits born in the years of high inflation, acted to increase the immediate pass-through. One expression of this can be seen in the steep rise of inflation expectations, even for the long term, and even after deducting the price rises expected in the months following the depreciation.

The monetary policy response—a sharp rise in the interest rate in November—is acting to narrow the extent of the pass-through, among other things by signaling the ongoing commitment to achieving a low rate of inflation. This was seen in the moderation of inflation expectations towards the end of 1998, the significant slowdown in price rises in December 1998 and actual price reductions at the beginning of 1999. It appears, therefore, that this episode will be characterized by an increase in the speed of the pass-through but not in its extent.

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Box 3.1: Change in the Method of Calculation of the CPI from 1999

From January 1999 the CPI will be calculated according to an updated basket of goods and services reflecting the composition of consumption of Israel's population as revealed in the 1997 Survey of Household Expenses (hitherto the index was based the 1992/93 Survey of Family Expenses).^{*} The plan is to update the basket of goods and services in the CPI every year, which will improve measurement. The principal change is expressed in the different weights attributed to the goods and services in the index calculation. Particularly noteworthy is the decline in the relative importance of housing (from 25.2 percent weighting to 21.4 percent), with a smaller decline in the weighting of food, fruit and vegetables, and clothing and footwear, compared with a considerable increase in the weighting of transport and communications (from 15.1 percent to 19.7 percent)—partly owing to the addition of new products such as Internet and mobile telephone service, and a smaller rise in the weighting of education, culture and entertainment.

The revised index makes use, for the first time, of a new method of measuring owner-occupied housing services (which has been attributed a weight of 16 percent compared with 13.8 percent in the previous index), based on the recommendations of the professional committee appointed by the Government Statistician. The new method measures the changes in rent on the basis of renewable rental contracts only, and in order to reduce the sampling error (which arises from the small number of new monthly observations), the index is based on a bi-monthly moving average. In the previous method the owner-occupied-housing index was calculated according to the value of apartments, thereby combining the prices of the stock of an asset with the calculation of the CPI, which is meant to be a faithful representation of the prices of the flow of goods and services consumed in the relevant period. Over and above the conceptual

difficulty, there was a practical problem in measuring owner-occupied-housing services by the previous method: because of the time-lag in the owner-occupied housing survey data, the Central Bureau for Statistics had to calculate an estimate of changes in the prices of apartments which was technically based on the rate of change in the dollar and on housing construction inputs. In the following month the index was calculated (partly) according to real data; the gap between that calculation and the estimate introduced 'noise' and volatility into the housing index and into the CPI.

The housing item includes two other components—in addition to prices of owner-occupied housing, which are a central component (about 75 percent): the rent index (about 20 percent) and the other-housing-expenses index (about 5 percent). The Bureau will continue to calculate the rent index by the previous method, which is based mostly on the rent prices in existing contracts, which have an automatic component linking them to the rate of rise in the dollar exchange rate. It is still too early to determine the rate of pass-through from the dollar exchange rate to the revised CPI; however, if prices in renewable rent contracts—on which the new method of measurement of owner-occupied housing is based—continue to be denominated in dollars, then the fluctuations in the dollar rate will be translated more quickly and powerfully than in the past into fluctuations in the housing item and in the CPI.

* For further details, see The Central Bureau of Statistics, 'Revision of Consumer Price Index—1999,' 8.2.1999.

B. Policy factors

Monetary policy

Setting the level of the nominal interest rate on its sources has become a central instrument of the Bank of Israel's policy in recent years. The measures implemented in the area of the interest rate and the credibility of the monetary policy contribute to the attainment of the inflation target by influencing inflation expectations, the path of the exchange rate, the rate of growth of domestic demand and expansion of the monetary aggregates. Furthermore, the Bank of Israel refrains from direct intervention in foreign-currency trading within the limits of the band (for further details, see Chapters 1 and 6).

In the first eight months of 1998, during which the annual rate of inflation declined to below 4 percent, monetary policy acted to consolidate the decline in the inflation environment; this included a gradual lowering of the Bank of Israel interest rate from 13.6 percent in January 1998 to about 11 percent at the beginning of August. This gradual decline of the interest rate prevented too sharp a narrowing of the interest-rate spread between Israel and abroad (which could have led to an increased capital outflow), in that it contributed to slowing the rise in the exchange rate, which for most of the

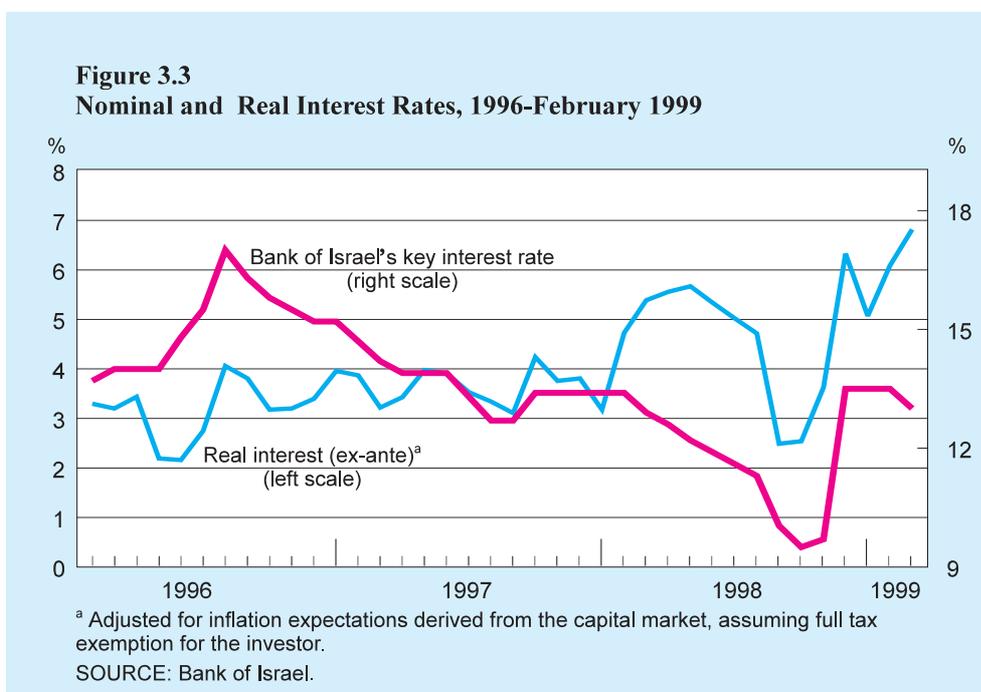
From January to the beginning of August, the nominal rate of interest was reduced gradually.

period remained close to the lower limit of the band, and to the continuing moderation of inflation expectations. Moderation in the rate of price rises was assisted to a significant extent by the slow rate of rise of the exchange rate and more moderate inflation expectation, which are influenced, as mentioned, by monetary policy and by actual price developments.

The rate of the decline in inflation expectations was faster than that of the nominal interest rate, so that the real (ex ante) interest rate rose from 5 percent in 1997 to more than 7 percent (average) in the first seven months of 1998 (Figure 3.3). The rise in the real interest rate played a part in slowing the rate of growth of domestic uses, in the continued slowdown in the increase of private consumption, and in the steep decline of investment, continuing the decline of 1997 (for further details, see Chapter 2).

Inflation expectations fell faster than did nominal interest.

The rise in real interest played a part in slowing the rate of growth of domestic demand.



On August 8, an inflation target of only 4 percent was announced for 1999, as well as a reduction of the slope of the lower limit of the exchange-rate band, in the wake of which the nominal interest rate was cut by 1.5 percentage points. Because of the global financial crises and against the background of narrowing interest-rate differentials, the NIS depreciated from mid-August to the end of December and at a particularly sharp and exceptional rate in the first ten days of October; this led to a steep rise in inflation expectations, so that the real interest rate according to expectations derived from the capital market fell as low as 1.5 percent during October. To prevent the expected acceleration in the rate of price rises from becoming persistently accelerating inflation,

On August 8, after the announcement of the inflation target for 1999 and the reduction of the slope of the lower limit of the exchange-rate band, the interest rate was reduced by 1.5 percentage points.

Table 3.3
The Inflation Target and Actual Inflation, 1992–98

	(rate of change during year, percent)	
	Inflation target	Actual rise in CPI
1992	up to 14–15	9.4
1993	10	11.2
1994	8	14.5
1995	8–11	8.1
1996	8–10	10.6
1997	7–10	7.0
1998	7–10	8.6
1992–98 ^a	9.7	9.9

The inflation target for 1999 is 4 percent.

^a Average.

SOURCE: Based on Central Bureau of Statistics data.

To prevent inflation from accelerating, nominal interest was hiked by 4 percentage points in November.

the interest rate was raised by two percentage points at the end of October, and once it became clear that inflation expectations were still rising (as was the exchange rate), it was decided to raise the interest rate immediately and sharply by another two percentage points; this step brought about a decline in inflation expectations and an appreciation of the NIS.

The monetary aggregates were also influenced by the policy: the M1 money supply grew by 12.7 percent during the year. This rate is higher than the inflation target and the GDP growth rate, but in essence does not appear to express risk of inflation, but rather a growth of the demand for money, which reflects the decline in the nominal interest rate and the sharp decline in the rate of inflation and inflation expectations, particularly in the first eight months of the year.

Fiscal policy

Fiscal policy considerably affects the ability to attain the inflation target. The level of the public debt, the size of the government's budget deficit and its financing, are among the factors which affect the rate of inflation in the medium and long term. In 1998, the government's total deficit was reduced from 2.8 to 2.4 percent of GDP, which means that the government attained the annual deficit target for the second year in succession. Price assumptions according to which the national budget was planned were in line with the inflation target, as in 1997, and at the beginning of 1998, when it became apparent that the actual rate of inflation was below the target rate, budget prices were amended to prevent unexpected fiscal expansion. It is important to note, however, that the decrease in the budget deficit relative to GDP was achieved in 1997–98 without resorting to reducing the weight of expenditure in GDP, and unlike 1997, when a restrictive fiscal policy was implemented, in 1998 a certain slackening of budgetary discipline was evident. Compliance with the deficit target was made possible in 1998 mainly by an unplanned growth of Bank of Israel income (as explained in Chapter 5); the total deficit of the public sector increased, as did the public debt/GDP ratio (after

Unlike in 1997, when a restrictive fiscal policy was implemented, in 1998 a certain slackening of budgetary discipline was evident.

two years of decline); the domestic deficit of the public sector, which has a significant effect on domestic activity and therefore on price development, also rose this year, from 3.7 to 4.4 percent of GDP (Table 3.4); and public expenditure—a central component in total demand in the economy and therefore having a considerable influence on short-term price development—grew this year by slightly more than 2 percent, faster than in 1997 and also faster than GDP growth. Nevertheless, its growth rate this year is more moderate than in 1994–96 (approximately 3 percent on average).

Public-sector wages rose by 5.7 percent in 1998, compared with 8.9 percent in 1997 and much higher rates in previous years. Wage negotiations planned for 1999, and negotiations currently under way for the cost-of-living allowance (which applies to all employees in the labor market), will put the government's commitment to maintain fiscal discipline to the test. The deficit in the health sector, the size of the deficit of the local authorities and the increase in the number of those employed in the public sector, which carries an inherent and constant budget increase, are likely to make it difficult to lower the rate of inflation and reduce public expenditure in the future.

C. Demand and unemployment

The annual growth rate of total use of resources serves as an indication of the development of demand for domestic product, and therefore expansion of total use of resources beyond that of domestic product is evidence of surplus demand, which acts to accelerate the rate of price rises. In the past two years the rate of expansion of total uses has declined greatly—from 7.4 percent in 1990–96 (average), to about 2 percent in 1997 and 1998 (Table 3.4)—and the difference between the rate of expansion of uses and that of domestic product (which also slowed) thus disappeared. This constituted a significant reduction in inflationary pressures, which contributed greatly to moderating the rate of price increases in 1997–98.

The increase in the unemployment rate expresses (with a certain time lag) the contraction of demand and the current downturn phase in the business cycle. Unemployment rose from 6.8 percent in 1995 and 1996 (average) to 7.7 and 8.6 percent in 1997 and 1998 respectively, and the rise contributed to slowing the rate of price rises in 1997–98. Econometric tests show that this year unemployment made a large contribution, both in its direct influence on the CPI and in its indirect effect, by moderating the pass-through from the exchange rate to the price indices.

D. Cost variables

Wages

The development of wages showed an easing of the pressure to raise prices. An analysis of the development of the rate of wage increases and its effect on prices—as far as possible net of the recurring effect of prices on wages and net of the effect of the changes which occurred this year in hours worked and productivity—shows that there was marked moderation: the rate of the rise in unit labor costs in the business sector (less COLA and productivity) averaged 7.4 percent, compared with 9.5 percent last

In 1997–98, demand rose much more slowly than in 1990–96.

The increase in the unemployment rate, which expresses (with a certain time lag) the contraction of demand, contributed to slower rate of price increases in 1997–98.

The moderation of the rate of wage increases in 1998 eased the upward pressure on prices to some extent.

Table 3.4
Determinants of Prices, 1987-98

	Average 1987-89	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
(average annual rates of change, percent)											
Change in import and export prices^a											
Imported intermediates ^b	17.3	25.6	12.2	7.8	4.5	9.1	9.1	14.0	2.3	2.1	5.0
Civilian imports ^c	16.0	23.0	13.8	10.1	8.0	11.5	8.4	10.0	3.5	3.0	4.5
Exports ^c	16.7	22.9	11.1	15.1	7.1	11.5	5.7	4.8	6.7	6.6	6.5
Fuel	18.4	44.4	32.0	-14.6	2.8	2.1	3.8	10.9	21.6	-0.4	-21.6
Change in foreign trade prices^d											
Private consumption imports	5.3	-1.0	6.6	-3.2	2.9	-0.7	0.5	7.6	-4.1	-4.4	-3.5
Civilian imports ^c	6.4	2.6	8.3	-2.6	0.1	-3.0	1.9	10.0	-2.2	-4.8	-5.2
Real change in product and uses											
GDP	3.7	1.4	6.3	5.7	6.8	3.4	6.9	6.8	4.7	2.7	2.0
Total uses	3.6	-0.9	7.0	8.8	7.5	7.0	8.3	7.4	5.8	2.7	2.0
Rise in total uses beyond GDP	-0.1	-2.3	0.7	3.1	0.7	3.6	1.4	0.6	1.1	0.0	0.0
Labor costs											
Wage per employee post	23.7	18.7	16.1	15.5	13.2	11.6	15.2	12.3	13.1	11.6	7.7
Public sector	25.4	20.6	17.4	20.9	11.5	12.2	23.6	16.1	13.4	8.9	5.7
Business sector	23.1	18.3	15.6	13.0	13.8	11.2	11.8	10.7	12.9	12.8	8.6
Real unit labor cost, business sector	0.4	-0.3	-3.7	-4.7	-1.4	2.4	3.2	0.9	2.4	2.2	-0.2
Fiscal changes											
Total public-sector deficit ^e	2.8	5.7	4.6	4.3	3.2	2.2	1.1	2.7	4.1	2.3	2.6
Public-sector domestic deficit ^e	4.7	8.2	7.5	7.6	6.4	4.0	2.3	4.0	5.2	3.7	4.4
Monetary changes											
Money supply (M1)	40.5	25.8	26.8	28.2	22.5	23.7	20.6	8.4	14.9	14.2	12.1
Inflation expectations ^f	4.1	15.0	18.6	15.7	9.6	9.1	12.9	10.8	11.9	9.3	6.3
Real interest on 10-year bonds		2.5	1.9	2.9	2.6	2.9	3.0	4.3	4.5	4.0	4.8
Unemployment rate	7.1	8.9	9.6	10.6	11.2	10.0	7.9	6.9	6.7	7.7	8.6
Exchange rates											
Currency basket	10.3	16.1	10.6	12.3	10.2	12.1	7.8	4.6	3.5	4.3	9.6
Dollar	9.1	19.9	5.2	13.0	7.9	15.1	6.4	0.0	5.9	8.2	10.2

^a Foreign trade prices multiplied by the exchange rate.

^b Excluding fuel and diamonds.

^c Excluding diamonds and capital services.

^d Dollar prices.

^e Percent of GDP.

^f 12-month horizon, derived from the capital market, and assuming full tax-exemption for the investor.

year. A simpler analysis of the rise in the wage per employee post in the business and public sectors merely serves to reinforce the picture (Table 3.4). Moreover, the real unit cost of labor in the business sector, which serves as an overall indicator of wage-cost pressures on manufacturers, declined this year by 0.2 percent after having risen in the previous two years by 2.3 percent (average). Nevertheless, the fact that real wages rose significantly this year (following their rise in 1997) cannot be ignored.

Other costs

Global developments in 1998 had conflicting implications for the development of the NIS index of imported intermediates.⁹ On the one hand, there was a continuous and steep decline in the dollar prices of imported intermediates, including fuel, and on the other hand, the dollar strengthened considerably against the NIS and weakened against the currencies of Israel's trading partners, especially in the last quarter of the year. Overall, NIS prices of imported intermediates rose by 7.8 percent in 1998, after smaller rises in 1996–97. The fuel component, however, even in NIS terms, was noteworthy for its decline of more than 20 percent, following a decline of about 9 percent in 1997 and a large rise in 1996 (Table 3.4 shows the average rates of the changes).

Raw material prices, particularly dollar prices of fuel, declined continuously and very steeply, also in NIS terms.

4. THE DEVELOPMENT OF PRICES

Prices of tradable and nontradable goods (Table 3.1) rose slowly in the first eight months of 1998 compared with 1992–96, and the rise in tradable goods prices was about a quarter of that of nontradable goods (0.9 percent compared with 3.5 percent). After the accelerated depreciation the situation was reversed: in the last four months of the year both rose at exceptional rates—tradable goods (as expected) at a faster rate than nontradable goods (7.7 compared with 4.8 percent), but over the year their rates were similar, 8.7 and 8.6 percent respectively. This development reflects a considerable slowdown in the real rate of appreciation compared with its trend in previous years. A similar picture emerges from other standard indices of development of the real exchange rate (for further details, see Chapter 2).

Prices of tradable and nontradable goods declined at similar rates, reflecting a marked deceleration of real appreciation.

An examination of price developments of the ten categories which make up the CPI shows that they all moved in line with the overall index. The rise in the first eight months (continuing the trend of the last four months of 1997) was noticeably more moderate, but from September to November the rate increased, influenced by the sharp depreciation of the exchange rate, and all the components rose by more than in the previous twelve months. From December 1998 to February 1999 the indices rose at a much slower rate.

The development of the housing index is particularly noteworthy: between September 1997 and August 1998 it rose by slightly more than one percent—about one tenth of its rate in the years 1992 to 1996. This moderation reflects the deepening of the recession

⁹ Including fuel, excluding diamonds.

The housing index rose by 8.8 percent during 1998.

Prices of owner-occupied apartments fell by almost one percent in real terms in 1998.

in the construction industry deriving from the decline in demand for housing both for residential purposes and as an investment (on the reasons for the slowdown in the construction industry, which started in 1996, see the discussion in Chapter 2). Compared with the CPI excluding housing, prices of owner-occupied housing (the main component in the housing index) showed a significant real decline in the period, after having risen continuously in real terms since 1992. From September to November 1998 the housing index rose by about 7.2 percent. Because the calculation of the index in the short term is partly an estimation which is based mainly on the development of the dollar exchange rate,¹⁰ it was decided to examine the rise in apartment prices using a survey of owner-occupied apartments (for August-September and October-November),¹¹ which is free from these problems of estimation; according to the survey, the rise in apartment prices amounts to about 9 percent, whereas the rise in the dollar exchange rate in the same period was about 14 percent. Over the entire year the housing index rose by 8.8 percent, and the prices of owner-occupied apartments rose by 7.8 percent; compared with the rise of the CPI excluding housing, the prices of owner-occupied apartments fell this year in real terms by almost one percent.

¹⁰ For further details on the method of calculating the housing index and on the theoretical and methodological problems deriving therefrom, see Z. Shiffer, 1995. 'On the Owner-Occupied Apartments Item in the Consumer Price Index,' Discussion Paper Series 95.09, and an internal memo by H. Bar-Or, 1998, Bank of Israel Research Department.

¹¹ The final figure for the period of this survey has not yet been published.