Chapter 7

The Money and Capital Markets

Monetary policy in 1997 served to achieve the inflation target set by the government and accordingly, for most of the year maintained the level of real interest evident in the second half of 1996. Together with fiscal policy and other factors, this caused the main goal to be achieved, with the rise in the Consumer Price Index (CPI) kept at the lower limit of the inflation target—7 percent; considerable moderation was also apparent in other indicators of the inflation environment. At the same time—and as a result of the effect of the fundamentals at work this year (among them monetary and fiscal restraint, see Chapter 2)—the rate of GDP growth is considerably below the economy's sustainable growth potential. The decline in inflation expectations at the beginning of 1998 to the lower limit of the inflation target range should facilitate the consolidation of a lower inflation environment than has been evident in recent years, and ease the process of the convergence of the inflation level with that of the industrialized countries.

In the first half of the year supply far exceeded demand in the foreign currency market, pushing the exchange rate to the lower limit of the band and forcing the Bank of Israel, on the one hand, to intervene in trading and buy an unprecedented extent of foreign currency in order to prevent the exchange rate from dropping below the band, and on the other, to increase monetary absorption so as to prevent exceptional expansion of the monetary base in the wake of those purchases. In mid-June, following the introduction of changes in the crawling band and a reduction in the nominal interest rate, the excess supply disappeared, and did not recur except for a few days at the end of the year and early in January 1998.

Some measure of recovery was recorded this year in the bond market. Long-term CPI-indexed yields fell slightly after having risen continuously between 1990 and 1996 (excluding 1992), and indexed bond prices rallied to rise by about 1 percent after declining for many years. The stock market saw a sharper recovery: the general share-price index recorded a real rise of 26 percent, along with significant acceleration in trading volumes and issues. It is conceivable that this prosperity—particularly in the first half of the year, with the interest being shown by foreign investors—stemmed partly from expectations of long-term growth.

The Israeli capital market, like most of the world's financial markets, was influenced—particularly in the last quarter—by the turmoil in South-East Asia. Nevertheless, the Israeli stock market (as well as the foreign-currency market) was relatively stable throughout the period.

Government privatization receipts reached a peak this year, mostly from sales to parties at interest. A positive turn was also recorded in the rate of resource accumulation by the financial institutions. Following the sharp decline in investments, the rate at which physical wealth rose slowed.

1. MAIN DEVELOPMENTS

To ensure attainment of the annual inflation target and the continued gradual lowering of the rate of inflation in order to achieve price stability in the long term, monetary policy in 1997 maintained the level of short-term real interest introduced in mid-1996. Four interest reductions during the first half of the year (following four reductions in the second half of 1996, and compared with one increase in the second half of 1997), did indeed reduce nominal interest on the monetary loan which the Bank of Israel makes available to commercial banks, from an average of 17 percent in the second half of 1996 to about 15 percent in the first half of 1997 and 14 percent in the second half, but a parallel decline in inflation expectations almost entirely maintained the real interest rates that had prevailed in the second half of 1996 (Figure 7.1).

The expected real interest rate on the Bank of Israel's sources was 5 percent this year.

The expected effective real interest rate on the monetary loan in 1997 averaged 4.6 percent—almost 1 percentage point higher than in 1996 and only slightly lower than in the second half of 1996. The average expected real interest rate at the deposit auctions offered by the Bank of Israel to the banking system was 5.3 percent (Table 7.1). Other short-term real interest rates, which derive largely from the Bank of Israel's interest rates, were higher. For example, the interest inherent in the short-term deposits offered by the banks to the public averaged 8.6 percent in 1997. The real ex-post interest rate was also higher, particularly in the second half of the year, when the rate of inflation was considerably lower than inflation expectations.[1]

An effective anti-inflationary policy mix was implemented this year.

Monetary restraint, on the one hand, and contractionary fiscal policy on the other, created an effective anti-inflationary policy mix in 1997. This, together with other significant factors which served to dampen demand, slowed the rate at which the Consumer Price Index rose to the lower limit of the inflation target—7 percent. Concurrently, the economic slowdown evident since mid-1996 deepened beyond expectations, and unemployment rose by about 1 percentage point. Most of the moderation in the rate of price rises was achieved relatively late in the year, and until July the CPI rose at a rate that was close to the upper limit of the inflation target.

[1] Real ex-post interest is calculated as an average of the nominal interest rates achieved at Bank of Israel auctions, net of the average rate of change in the CPI in the same period.

Table 7.1
Monetary Indicators, 1992–7

(percent)

	Average 1992–95	1995	1996	1997	1996 Jan–Jun	1996 Jul–Dec	1997 Jan–Jun	1997 Jul Dec
Rate of change								
CPI, during year	10.8	8.1	10.6	7.0	14.6	6.8	10.2	3.9
Core CPI[a]	9.4	8.8	10.4	7.7	13.1	7.9	9.1	6.3
Expected inflation	10.8	10.8	11.9	9.3	12.4	11.3	9.6	9.0
Nominal interest								
Monetary loan	13.5	15.6	16.1	14.3	15.3	16.9	14.8	13.9
Banks' deposits with Bank of Israel			17.9	15.2		17.9	15.5	14.5
Unindexed credit	18.8	20.2	20.7	18.7	20.0	21.5	19.3	18.2
Expected real interest								
Monetary loan	2.4	4.3	3.8	4.6	2.6	5.0	4.7	4.5
Banks deposits with Bank of Israel			5.9	5.3		5.9	5.4	5.0
Unindexed credit	7.3	8.5	7.9	8.6	6.8	9.0	8.9	8.4
Real yield to maturity on 10-year bonds	3.3	4.3	4.5	3.9	4.3	4.6	4.1	3.8
Rate of change								
Currency-basket exchange-rate[b]								
Average	8.7	4.6	3.5	4.3	4.9	1.9	4.2	6.5
During year	8.5	5.8	3.0	3.7	4.6	1.3	5.1	2.3
Dollar exchange-rate[b]								
Average	7.3	0.0	5.9	8.2	9.2	2.4	10.5	8.8
During year								
Currency conversions[c] (NIS million)	1,948	18,413	5,753	22,817	1,997	3,756	22,793	–104
Currency conversions[c] ($ million)	532	6,165	1,892	6,848	656	1,236	6,836	–27
Banks' deposits with Bank of Israel[d] (NIS million)			5,000	27,500	700	4,300	20,500	7,000
Monetary aggregates[e]								
M1	21.3	16.5	11.9	14.1	10.7	13.1	15.1	13.1
M2	33.3	34.4	26.2	24.8	20.0	32.6	23.6	26.0
Credit, total	30.3	22.0	21.5	16.2	24.4	18.6	18.0	14.5
Local currency[f]	29.8	13.0	19.3	13.0	21.6	17.0	8.0	18.3
Foreign currency[g]	33.9	63.2	28.4	25.6	33.5	23.5	50.0	5.2

[a] Excluding fruit and vegetables, housing, clothing, and footwear.
[b] The rate of change during the year is calculated on the basis of the December averages of the previous and the current years. The average rate of change is calculated on the basis of the year-on-year averages.
[c] Currency conversions by the private sector.
[d] At Bank of Israel auctions; period-on-period change.
[e] During period, annual rates.
[f] Indexed and unindexed local currency.
[g] In and indexed to foreign currency.

Monetary policy was implemented this year by means of three principal transmission mechanisms. The first—high real interest—acted to dampen the expanding rate of private consumption and investment, and ease the pressure of demand on prices. The second—lower inflation expectations— to some extent moderated the real price of disinflation in the short term and contributed to the considerable slowing of the rate of price increases in the last third of the year.[2] The third—the relatively moderate rate of local-currency depreciation—helped decelerate the rise in prices of tradable goods and housing, but together with the continued rise in nominal wages and the only partial response of prices of nontradable goods to the moderation of excess demand, it prevented the realization of real depreciation, despite the forces acting in this direction in 1997. The moderate rate of nominal depreciation was also supported by the inflow of autonomous capital, particularly in the second half of the year.

There was considerable excess supply on the foreign-currency market in the first half of the year.

Developments in the foreign currency and money markets were markedly different in the two halves of the year. In the first half—and more precisely, until 18 June (see below)—there was considerable excess supply in the foreign-currency market, which pushed the exchange rate down to the lower limit of the crawling band and forced the Bank of Israel to intervene in trading and buy foreign currency to an unprecedented extent so as to prevent the penetration downwards of the exchange-rate band from stretching downwards (Figure 7.2). To prevent exceptional expansion of the monetary base in the wake of these purchases, the Bank increased the volume of the deposit auctions offered to the banking system in this half of the year by more than NIS 20 billion. This development made it more difficult to implement monetary policy and increased the quasi-fiscal cost[3] of simultaneously maintaining the exchange-rate regime and attaining the inflation target.

Credit in foreign currency expanded greatly in the first half of the year.

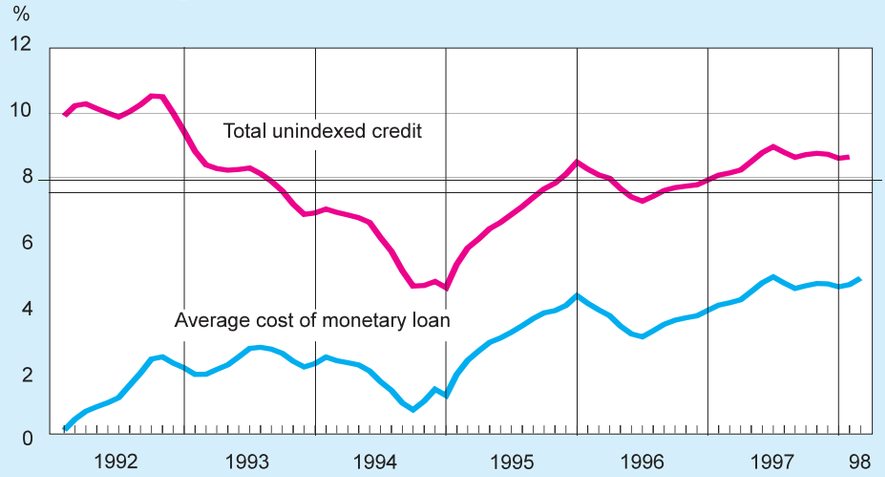
Foreign currency conversions by the private sector in the first half of the year renewed a process which had begun in 1995 and ended almost completely in March 1996. These conversions stemmed from an inflow of two types of foreign capital—long-term investment in the Israeli economy, and short-term financial investment—and from short-term credit indexed to or denominated in foreign currency, because the high local-currency interest rate made the expected cost of foreign-currency financing lower than that of local currency. In calculating the cost spread between the two financing channels, the expected rate of change of the exchange rate plays a central role. Thus, the considerable extent of foreign-currency conversions in the first half of the year—in the region of $ 7 billion—indicates, despite three interest reductions totaling 1.2 percent in the same period, that the possibility of marked nominal local-currency depreciation was not considered very probable. CPI-indexed and unindexed credit expanded in the first half of 1997 at an annual rate of only 8 percent, while loans denominated in or indexed to foreign currency increased at an annual rate of 35 percent in dollar terms, and 50 percent in local currency terms.

[2] In analytical terms, the influence of the first channel—interest—can be described as a downward movement along the Phillips curve in the short term, and the action of the expectations channel as a downward shift of this curve (for an explanation of the Phillips curve, see Chapter 2; for an econometric estimate of the curve in 1997, see Chapter 3).

[3] The term 'quasi-fiscal cost' means here the interest expenses (net) of the Bank of Israel deriving from the preservation of the monetary targets of the government and the Bank of Israel.

Figure 7.1a

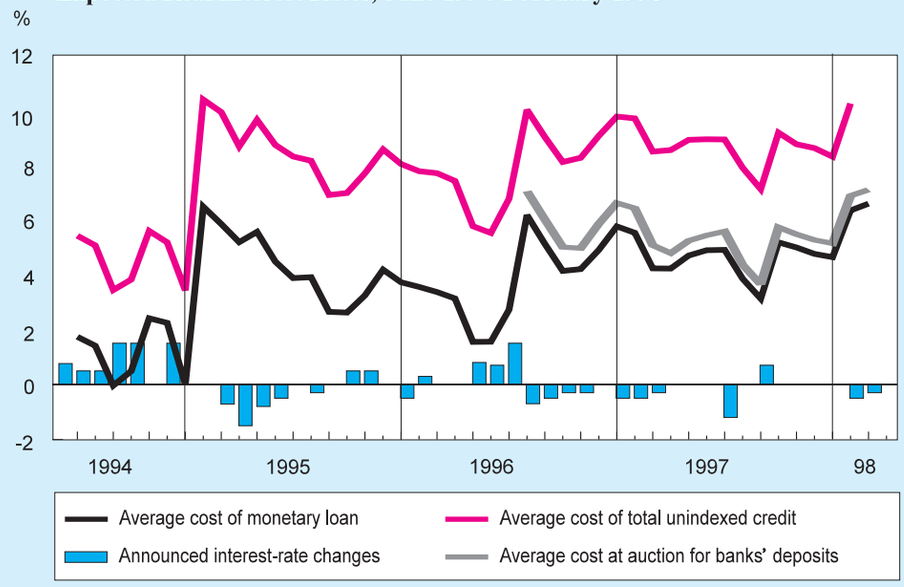
Trend of Expected Real Interest Rates,[a] 1992-February 1998



[a] Moving average of last twelve months; expected real interest rates are calculated by adjusting the equivalent effective nominal interest rates for expected inflation (gross estimate).

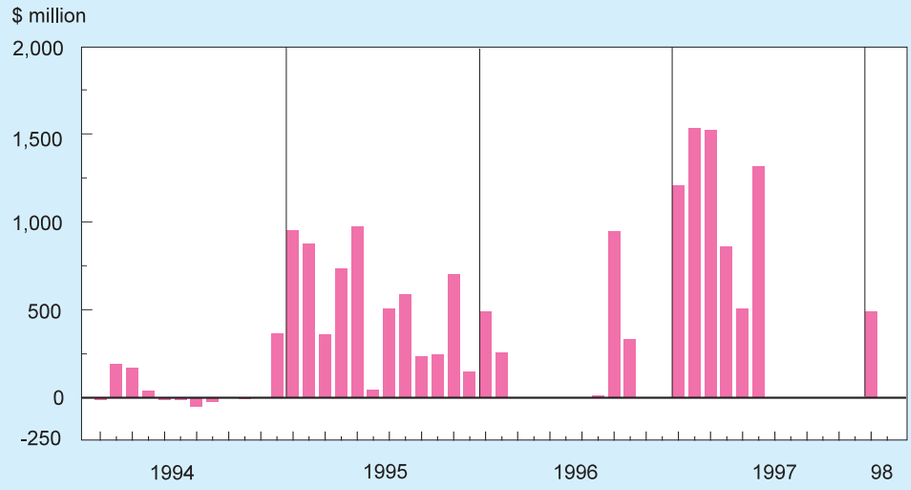
Figure 7.1b

Expected Real Interest Rates, June 1994-February 1998[a]



[a] At effective rates; dates at which interest-rate changes were published: 26.7.94, ,29.8.94, 25.9.94, 28.11.94, 21.2.95, 19.3.95, 24.4.95, 29.5.95, 24.7.95, 21.9.95, 23.10.95, 25.12.95, 29.1.96, 21.4.96, 27.5.96, 24.6.96, 29.7.96, 26.8.96, 24.9.96, 28.10.96, 23.12.96, 27.1.97, 24.2.97, 18.6.97, 25.8.97, 26.1.98, 23.2.98.

Figure 7.2
Foreign-Currency Conversions by the Private Sector, 1994-February 1998



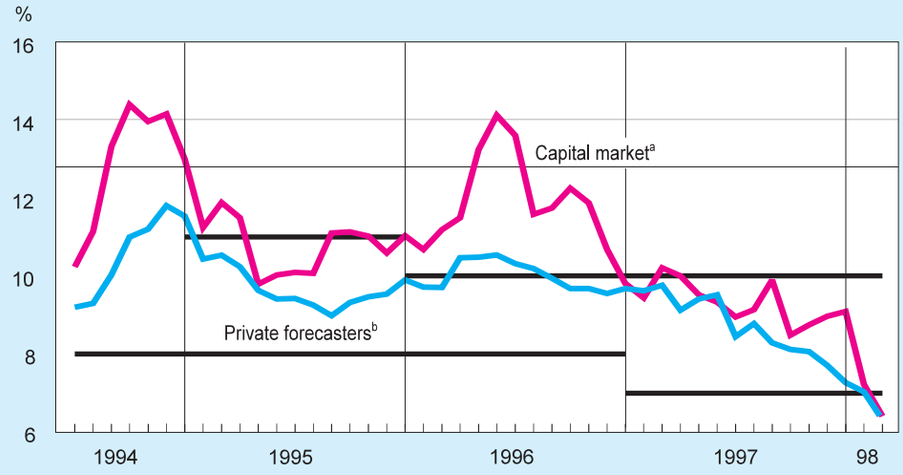
On 18 June changes were introduced in the exchange-rate band.

On 18 June, in consultation with the Bank of Israel, the government decided on changes in the exchange-rate band. These included raising the upper limit of the band by about 15 percent and reducing the slope of of its lower limit from an annual rate of 6 to 4 percent. These changes, together with the sharp 1.2 percent reduction in the interest rate introduced by the Bank of Israel at the same time, narrowed the expected yield differential to some extent because of the lower interest rate and the rise in the midpoint rate of the band (although lowering the slope of the lower limit of the band partly offset this effect). Immediately afterwards supply pressure in the foreign currency market came to a complete stop, and was not renewed during the year despite the rise in the interest rate in September, which offset more than half of the June reduction. This was due, *inter alia*, to the greater riskiness of world financial markets, the result of upheavals in the capital markets and exchange rates of South-East Asian countries, and of partial exhaustion of resort to foreign-currency credit as part of the overall credit basket of Israel's business sector. The annual growth rate of credit in and indexed to foreign currency declined in the second half of the year to a mere 5 percent.

No significant change occurred in the exchange rate, and after a short depreciation episode immediately after the introduction of the changes in the band and the lowering of the interest rate, it continued to fluctuate slightly for most of the period very close to the lower limit of the band, following the increased inflow of autonomous capital. Despite this, the Bank of Israel was not required to intervene in foreign currency trading except for the last two days of the year, and there was no need to continue enlarging the deposit auctions, which had increased by only another NIS 3 billion by the last week of the

[4] In the last week of December, deposits once again increased by some NIS 4 billion as a result of the need to absorb exceptionally large amounts injected by the government in the last few days of the year.

Figure 7.3
Expected Inflation for 12 Months Ahead, and the Annual Inflation Targets, June 1994-February 1998



[a] Expected inflation derived from capital market assumes full tax-exemption for the investor in indexed bonds.

[b] The index of private forecasters averages the inflation forecasts for 12 months of the major banks and several economic consultancies and forecasters.

year.[4] At the end of December and the beginning of January 1998, foreign currency conversions were renewed for several days. The need to sterilize them led to the further expansion of deposits, which reached some NIS 40 billion in mid-February.

The gradual decline in inflation expectations, which had started in mid-1996, continued in 1997: the average half-yearly level of expectation estimates, as derived from the capital market, fell from 11.3 percent in the second half of 1996 to 9.6 percent in the first half of 1997, and to 9 percent in the second half. These estimates fluctuated throughout the year within the range of the inflation target, after exceeding its upper limit throughout 1996 (Figure 7.3). Although the level of expectation estimates was quite volatile during the year, at the end of the year it was still 9 percent. In the first two months of 1998 these expectations plummeted, to stand at about 6.4 percent in February. The inflation forecast index of private forecasters[5] remained below capital market estimates throughout the year, and indicated a smoother downward trend during the year. At the end of the year inflation expectations according to this index stood at 7 percent, and in February 1998 they also fell, to 6.4 percent. The lowered expectations were the result of the stronger credibility of the inflation target regime this year, thanks to the uniform implementation of the fiscal and monetary policies, and seemingly also reflected the public belief that the economic slowdown, with the easing of pressure on prices, would not be short-lived.

Inflation expectations were within the inflation target range throughout the year.

[5] The private forecasters index averages the inflation forecast for 12 months of the large banks and of several other bodies whose business is forecasting and economic consulting.

Figure 7.4a
The Exchange-Rate Band, 1996-February 1998

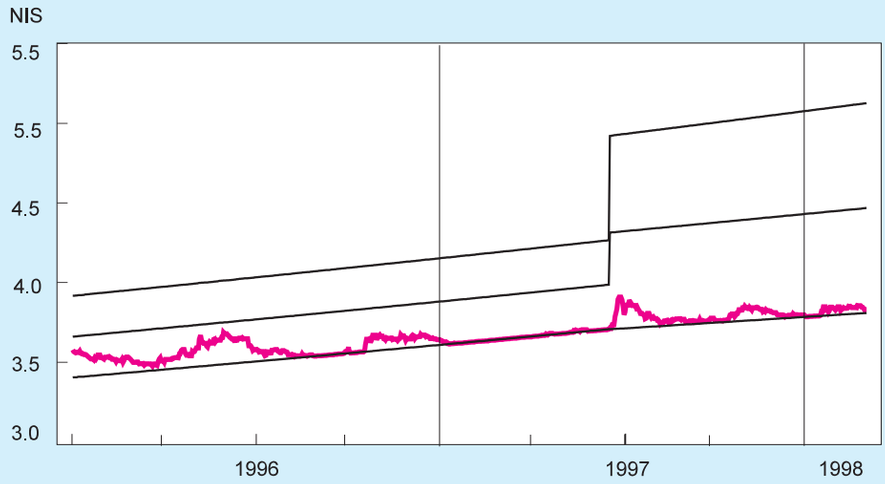
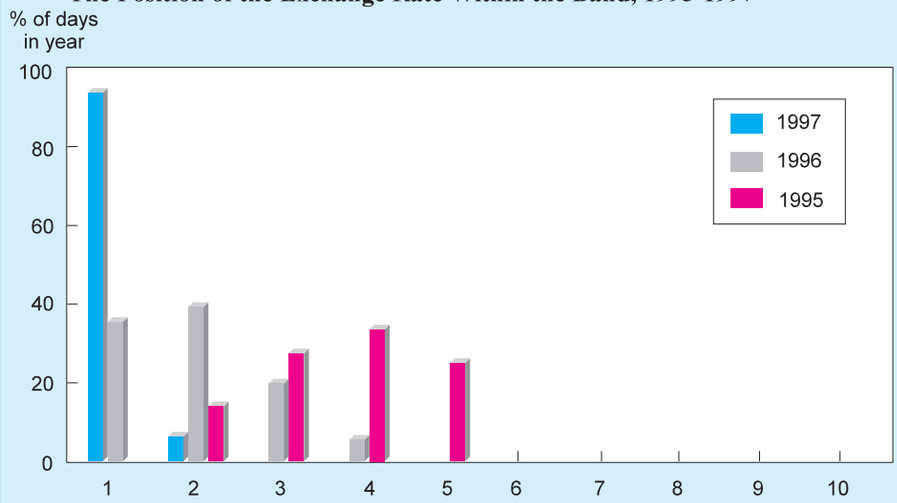


Figure 7.4b
The Position of the Exchange Rate Within the Band, 1995-1997[a]



[a] Divided into 10 subsidiary bands, the first of which comprises the lowest 10 percent of the full extent of the band.

The exchange rate was on or very close to the lower limit of the crawling band for most of the year.

The exchange rate against the currency basket stayed close to the lower limit of the crawling band for the first 24 weeks of the year, and very close to it for most of the second half (Figure 7.4a). Even in the very short periods when it moved away from that limit, the shift was a slight one: by dividing the band into ten equal sub-bands, we see that for more than 90 percent of trading days in the year the exchange rate was

within the lowest sub-band, and for the rest of the time it was in the second-lowest sub-band (Figure 7.4b). Thus, the perception of the midpoint rate as the expected exchange rate continued to weaken this year, as it had done for the two previous years. The rate of change of the currency-basket exchange rate during the year—3.7 percent—was lower than the average slope of the lower limit of the crawling band which, as stated, was reduced in the middle of the year from an annual rate of 6 to 4 percent. The average currency basket exchange rate rose by about 4.3 percent in 1997, compared with 3.5 percent in 1996, and 4.6 percent in 1995. Owing to the relative strength of the dollar against the other basket currencies this year, the NIS exchange rate against the dollar rose by more—7.9 percent during the year and 8.2 percent on average.

The money supply (M1), whose correlation with price development has been found in many studies to be higher than that of other monetary aggregates, expanded this year by some 14 percent. The other monetary aggregates, as well as foreign-currency credit, also expanded in 1997 by a rate exceeding that of nominal GDP, as did the monetary base (16 percent), M2 (25 percent), nondirected local-currency credit (16 percent), and especially foreign-currency and foreign-currency-indexed credit (26 percent). Although part of the expansion is attributable to the changes in nominal interest rates in 1997, the rates of change are far from negligible, and their possible influence on inflation, financial stability, and capital flow require close monitoring of the policy in the future.

The bond market recovered to some extent in 1997. Yields declined, and the prices of indexed bonds rose slightly for the first time in a long period. The total real return on government bonds, comprising capital gains and interest payments (net of tax), was about 5 percent, the highest annual return from this market since 1992. Owing to the fall in the yield to maturity for all ranges of indexed bonds, the level of the real yield is slightly lower than in 1996 but higher than in the early 1990s, when it was much lower than it was abroad. The tight monetary policy appears to have affected short-term real interest rates (for less than one year, see section on the money market, below) more than real interest rates in the bond market in 1997.

The decline in the indexed yield curve was the result of several factors, among them the economic slowdown, coupled with the considerable fall in volumes of investment, and a reduction in government demand for credit due to the decrease in the deficit and an increase in the part financed by privatization. The decline in the curve was partly offset by two factors: (a) the shrinking supply of long-term sources as a result of declining private-sector saving; (b) lively demand (at the end of the year) by institutional bodies for local-currency channels, whose real yields this year were higher than those of indexed assets.

The stock market rose by some 26 percent in real terms, despite the economic slowdown and tight monetary policy. This development is in keeping with the behavior of most of the world's stock markets this year—though unlike them, the price level remained lower than in 1993. The price increases were boosted by the renewed profitability of firms and the steep rise in financial investment by nonresidents (even though this base is still very low by international standards). The recovery was reflected

Implicit in the capital market is an estimate of the development of the economic fundamentals.

in a significant increase in trading volumes and issues (although still below the peak levels of 1993). Note that the capital market is assumed to embody an assessment concerning the development of the economic fundamentals upon which long-term potential depends; it is against this background that the stock market developments of 1997—among them the accelerated entry of foreign investors, despite the slowing of real activity in the economy—should be viewed. In this context, in 1997 there were several positive developments (in the balance of payments, on the fiscal side, in the liberalization of foreign currency and in the inflation-target regime), which may restore the economy to a sustainable growth path and increased profitability, following the erosion of the last few years.

Table 7.2
The Capital Market as at December 31, 1997, and Real Rates of Change from Previous Year

(NIS billion)

	Total	Shares[a]	Negotiable bonds[b,c]	Indexed earmarked bonds	Treasury bills[b]	Other
Institutions						
Provident funds	127.7	17.0	57.6	7.1	2.4	43.6
Change (%)	8.8	38.2	3.2	–29.2	258.7	13.1
Established pension funds	86.3			81.8		4.5
Change (%)	6.3			8.6		–22.5
New pension funds	1.9		0.4	1.3		0.3
Change (%)	102.8		105.9	134.5		22.0
Life insurance plans	48.1	1.4	5.9	28.2		12.5
Change (%)	17.6	60.1	17.3	4.0		64.1
Mutual funds[d]	19.8	7.3	8.6		2.5	1.5
Change (%)	46.4	35.0	21.5		286.1	243.4
Households and firms	79.2	38.7	32.1		8.4	
Change (%)	**22.0**	**30.3**	**16.8**		**8.8**	
Nonresidents	30.1	29.2	0.8		0.1	
Change (%)	**61.5**	**65.2**	**–11.2**		**28.9**	
Commercial banks	40.9		33.8		–7.1	
Change (%)	**–19.3**		**–15.5**		**–33.7**	
Total	432.4	93.6	139.2	118.3	20.5	60.9
Change (%)	**11.6**	**41.9**	**2.0**	**4.7**	**3.4**	**16.6**
Real change in price[e] (%)	5.1	23.5	0.9			
Change in quantity (%)	6.2	14.9	1.1	4.7	3.4	16.6

[a] Excluding market value of quoted companies derived from their holdings in other quoted companies ('double counting'), and government-owned companies.
[b] Excluding securities held by the Bank of Israel.
[c] Government and corporate bonds, including *Gilon* and *Shahar* bonds.
[d] Adjusted for provident funds' and nonresidents' holdings in mutual funds.
[e] Total real return *minus* interest and dividend.
SOURCE: Bank of Israel Research Department.

The relaxation of controls in foreign exchange and the capital market persisted in 1997. Like most capital markets, Israel was affected by the shock-waves radiating from South-East Asia, particularly in the last quarter of the year, possibly reflecting the ever-increasing integration of the world's financial markets. Nonetheless, the Israeli stock market was relatively stable during the period.

Although it was influenced by external shocks from South-East Asia, the Israeli capital market remained relatively stable.

After several years of inactivity, proceeds from the privatization process reached a peak of approximately NIS 8.5 billion in 1997, double the amount projected in the original budget. However, in 1997 privatization did not generally go hand in hand with structural reforms. The form the privatization took, comprising the sale of large parts of the ownership of government companies to a controlling interest rather than to the general public, may in some circumstances increase privatization receipts in the short term while also, in the opinion of the supervisory authorities, contributing to stability (especially where the privatization of the banks is concerned). The effect of the privatization process on the consolidation of the capital market is not yet clear, however.

Events on the stock and bond markets also had implications for the development of mutual and provident funds, which accumulated assets after a long period of large-scale withdrawals.

The slowdown in the rate of wealth accumulation this year is explained in part by the decline in saving (net) in the household and business sectors. In contrast with previous years, in 1997 financial wealth (net) rose faster than physical wealth. When the latter is deflated by its component price index, it rose by 5.8 percent, compared with 8.2 percent in 1996 and a similar rate in 1995, reflecting the sharp decline of investment in construction and the principal industries.

2. THE MONEY MARKET

Monetary policy

From the Economic Stabilization Program of 1985 to the adoption of an inflation target regime in the early 1990s, monetary policy focused on preserving a desired path for the nominal exchange rate. The Bank of Israel's interest-rate policy was thus derived in those years mainly from the relation between the actual and planned exchange-rate path, and from the development of capital flows, and it would intervene directly in trading in the foreign-currency market.

In recent years monetary policy has focused on attaining inflation targets.

In the early 1990s, with the transition to an inflation-target regime and the gradual development of foreign-currency trading with less intervention by the central bank, the focus of monetary policy shifted away from directing the development of the nominal exchange rate to achieving the specific targets for annual rates of price increases. Accordingly, the Bank started to concentrate on maintaining short-term nominal and real interest rates which were compatible with attaining the inflation target, and gradually lessened its commitment to the path of the exchange rate within the crawling band.[6] In

[6] In February 1996 the Bank restricted its intervention in foreign currency trading to cases where the exchange rate came close to the limits of the band.

the past two years, the policy of attaining the inflation target has been reflected in an increase in the yield differential between Israel and abroad which, together with other factors, caused the exchange rate to fall to the lower limit of the band as well as a clearly discernible slowing of the annual rate of depreciation., While intensifying the disinflationary effect of interest-rate policy, this process also at times helped to reinforce the process of real appreciation which has prevailed since the early 1990s (see Chapter 2).

The Bank of Israel's nominal interest-rate policy aims at preserving an expected real interest rate which is in line with attaining the annual inflation target and with the continued gradual fall in the rate of inflation, in order to achieve price stability over time. To this end, the Bank makes regular assessments of the expected rate of inflation for the coming year,[7] and adjusts the nominal interest rate on its sources so that the real interest derived from it, net of this rate, will remain as far as possible at the desired level. The Bank does not have direct control of the development of inflation expectations, however, so that between each two dates at which the interest rate is set changes inevitably occur in the expected real interest rate. Nominal interest-rate policy in recent years has been characterized by relatively frequent changes and also by several shifts of direction, *inter alia* owing to the volatility of both the inflation environment and the factors which affect it (Box 7.1).

Monetary policy was in line with the policy adopted in the second half of 1996.

Monetary policy in 1997 was consistent with the line taken in the second half of 1996, focusing on attaining the inflation target set by the government, 7–10 percent, while preventing departure from the exchange rate band, and for this purpose it continued to preserve, on average throughout the year, the real interest rate which had prevailed in the second half of 1996. In view of the liberalization of the foreign-currency market and the intention to make the local currency convertible in 1998, and against a backdrop of intense exchange rate pressure on the lower limit of the band, the central bank acted to introduce changes in the band. These changes weakened the pressure and eventually led to a further decline in the annual depreciation rate (partly owing to an increase in the capital flows of nonresidents). Towards the end of the year, once it was clear that the 1997 inflation target would be met, monetary policy was also influenced by the need to prevent the shocks in the South-East Asian markets from affecting the Israeli economy, and strove to attain an overall rise in prices in the lower range of the inflation target. The object of this was to create better conditions for consolidating the inflation environment, thereby facilitating the attainment of the long-term inflation target. These aspects continued to guide the Bank's policy into the first months of 1988.

The easing of the inflation environment and the decline in inflation expectation in the last quarter of 1996 enabled the central bank in the first half of 1997 to sustain the gradual reduction of nominal interest rates on its sources begun at the end of 1996. Interest rates were reduced four times in this half: once in each of the first three months of the year, and once in mid-June, to an exceptionally great extent, following the foreign-

[7] The main indicator serving the Bank for estimating the future inflation environment is the inflation estimate forecasts derived from bond prices in the capital market. Great caution is needed and applied in using such estimates, which are (a) by no means free of notional and technical problems, (b) closely matched with past inflation development, and (c) in retrospect (like any forecast) not usually the same as the actual rates of inflation.

Box 7.1: The Frequency of Changes in the Interest Rate

In recent years, the issue of the frequent changes in the Bank of Israel's key interest rate has arisen. This criticism is backed by several statistics which indicate that by international standards the Bank of Israel conducts a very active interest-rate policy. This is reflected in frequent and relatively significant changes in interest rates, and in more frequent changes of direction than is customary in other central banks, even in countries which, like Israel, have introduced inflation targets.

Between 1992 and 1997 the Bank of Israel made 47 changes in interest rates, and the average period between changes was about 48 days. Fifteen of the changes made in that period changed the direction of the interest-rate slope, so that on average, the interest rate changed direction once every 3.6 changes. The average size of the changes was 0.7 percent.

For purposes of comparison, Charles Goodhart of the London School of Economics examined the interest-rate policies of several large central banks between 1974 and 1995.[1] He found that in that period, interest rates in the US were changed once every 122 days, in Germany once every 152 days and in Japan once every 258 days. Israel finds itself in the same group as Britain (once every 46 days) and Australia (once every 29 days). The inversion ratios, i.e., the ratio of the number of changes of direction to the total number of changes made, were: Germany and Australia, 1:7; US, 1:4.7; Japan and Britain, 1:4. With respect to the average size of the change, Israel is in second place out of the six countries. Bearing in mind the caution required when making international comparisons, particularly when discussing different periods, these findings nevertheless indicate a more active interest-rate policy in Israel in recent years compared with accepted practices around the world. Note, however, that (a) monetary policy in Israel in recent years has been oriented towards achieving a lower rate of inflation, whereas in the countries investigated by Goodhart inflation rates were generally low and stable; (b) the other fundamentals which affect inflation in Israel have fluctuated widely in recent years; (c) inflation and its volatility in Israel are much higher than in the countries that Goodhart examined. Deflating by the average inflation rate in the relevant period, we find that the changes in interest rates (the ex-post real rates) in Israel are in fact smaller than the average.

In theory, it is not obvious that a 'smoother' interest-rate policy (i.e., one that is characterized by few, small, and infrequent changes) is preferable to an active one, since each method has its advantages and its disadvantages. While a policy of frequent changes reduces the overall level of certainty of economic agents regarding interest-rate policy, thereby making it more difficult for them to plan, it responds better to changes in inflation estimates and may therefore be more successful in stabilizing the real interest rate. The reverse applies to a smooth policy. Goodhart's main conclusion was that the interest policy of the central banks that he examined was too smooth: the changes in interest rates were too little and too late, and failed to achieve the policy goals.

[1] Goodhart, Charles, *Why Do the Monetary Authorities Smooth Interest Rates?* London School of Economics Working Paper.

In the first half of the year, the interest rate was lowered four times by a cumulative 2.4 percent.

currency liberalization measures and the changes in the exchange-rate band. The total reduction in interest rates during the first half of the year amounted to 2.5 percent—from 15.2 percent in December 1996 to 12.7 percent at the beginning of July 1997. In September the Bank of Israel raised the interest rate to 13.4 percent, in the wake of the predictable rise in the inflation environment after the two high levels of the CPI recorded in June and July. This ended 14 months in which the interest rate was reduced gradually. From September to the end of the year no further changes were made, but at the beginning of 1998 the interest rate was lowered twice more: at the end of January by 0.5 percent and at the end of February by a further 0.3 percent. Compared with previous years, the Bank cut the number of changes in the interest rate, both in order to avoid shocks to the financial markets in view of the financial crises in South-East Asia in the second half of the year, and in recognition of the uncertainty of assessing the inflation environment.

The route of the real expected Bank of Israel key interest rate was not uniform over the year (Figure 7.1b). In January expected real interest on the monetary loan remained at the peak level of December 1996—6.3 percent. As the first quarter progressed, the reductions in the nominal interest rate led to the gradual lowering of real interest, to 4.6 percent by the end of the quarter. In the second quarter, following the decline in inflation expectations and the decision of the central bank to refrain from making further changes in the nominal interest rate, the real interest rate climbed back to 5.7 percent at the end of the quarter. The sharp reduction in the nominal interest rate in June and the partial correction made in September, in view of the relative stability of inflation expectations in the third quarter, caused the real interest rate to swing widely, plummeting to 3.4 percent in August, then rising again in October to about 5.6 percent. In January 1998, following the steep decline in expectations, the real interest rate rose to about 6 percent, and in February 1998 reached a new peak of 7 percent.

In September, the interest rate was raised by 0.7 percent

The behavior of the real interest rate was not uniform over the year.

The tension between the interest policy for achieving the inflation target and the need to protect the exchange rate band increased greatly during the first half of the year, when the Bank of Israel was forced to buy a record $ 7 billion to prevent downward deviation from the exchange-rate band. The increase in deposit auctions offered in this half of the year by the central bank to the banking system, by more than NIS 20 billion, greatly increased the total quasi-fiscal cost of the nominal policy, which combines inflation targets with an exchange-rate band.

Nominal policy had a quasi-fiscal cost.

The rapid rate of foreign-currency conversions and planned progress with the foreign-currency liberalization measures, led to the introduction of changes in the exchange-rate regime. The central bank proposed expanding the crawling band, bringing it into line with the European currency bands, in order to give market forces greater weight in determining the exchange rate and to increase the risk entailed in changing the exchange rate, thereby reducing the inflow of short term capital. A wider band makes the exchange-rate regime more flexible, minimizes the central bank's need to intervene in the foreign-currency market, is more compatible with liberalization of the market, and provides a more efficient transmission channel for the interest-rate policy adopted for attaining the inflation target. There was concern, however, that these changes could lead to greater

local-currency appreciation in the short term. The government therefore decided to amend the crawling band, raising its upper limit by 15 percent and reducing the slope of the lower limit from 6 to 4 percent. This will lead gradually to a broadening of the crawling band, so that by mid-1998 it will be 30 percent.[8]

An overview of the Bank of Israel's policy in 1997 illuminates the special place of the inflation target among the group of economic goals to which monetary policy is directed. Because the slower rate of economic growth—considerably below Israel's growth potential—was not reflected for most of the year in a significant fall in the inflation environment, and in order to ensure the attainment of the inflation target set by the government, the Bank of Israel refrained from pursuing a less contractionary policy. The basis for this was the view that the comparative advantage of monetary policy lies in creating conditions of stability, and in particular in attaining the inflation targets that are essential for the full realization of the economy's growth potential in the long term, even if it entails some slowing of demand and activity in the short term.

Despite the low economic growth rate, the Bank of Israel refrained from pursuing a less restrictive policy in order to ensure attainment of the inflation target.

Monetary policy channels

Against the background of the large increase in the current-account deficit of the balance of payments in the two previous years, and the slight deviation from the inflation target in 1996, the monetary restraint introduced in mid-1996 was maintained in 1997. In addition, the government introduced fiscal restraint for the first time in several years. This made for a tight monetary policy mix, which operated forcefully to slow domestic demand to below the moderate level which was in any case expected at the present stage of the business cycle, and led on the one hand to a steep decline of the rate of price rises, and on the other to a greater-than-expected economic slowdown. Economic policy also operated via inflation expectations in 1997, and their gradual decline since mid-1996 helped to slow the rate of price rises in the last third of 1997 and could contribute in 1998 to the consolidation of a lower inflation environment than has been evident in recent years. A further channel through which monetary policy operated was the exchange rate.

The policy mix this year was restrictive.

The dampening of the rate at which demand expanded was, as stated, a central operating channel of economic policy in general, and of monetary policy in particular. According to early assessments, domestic uses should have slowed their rate of expansion from 5.6 percent in 1996 to about 2.7 percent in 1997, by means of several processes which were already in evidence in the second half of 1996 and were expected to continue operating in 1997.[9] Most important of these were the waning of the demand surge from CIS immigrants, the ongoing uncertainty regarding the peace process, the tight monetary policy begun in mid-1996 whose effects were expected to reach their

Moderation of aggregate demand was a central channel of operation of economic policy.

[8] Because of the slopes set for its boundaries, the band is broadening, and in June 1998 it will be 15 percent wide on either side of the midpoint rate—as in the crawling bands of the EU.

[9] For details, see: Bank of Israel, Ministry of Finance, and the Prime Minister's Office, *The National Budget*, October 1996.

peak at the beginning of 1997, and the budget cuts planned for 1997. Contrary to assessments, in 1997 domestic uses expanded by only 1.1 percent—a 1.5 percentage-point fall beyond projections and 4.5 percentage points below the rate in 1996. The deviation from the forecast appears to stem from the stronger-than-expected operation of the fundamentals which affect demand, especially the policy mix.

The deviation from the expected rate of demand expansion was concentrated in private consumption and investment.[10] The causes of the slower rate of expansion of these aggregates are analyzed in Chapter 2; here we mention only that the restraining influence of the short-term interest rate on private consumption and investment is one of the channels through which monetary policy acts to slow the rate of price rises.[11] Since several studies have shown that the effects of real interest-rate hikes in Israel usually take about two quarters to materialize, it is reasonable to conclude that the high level of the interest rate from mid-1996 and throughout 1997 played a part in slowing demand in 1997 (and will also help to dampen demand in 1998). The deviation from the forecasts at the beginning of 1997 also indicates that after previous years, when the restraining influence of the real interest rate was not fully expressed because of the expansionist effects of other factors, in 1997, against the background of the uniform restraining action of the other factors, the interest-rate channel was highly effective.

Another channel by which monetary policy operated in 1997 was the exchange rate. The inflow of capital, whether associated with the interest-rate differentials or not, together with the lack of intervention since February 1996 in the exchange rate within the crawling band, meant that for most of the year, the rate stayed close to the lower limit of the band (whose slope was lowered by 2 percent in the middle of the year), thereby maintaining a relatively low rate of nominal depreciation against the currency basket this year. This helped to slow the rate of price increases of tradable goods and housing, but when combined with the rise in nominal wages and the only partial response of nontradable goods to the moderation of excess demand, it prevented the realization of real depreciation despite the real forces acting in that direction.

There was relatively low nominal depreciation against the currency basket this year, as in the two previous years.

Inflation expectations, which declined this year by an average of 2.5 percentage points, were a third channel through which policy influenced price developments. The decline in expectations was influenced by the Bank of Israel's determination to attain

[10] A comparison of actual developments with national budget forecasts show that private consumption rose more slowly than expected (3.3 percent, compared with the projected 4.3 percent), investments declined faster than expected (5.9 percent, compared with the projected –0.2 percent), and public consumption rose beyond expectations to 2.3 percent, compared with the projected 1.4 percent.

[11] Yaakov Lavi, "The Influence of Interest Rates on Investment in the Economy," *Economics Quarterly*, Sapir Forum, January 1990 (Hebrew), found that the short-term real interest rate had a strong influence on the timing of investments in Israel. For an up-to-date estimate of this model, see Chapter 2. On the negative link in the last few years between the expected real interest rate on the Bank of Israel's sources and the rate of economic growth, see, for example, Azulay and Elkayam, *A Model for Examining the Influence of Monetary Policy on Activity and Prices in Israel, 1988 to 1996*, Bank of Israel, Monetary Department, February 1997 (Hebrew).

The fall in inflation expectations will reduce the real cost of the disinflation process.

the annual inflation targets, the adoption of the same position by the government—as reflected in the maintenance of budgetary discipline throughout the year and the changes introduced in the exchange-rate band—as well as by the public's belief that the economic slowdown would not be short-lived. The dampening of expectations supported the slowing of price rises this year, and will enable greater consistency with the disinflation process of the wage agreements soon to be signed. This will assist in consolidating a lower inflation environment than has prevailed in recent years, thereby decreasing the real cost of this process.

The monetary aggregates

The monetary base, the monetary loan, and the auctions for banks' deposits

The rate of expansion of the monetary base in 1997 was influenced by the two principal factors—foreign-currency conversions of an unprecedented NIS 23 billion by the private sector, which increased the monetary base, and the aggressive absorption policy pursued by the Bank of Israel, which was supported until almost the end of the year by the negative injection of the public sector.[12] During the year (December 1997 vis-à-vis December 1996), the monetary base grew by about 16 percent—a decline in the growth rate of approximately 4 percentage points compared with 1996—while on average it was about 18 percent higher than in 1996 (Table 7.3).

In 1997 the Short-Term Loan Law did not permit increased absorption from the public through the open market beyond the recycling of the stock of short-term loans (Treasury bills) as at the end of 1996, hence the absorption required of the Bank of Israel was implemented primarily by means of its auctions for the deposits of the banking

Table 7.3
The Monetary Aggregates, 1992–97

(rates of change, percent)

	Average level (NIS million)	1996 Jan–Jun	1996 Jul–Dec	1997 Jan–Jun	1997 Jul–Dec	Average 1992–95	1996	1997
Monetary base	12,563	21.8	17.8	17.0	15.8	18.0	19.8	16.4
M1	18,554	10.7	13.1	15.1	13.1	21.3	11.9	14.1
Resident time deposits	76,991	27.6	46.3	30.4	25.0	52.7	36.6	27.6
SROs[a]	16,500	12.3	3.7	21.6	13.9	25.7	7.9	17.7
Treasury bills held by public	9,843	5.6	35.6	–4.5	91.4	30.8	19.7	35.2
M2	12,883	20.0	32.6	23.6	26.0	33.3	26.2	24.8

[a] Self-renewing overnight.

[12] In the last week of 1997, the public sector injected some NIS 5.6 billion, thereby reversing its total contribution this year from absorption to injection of some NIS 3.5 billion.

corporations.[13] These grew rapidly from some NIS 5 billion at the end of 1996 to about NIS 27 billion in July, NIS 32 billion at the end of December, and NIS 37 billion in February 1998. The large volume of absorption aimed for through these deposits, forced the central bank to continue paying higher interest on them than it takes from the banks on monetary loans (albeit at a lower differential than last year, which narrowed even more during the year). The increase in deposits made them more liquid: from February monthly deposits for one month were added to the monthly auctions for 3-month deposits, and from March weekly auctions were held for 1-week deposits. Since the beginning of 1998, the Bank of Israel has also held daily auctions for 1-day deposits. The greater liquidity of the deposit system has helped to narrow the gap between the interest on the monetary loan and on deposits.

Deposit auctions increased from NIS 5 to NIS 32 billion during the year.

The volume of the daily monetary loan made available to the banks by the Bank of Israel was reduced this year by an average of 50 percent, falling to an average monthly level of about NIS 1.7 billion. Most of the reduction in 1997 was in the daily auction, whose volume declined continuously throughout the year until it was cancelled at the beginning of 1998.

The large volume of banks' deposits in the Bank of Israel compared with the monetary loan, deflected interest on the monetary loan from the center of the Bank of Israel's short-term interest system, to be replaced by the interest which the Bank pays on the banks' deposits. This led to a significant decline in the importance of the target interest on the monetary auction (the official interest rate published by the Bank of Israel at the beginning of each liquidity month) as the relevant price for raising liquidity by the banking system. In fact, the banking system sees the alternative price as the price of its sources—the interest paid on its deposits in the Bank of Israel. In 1997 this interest was an average 0.9 percent higher than the auction interest.

The money supply

All the financial aggregates grew faster than nominal GDP.

In 1997, as in previous years, the growth rate of the money supply (M1—cash in the hands of the public and current deposits) was higher than that of nominal GDP. The money supply rose 14 percent over the year, and its annual average was also some 14 percent higher than in 1996 (Table A.7.1a). The rapid rate was the result of two factors which acted in opposing directions—the economic decline, which reduced the demand for money, and the lower nominal interest rate and expansion of financial activity, which increased it. Money supply growth rates varied widely in 1997: in the first and third quarters it rose by 20 percent (annual rate), in the second quarter by 12 percent,

[13] The Short-Term Loan Law limits stocks of short-term loans (Treasury bills) issued by the Bank of Israel to a level which is revised once every six months according to the increase in the Consumer Price Index or the rate of expansion of the money supply—whichever is the higher. Since stocks of issued short-term loans had reached the ceiling specified in the law by the end of 1996, there was no possibility of expanding to a great extent beyond the existing stock, nor could this instrument be used to offset the expansion of the monetary base derived from foreign-currency conversions.

and in the fourth quarter by only 6 percent (Table A.7.1b). This was because monetary policy focused on determining the price (the key interest rate) on the central bank's sources, letting the amount be set by the demand side. Thus—taking into account the growth rate, inflation expectations, and other factors—the rate of money supply development, with the appropriate lags, serves as an indicator of the pressures on price rises.

M2

Total unindexed local-currency assets expanded by 24.8 percent in 1997, only slightly less than in 1996, thereby maintaining, for the fourth year in succession, a growth rate higher than that of the money supply. The rapid rate of expansion was due primarily to the high expected real interest rate implicit in these assets in 1997. The importance attached by the Bank of Israel to the M2 expansion rate is secondary to that of the money supply. The development of M2 over the year was fairly uniform: an annual growth rate of 26 percent in the first, third and fourth quarters and slightly less—about 20 percent—in the second quarter.

M3

M3, defined as M2 *plus* the deposits denominated in or indexed to foreign currency, rose by about 22 percent in local-currency terms—a slightly lower rate than in 1996.

Credit

Total nondirected credit increased by 16.2 percent during the year, compared with 21.5 percent in 1996, to reach about NIS 250 billion in December (Table 7.4). The average level of total credit in the economy in 1997 was 18 percent higher than in 1996. The

The average level of total credit in the economy was 18 percent above that of 1996.

Table 7.4
Change in Credit, 1992–97

(rates of change, percent)

	Share of total credit	1996 Jan–Jun	1996 Jul–Dec	1997 Jan–Jun	1997 Jul–Dec	Average 1992–95	1996	1997
Total in local currency	100.0	24.4	18.6	18.0	14.5	30.3	21.5	16.2
Indexed *plus* unindexed	72.4	21.6	17.0	8.0	18.3	29.8	19.3	13.0
Indexed	35.8	14.6	11.9	3.6	17.2	26.1	13.2	10.2
CPI-indexed	36.6	29.7	22.6	19.3	35.4	26.1	25.9	
In and indexed to foreign-currency	27.6	33.5	23.5	50.0	5.2	33.9	28.4	25.6
Indexed to foreign-currency	4.3	84.1	5.2	–44.1	–0.8	33.2	39.1	–25.5
In foreign currency	23.3	21.0	30.1	87.6	6.2	39.8	25.5	41.1

rate at which credit expanded, despite its relative decline, was still higher than that of nominal GDP. Growth slowed mainly in indexed and unindexed local-currency credit, which expanded by only 13 percent, compared with 19 percent in 1996. The overall growth rate of credit in or indexed to foreign currency also declined slightly—from 28 percent in 1996 to 26 percent in 1997.

As in previous years, indexed local-currency credit rose more rapidly than unindexed (16 percent compared with 10 percent), but the difference in the rates was much narrower this year despite the expanded range of indexed credit.

Credit denominated in and indexed to foreign currency expanded by an average of 32 percent.

The development of foreign-currency credit differed greatly in the two halves of the year. In the first half, it expanded at an annual rate of about 50 percent despite the low position of the exchange rate within the band and the risk this brings to foreign-currency transactions. In the second half, almost immediately after the band was widened at its upper limit, the rate of expansion slowed dramatically owing to the increased risk of devaluation, and foreign-currency credit grew at an annual rate of a mere 5 percent. On average in 1997 total credit in and indexed to foreign currency (about NIS 64 billion) was 32 percent higher that its average level in 1996, and its part in total unindexed credit rose at the end of the year from 25 to 27 percent.

3. THE CAPITAL MARKET

Bonds

Minor price increases were recorded in the bond market.

Prices in the bond market rose slightly in 1997. Following previous years, when coupons were offset by capital losses, the total real return on government bonds this year for investors (capital gains plus interest payments) was around 5 percent, the highest annual return on bonds since 1992.

The total real return on government bonds was the highest since 1992.

Long-term observation of indexed bond yields reveals a continuous upward trend from 1990 to 1996 (excluding 1992).[14] This being the case, the downward trend in 1997, accompanied by the modest rise in prices, is particularly noteworthy. The yields started to decline in August 1996, from the peak of 5.5 percent on long-term bonds, at the same time as the provident fund crisis[15]—in which there were massive bond redemptions and prices fell sharply—to 3.6 percent in July 1997.

The considerable decline in investments reduced demand for long-term channels and encouraged the fall in the long-term interest rate.

The decline in real interest was caused mainly by two factors: first, activity slowed (to its lowest level since 1989) and investment declined, reducing demand for long-term channels and stimulating the decline in long-term real interest. Second, the government issued fewer bonds this year, its financing needs declining due to tight

[14] The yield on bonds is the yield to maturity, as estimated by the Monetary Department of the Bank of Israel.

[15] Statistical tests for causality failed to support the claim that the accumulation of sources in the provident funds affects the government bond index.

fiscal policy and the proceeds from privatization, so that the quantity of bonds increased by only 1.1 percent (Table 7.2).[16]

Despite these factors, the decline in long-term real interest was relatively mild, owing particularly to a reversal of the trend at the end of the year, when the yields began to rise. Three reasons prevented any further decline: (a) the fall in private-sector saving, which diminished the supply of sources in long-term channels; (b) the contribution of monetary policy, which led to lively demand by institutional investors for local-currency channels at the end of the year in response to deflationary developments (two negative Consumer Price Indices); and (c) the upward trend in interest rates abroad.

As in 1996, unindexed local-currency investment channels yielded the highest total real return this year.

As in 1996, unindexed local-currency investment channels (*Shahar* and *Gilon* bonds and Treasury bills) gave investors the highest total real return in 1997. The rise in the price index and decline in yields on bonds and Treasury bills were supported by the falling rate of inflation, the lower inflation expectations of the public (which is moderating its need to hedge against inflation), and the development of the Bank of Israel's nominal interest rates. Moreover, in contrast with 1996, when profitability stemmed from high interest rather than capital gains, part of the total return in 1997 came from capital gains.

The yield curves of Treasury bills and *Shahar* bonds descended for most of the year.

The yield curve of Treasury bills and *Shahar* bonds declined for most of the year, possibly reflecting expectations of a reduction in the nominal interest rate (in keeping with the lower inflation expectations).[17]

The bond market and the composition of government finance

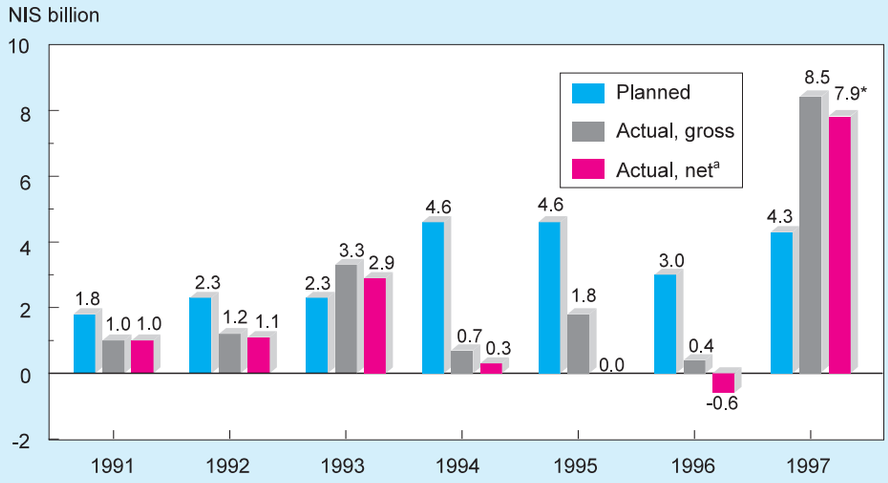
The domestic budget deficit of the government in addition to the Jewish Agency and the injection unrelated to the budget (cash data) amounted to 3.3 percent of GDP in 1997, constituting 2.9 percent of GDP of the government deficit (Table 7.5).[18] This is higher than the budgeted deficit, and stems in part from underperformance on the local-currency income side. More than half of the deficit financing came from privatization (1.9 percent of GDP), while net local-currency capital borrowing fell to 0.2 percent of GDP (Table 7.A.5). The government also injected local currency amounting to 1.0 percent of GDP—less than in 1996, which was characterized by significant government injection. Although this slowdown could have facilitated the management of tight monetary policy, foreign-currency conversions by the private sector, which reached unprecedented levels (especially in the first half), obliged the

[16] Note, nevertheless, that part of the privatization was financed by credit. Net domestic credit financing (as, for example, in the purchase of the core holding in Bank Hapoalim) should not influence interest rates (net) in the bond market. Moreover, the sale of assets may affect yield to maturity in the same way as a debt issue by the government, for example, through the debt relating to the sterilization policy when the sale is to nonresidents.

[17] According to this claim, known as the expectations hypothesis, the only reason for the existence of a downward nominal yield curve is that investors expect lower interest rates in the future.

[18] The deficit figures presented here differ from those in Chapter 5 on the public sector. (See note 1 to Table 7.A.5).

Figure 7.5
Privatization, Planned Vis-à-Vis Actual, 1991-1997



[a] Net privatizations are defined as government receipts from the sale of its shares in public-sector corporations *less* injections of share capital into public-sector corporations.
SOURCE: Report of the State Comptroller, the Accountant-General, and the Monetary Department of the Bank of Israel.

Bank of Israel to absorb liquidity surpluses by means of monetary instruments, mainly bank deposit auctions. Overall, the monetary base increased by 1.1 percent of GDP.

Privatization proceeds reached a peak of NIS 8.5 billion, double the original budget planning.

The privatization process gained momentum this year: privatization proceeds attained a peak of NIS 8.5 billion (including NIS 5 billion from the sale of parts of Bank Hapoalim), double the amount originally planned in the budget (Figure 7.5). This followed several years of a standstill in the process, from 1994—with the onset of the recession in the capital market (which was not, however, the only reason for the standstill)—to 1996, when the proceeds were a mere NIS 350 million. The government is planning to obtain NIS 4.3 billion in revenues from the sale of government enterprises and banks in 1998, thus maintaining the high level of capital raised, which contributes to reduction of the government debt. Thanks to these higher-than-expected privatization proceeds and the marked reduction in the budget deficit, the government lowered its demand for credit in 1997, so that sales of bonds on the domestic capital market were considerably smaller than both the past and the original plan. Together with the declining demand for investment, the reduced need to borrow on the local bond market is connected with the fall in the long-term real interest rate, as reflected by the right-hand side of the yield curve (Table 7.A.8). Nevertheless, some domestic investors purchased privatized companies with the aid of credit, which to a large extent offset the effect of the government's lower demand for credit.

Bonds raised considerably less in the local capital market than in the past and than originally planned.

Table 7.5
Sources of Financing the Budget Deficit, and Effect on Monetary Base, 1995–97

(percent of GDP)

	1995	1996	1997
Total domestic deficit[a]	4.4	5.4	3.3
Of which Budget deficit[b]	3.5	4.7	2.9
Sources of finance			
Government injection[c]	1.1	2.8	1.0
Domestic bond issues	2.5	2.6	0.2
Privatization/credit	0.8	–0.1	2.1

[a] Of public sector, on cash basis.
[b] The difference between the total domestic deficit of the public sector and the budget deficit derives from the currency conversions of the Jewish Agency, and from injections not connected with the budget.
[c] Much of the government's injection is associated with the balance on its current account, and with its capital flows.
SOURCE: Table 7.A.5.

The stock market

The general share-price index rose this year by a real 26 percent, in line with developments in western markets.

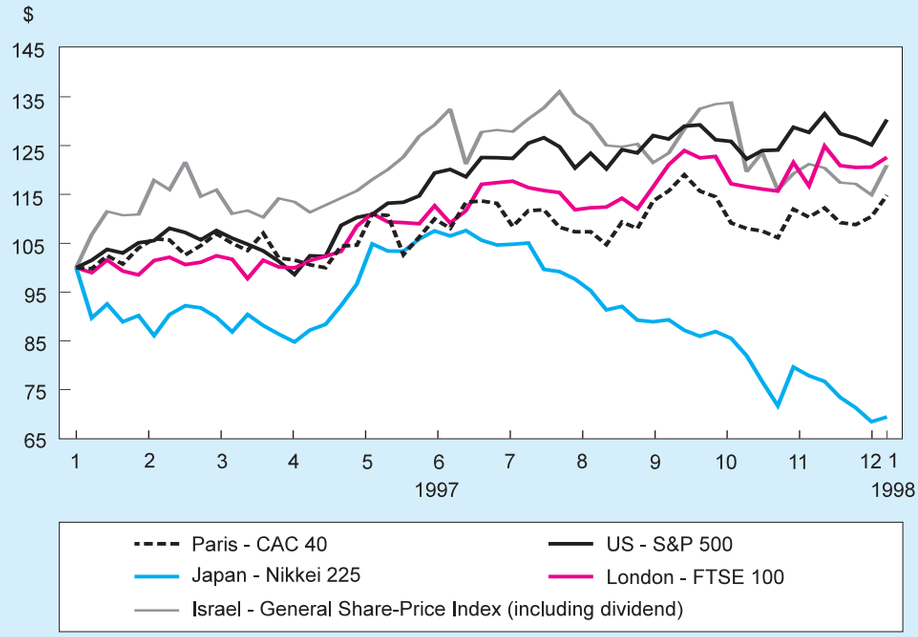
Despite the economic slowdown and tight monetary policy, the general share-price index rose this year (mostly in the first eight months), by about 26 percent in real terms, roughly on a par with developments in western markets (Figure 7.6b). This followed a decline of 12 percent in 1996, a rise of 6 percent in 1995 and a fall of 46 percent in 1994. Despite this year's rise, the share-price index is still below the real level of the earlier boom period in 1993 (Table 7.A.9). The rally in profitability of traded companies contributed to the rise in share prices and fall in capital costs, as can be seen from the various indices of profitability (Table 7.A.10). Another important cause of the rise was the substantial increase in portfolio investment by nonresidents—$ 719 million, compared with $ 335 million in 1996 and $ 386 million in 1995—surpassing investment by parties at interest, which amounted to $ 800 million (gross) in 1997, compared with only $ 60 million in 1996. Investment by nonresidents in Israeli shares traded in New York amounted to $ 1.4 billion, compared with $ 1.1 billion in 1996. These three developments reflect the increasing involvement of foreign business entities in the Israeli economy.

There was increasing foreign business involvement in Israel this year.

The question that arises is how to explain the gap between capital market developments and economic activity, given that the economy is in recession and profitability is falling[19] (see Chapter 2). First, this is not a unique development: in

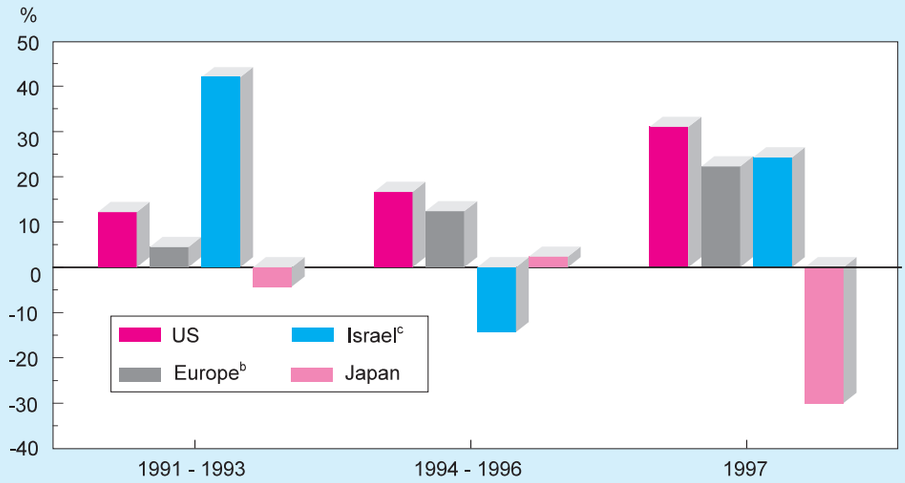
[19] The trend this year in the manufacturing sector, as indicated by national accounting data, does not resemble that reflected in the data of traded companies. This applies particularly to the ratio of operating profit to total fixed assets, which actually rose in the first three quarters. This raises questions about how representative the traded firms are, or about the quality of national accounting data.

Figure 7.6a
Indices of Total Cumulative Yield on Shares (in dollar terms), 1997



SOURCE: Foreign Exchange Control Department of the Bank of Israel, and Bloomberg.

Figure 7.6b
Yields[a] on International Share Indices (in dollar terms), 1991-1997



[a] Annual yields, geometric average.

[b] The European index is the index weighted by the GDP of the industrial share indices of the UK, France and Germany; the 1996 weights had to be used for 1997.

[c] Including dividend.

SOURCE: Foreign Exchange Control Department of the Bank of Israel, and Bloomberg.

1989, for example, the stock market rose steeply in real terms despite the economic slowdown; in 1994 there was strong economic growth, yet the share-price index fell. Second, the behavior of the capital market is influenced, *inter alia*, by expectations;[20] moreover, the stock market may currently reflect trends, i.e., the development of the economic fundamentals, whereas shocks on the convergence path to a higher level of income are sometimes perceived as short-term effects. Third, in many countries a fall in the inflation rate and attainment of balance-of-payment targets creates expectations of a future rise in profitability (another indication of optimism is the rise in the ratio of buildings and equipment to business-sector product, see Table 7.A.14). Fourth, traded companies may differ from others, and may not fit the profile of those whose profitability declined.

To a large extent, the economic slowdown is a reflection of the structural change in which traditional industries are downsizing due to low profitability. In an attempt to ascertain whether this change is reflected in the capital market, we found that stock-market developments in 1997 were not necessarily industry-dependent. In the textile industry, for example, all profitability indices were higher in 1997 than in the first three quarters of 1996, and the average daily yield on the stock market was the highest it has been in recent years and the second highest in manufacturing, after electronics. There are at least four possible explanations for this: these processes were foreseen;[21] these industries may expect a better future; traded companies are not necessarily representative; and traded companies may be heterogeneous (as reflected, for example, in export figures and the quantity of modern equipment).

Stock market developments this year do not appear to be industry-dependent.

In an attempt to ascertain whether the performance of traded exporting industries fell below that of others, *inter alia* due to the falling real exchange rate, we divided all the companies according to export percentages, to see whether there was a negative link between their export intensity and the change in their share-price. We found that the opposite was the case. Although the possibility that real appreciation prevented prices from rising even further cannot be dismissed, it appears that given the effects of such factors as productivity differentials, the yield for the investor appears to have been a positive function of the export rate.

The yield to investors this year was a positive function of the export rate

Proceeds from privatization in 1997 exceeded the national budget forecast. Note that a privatization policy which is not accompanied by structural reforms, as occurred in 1997, does not promote economic efficiency. It is not yet clear how the sale of large parts of companies to a controlling interest affects the chances of later takeover struggles by others, a chance which in other countries contributes to the discipline and efficiency of traded firms. The acceleration of the privatization plans should be continued in 1998, with emphasis on changes that encourage competition, alongside action intended to consolidate the capital market and diversify ownership, as far as possible. The options program proposed in the past is one way of consolidating the market.

The recovery of the stock market also influenced issues, and 1997 was one of the most successful years for raising capital on the Israeli stock exchange (most of the

[20] Profitability did in fact decline in 1995 and 1996.

[21] Share prices are influenced only by unforeseen changes in growth and profitability rates.

1997 was one of the Israeli stock market's most successful years for raising capital.

capital was raised in the last two quarters). The trend was led by real estate and construction, which confronted bank credit restrictions. This could indicate that the stock market is an alternative to the credit market. There were few initial public offerings (IPOs) this year, however, and most of the companies making offerings had been traded previously. Furthermore, many of the total amounts were raised by means of convertible securities—a good way of raising capital without losing control. Issues abroad continued (in New York, London, and Paris); these had started in 1995, when the number of issues by Israeli companies (mostly those in software and telecommunications) had begun to rise. Over the year 30 issues were made (shares, bonds, and convertible bonds), about half of them IPOs.

In November, the International Finance Corporation of the World Bank (IFC) started including the Tel Aviv Stock Exchange (TASE) in its published reports and indices on capital markets and traded securities in emerging economies (giving it a weight of 2.6 percent, which rose following events in South-East Asia). This is one of the two leading indices in the world regarding emerging markets (the other being Morgan-Stanley). It is widely believed that the decision to include the TASE is important for increasing the interest, involvement, and scope of foreign investment in Israel's money and capital markets (the index funds, for example, will invest 2.6 percent of their portfolio in Israel).

The liberalization of foreign-exchange and capital-market control continued this year.

The liberalization of the capital market and of foreign-exchange control continued in 1997, and is expected to have a far-reaching influence on the private sector—*inter alia* in enabling the purchase of financial assets of any kind anywhere in the world (Box 7.2). Some aspects of liberalization remain unaddressed, such as the unification of taxation rates.

The collapse of some of the world's foremost emerging markets in South-East Asia, particularly from the end of October, caused a chain reaction which brought down most of the stock exchanges around the world, the TASE among them. The sharply falling rates on the various exchanges may indicate the increasing integration of the

Table 7.6
Correlation Coefficients of International Share Indices,[a] 1990–96

	US	UK	Germany	Japan	Israel	Korea	Thailand
US	1						
UK	0.94[b]	1					
Germany	0.81[b]	0.84[b]	1				
Japan	0.16	0.17	0.44[b]	1			
Israel	0.30[b]	0.25[c]	–0.03	–0.13	1		
Korea	0.27[c]	0.28[c]	0.56[b]	0.75[b]	–0.05	1	
Thailand	–0.28[b]	–0.22[c]	–0.11	–0.06	–0.28[b]	–0.24[c]	1

[a] On monthly basis, in dollar terms.
[b] Statistically significant at the 1 percent level.
[c] Statistically significant at the 5 percent level.
SOURCE: Based on data from IFS, Bloomberg, and the Tel Aviv Stock Exchange.

world's financial markets (Figure 7.6a). The TASE was more stable in this period than other stock markets—partly because the volume of its trade with South-East Asia is relatively small (see Chapter 6). Furthermore, the table of correlation coefficients for 1990–96 (Table 7.6) shows that the covariation of the international and the Israeli markets is relatively low. In common with many other stock markets, influence on the local capital market is via the New York Stock Exchange.

Box 7.2: Asset Portfolio Diversification in the Context of Foreign-Exchange Liberalization

Israel's capital market is characterized by a range of legislative and administrative restrictions on international capital flows. In the late 1980s the process of foreign-exchange liberalization, involving exposing the domestic capital market to international markets, was begun. The rate at which these proceeded was unsatisfactory, however,[1] and in June 1997 the government decided to expedite it. Below we discuss one of the main arguments for exposure—the opportunity it affords for diversifying the asset portfolio by investing in international capital markets, which will be reflected in additional gain in terms of expected yield while reducing the overall risk. Thus, international diversification enhances the risk-adjusted performance of the domestic investor's asset portfolio.

Domestic securities tend to move up or down together because they are more or less uniformly affected by domestic macroeconomic developments, whether real or nominal. This of itself creates a strong positive correlation between all the securities traded in a particular market (aggregate risk). The domestic investor has at his disposal methods which enable him to smooth idiosyncratic risk but not to avoid aggregate risk. International capital markets, which are characterized by diversity, enable the risks to be spread beyond what is made possible by domestic financial instruments.

A precondition for reducing risk is that the various capital markets have independent price behaviors. A recent study of the Israeli economy[2] showed that there was relatively little covariance between Israel's capital market and most other capital markets (Table 7.6), something which leaves ample room for successful risk-smoothing (in terms of permanent income growth), as the study found.

It is reasonable to assume that progress in the liberalization process will strengthen the link between fluctuations in the yields of domestic and foreign assets. Such gradual convergence has been apparent since the crash in South-East Asia at the end of October.

[1] In the following areas: discriminatory tax laws; restrictions on investment by institutions and individuals; limited permitted asset group; insufficiently flexible exchange-rate regime; restrictions on holding foreign currency; non-convertible currency.

[2] Ori Levy (1997), "Moving Toward Capital Market Liberalization: How Large Are The Welfare Gains? A Partial Equilibrium Approach," internal memorandum, Research Department, Bank of Israel.

Institutional investors

There was a sharp real 45 percent rise in the market value of mutual fund assets.

Positive developments with regard to negotiable securities, alongside the return of investors to mutual funds (reflected in a net injection of NIS 4 billion), led to a sharp real 45 percent rise in the market value of the funds' assets following the real declines of recent years (Table 7.A.12). There was also a switch to local-currency assets by mutual funds; even though the profitability of that channel was gradually eroded vis-à-vis shares, unprecedented sums were raised in the mutual funds specializing in local-currency holdings (and to a lesser extent in those specializing in shares).

The provident funds recorded a high real yield this year, and withdrawals declined considerably.

In 1997 there was an increase in the proportion of negotiable assets held in provident and advanced study funds, which account for most private-sector long-term financial saving (which is directed to the negotiable capital market) in Israel. This occurred because in addition to the ten-year decline in the share of earmarked bonds, the funds stopped increasing their investments in deposits and other non-negotiable assets. Following the rise in the prices of shares and bonds, the average real yield of the provident and advanced study funds, net of management fees, reached an impressive 7.45 percent, compared with 1.25 percent in 1996, 2.5 percent in 1995 and –8.3 percent in 1994 (Table 7.A.11). Along with this development, withdrawals from both these types of fund declined considerably compared with last year.

Box 7.3: Pension Funds and the Capital Market

The actuarial deficit in Israel's pension system was the focus of much public attention in 1997. Estimates of the deficit range from 80 to 130 agorot per shekel in the pension funds, even though their assets consist mainly of earmarked bonds, on which the yield is higher than on negotiable bonds. There are several reasons for the difficulties in pension savings: the construction of deficit pension schemes (for example, too high an entry age for new members, who rapidly acquired pension rights without an equivalent accumulation of assets); more rights for pensioners; demographic considerations—particularly the steady rise in life expectancy without a similar increase in the retirement age. In March 1995 the government decided on an arrangement for new members of pension funds and institutionalized existing arrangements for veteran members. Part of the decision was to continue to issue earmarked bonds at a high real interest rate (5.6 percent) to cover the existing pension funds, and establish coverage of the actuarial deficit; on the other hand, earmarked bonds would be issued for new pension funds bearing 5 percent interest, against only 70 percent of the members' accumulation. The remaining 30 percent will be put into negotiable investments and the government will establish a safety net in the form of a 3 percent minimum yield on this component of the accumulation.[1]

[1] The subsidization of yield guarantees in the new funds may exceed that inherent in the established funds.

Even if the pension funds arrangement could, in certain circumstances, lead to an increase in the saving rate and provide a solution for market failures, the arrangement, which in many respects is a retrogressive step from the reforms introduced into the capital market in recent years, carries a high price tag. It impairs the functioning of the capital market because the continued issue of earmarked bonds causes a large part of saving to be transferred from the competitive capital market (including the growing home mortgage market) to the non-negotiable segment, and increases government involvement in saving. Those who save in the funds benefit from a high subsidy which is not overt or included in the budget plan, whose cumulative effect will weigh on the budget in the future, and which might even necessitate a heavier tax burden and net borrowing from the public, along with higher long-term real interest rates in the economy. An unequal, and almost discriminatory, distribution of income is created among the various channels of pension saving itself; the incentives offered by the pensions funds (such as a non-contributory pension) encourage younger persons to leave employment, which has negative implications for Israel's productive ability. Directing pension fund resources to earmarked bonds rather than to the capital market could, in certain conditions, contribute to a shortage of long-term indexed sources in the financial system.

Apart from the theoretical discussion, it is interesting to quantify the benefits granted to savers in pension funds, and there are various approaches (based on differing assessments) to this. A recent study[2] indicates three types of benefit, some of which are unique to pension savings in Israel while others are unique to pension fund savers (as opposed to those who save in provident funds, where subsidy rates are much lower). The calculations show that in certain conditions, the total interest benefit for one year's accumulation in deposit and actuarial coverage to the saver over a period of thirty years in the pensions funds (i.e., the additional risk-free interest which would have to be given for the saver to be willing to forgo the benefits) is in the region of fifteen percent.

[2] Asher Blass (1997), "The Pension Funds—The Cost of Subsidization," internal memorandum, Research Department, Bank of Israel (Hebrew).

The pension funds and the life-insurance industry benefit from extensive government subsidy.

The government subsidizes the pension funds extensively by means of preferred bonds, tax breaks, and actuarial coverage (Box 7.3). The same applies to life insurance, where benefits are received by both the insurance companies, which collect relatively high premiums, and the savers, who enjoy large tax benefits and are not generally limited by a deposit ceiling against these tax benefits (unlike the pension funds and mutual funds).

4. THE PUBLIC'S FINANCIAL PORTFOLIO AND WEALTH

The CPI-deflated financial asset portfolio rose by 14 percent this year.

The public's financial portfolio at the end of 1997 is estimated at NIS 704 billion—208 percent of GDP. The asset portfolio, deflated by the CPI, rose this year by 14 percent, compared with about 4 percent in 1996 (Table 7.A.13). This was because of the increased supply of financial assets available to the public, a large part of which, in contrast to previous years, derives from the business sector, which filled a gap opened up by the fact that the government reduced its net borrowing. At the same time, and after many years of declining trends, the real prices of negotiable financial assets rose in the stock market and the bond market. The acceleration in the rate of expansion of the asset portfolio was accompanied by a shift in its composition—an increase in the proportion of shares and a further decrease in that of CPI-indexed assets. On the face of it, the deflationary process might have been expected to exert more influence on the CPI-indexed assets market; part of the explanation for its modest effect could lie in the continued issue of earmarked bonds, which are indexed and guarantee a high yield (Table 7.2).

The share of the unindexed component in the asset portfolio reached a peak of 25 percent this year.

The unindexed local-currency component of the portfolio has risen continuously in real terms since 1988. This year was no exception, and it currently constitutes a peak 25 percent of the portfolio. The source of this development is the steady decline in the rate of inflation, the inflation target policy—which is perceived by the public as preventing inflationary outbreaks—and the tight monetary policy, which has led to higher yields on unindexed short-term assets. The persistent rise in liquid local-currency channels alongside the shortening of the term of the saving, makes the system more vulnerable to shocks and creates a shortage of indexed sources. In fact, the share in the portfolio of long-term assets (indexed deposits, savings plans, provident and pension funds, and life insurance) continued to diminish, ending the year at 50 percent.

The wealth of the non-financial private sector was estimated at NIS 901 billion at the end of 1997—266 percent of GDP.

The wealth of the non-financial private sector, estimated at NIS 901 billion in 1997—266 percent of GDP—is part physical and part financial. The physical wealth (75 percent of the total) comprises housing, durable goods, and inventory of fixed and current assets for use

Table 7.7
Changes in Wealth, 1995–97

	Wealth (NIS billion)			Change deflated by CPI (percent)			Change in quantity[a] (percent)		
	1995	1996	1997	1995	1996	1997	1995	1996	1997
Total public wealth	676	787	901	6.5	5.3	7.0	6.2	8.0	6.9
Net financial wealth	160	186	225	–3.6	5.1	12.9	0.3	7.5	10.2
of which Financial assets	416	492	574	6.0	6.9	9.0	7.9	9.1	9.2
Less liabilities	256	306	349	13.0	8.1	6.7	13.5	10.1	8.5
Physical wealth	516	601	676	10.1	5.4	5.1	8.3	8.2	5.8

[a] In terms of component prices. This expresses flows of savings and investment in the categories of wealth.

by the business sector. Financial wealth (25 percent of the total) is held by the public as claims (net) on the banks, the government (internal debt), or foreign entities (Table 7.A.14).

To reflect the saving and investment flows in the economy (capital formation report), it is customary to deflate the nominal wealth estimate by the price deflator rather than the CPI (Table 7.7). In 1997, the wealth of the public, deflated by its component price index, grew by 6.9 percent, compared with 8.0 percent in 1996 (despite this, the wealth/GDP ratio rose faster). Part of this slowdown in the growth rate was due to the declining rate of net saving in the private sector in 1997. The physical wealth, deflated by its component price index, grew by 5.8 percent, compared with 8.2 percent in 1996 and 8.3 percent in 1995, reflecting the sharp fall of total investments in construction and the principal industries. As a result, for the first time in many years, net financial wealth (in component price terms) rose faster than physical wealth. Demand was diverted from physical to financial wealth even though the public sector relied less on financial sources (net) for the various terms, following the positive development in its excess demand.[24]

Wealth grew more slowly, partly due to the declining net saving rate of the private sector.

Net financial wealth rose more than physical wealth this year, partly reflecting the sharp decline in total investments.

This year was characterized by the collapse of the financial markets in several Asian countries (Thailand, Indonesia, the Philippines, South Korea, and Malaysia), which had grown rapidly in the last decade. In all of them, the crash was connected with foreign-currency loans taken by the business sector (because of the stability of the exchange rate until immediately before the crisis). In Israel, too, the economic growth of recent years has been accompanied by a marked rise in apparently cheaper foreign currency loans, mainly to the business sector. In a sudden devaluation situation, these loans are liable to cause liquidity difficulties for those borrowers who have insufficient receipts and assets in foreign currency. Most credit denominated in and indexed to foreign currency taken by the business sector in 1997 (mainly in the first half), was short term. Nevertheless, it must be said that the volumes in South-East Asia were far larger, and usually financed unprofitable projects. In addition, in contrast with Israel, the banking supervision mechanisms of those countries were problematic.

Israel's banking supervision mechanisms differ from those of the South-East Asian countries.

[24] On the other hand, the exceptional privatization process this year contributed notably to the increase in financial wealth, as did the rise in the expected relative yields on financial saving.

STATISTICAL APPENDIX