Chapter 7

The Money and Capital Markets

The main challenge facing monetary policy in 1999 was to return the economy to a low inflation environment in accordance with the government's targets, after the global financial crisis in 1998 led to exceptional price increases at the end of that year. To meet the challenge, and in view of domestic and foreign developments during the year, a policy of cautious, gradual lowering of interest rates was adopted, commensurate with the government's inflation targets of 4 percent in 1999 and 3–4 percent a year in 2000 and 2001. The Bank of Israel interest rate was lowered by 2.3 percentage points during the year and reached 11.2 percent at the end of the year.

The main reasons for the cautious and gradual approach were the risks of abrupt changes in the public's portfolio of financial assets as the interest rate differential between Israel and abroad narrowed, uncertainties related to the change of government in Israel and concern about the millennium bug, an increase in prices abroad (especially those of oil and its derivatives), and the estimation (which proved false) that the government budget deficit would severely overrun its target. All these factors were reflected in one-year market-based inflation expectations, and inflation forecasts by economic forecasters, which were both higher than the inflation targets in most months of the year. Nevertheless, inflation expectations declined more quickly than the nominal interest rate, so that the average real interest rate in 1999 climbed to 7.5 percent.

A real increase of 60 percent in share prices in Israel's capital market in 1999 led to a proportional increase in shares in the public's financial-assets portfolio and caused the total value of the portfolio to increase. The share of short-term assets in the portfolio rose at the expense of long-term assets, in continuation of a trend that began in the late 1980s.

The strategy of monetary policy has undergone several changes in the past decade—the focus is on attaining inflation targets set by the government, and the exchange-rate regime has been made much more flexible, reflected in a widening of the crawling band and in a strategy of non-intervention in the foreign-currency market, against the backdrop of liberalization of foreign-currency control.

1. MAIN DEVELOPMENTS[1]

The main challenge facing monetary policy in 1999 was to ensure that the economy would return to a low inflation environment, commensurate with the government's targets.

The main challenge facing monetary policy in 1999 was to ensure, after the exceptional price increases in late 1998—occasioned by the global financial crisis—that the economy would return to a low inflation environment commensurate with the government's inflation targets: 4 percent for 1999 and an annual 3–4 percent for 2000 and 2001. The inflation rate declined from 10 percent to 4 percent (in annual terms) in the last third of 1997, but the eruption of global financial crises halted the downtrend. At that time, the NIS depreciated more steeply than at any other time in recent years, prices rose exceptionally, and inflation expectations accelerated. In response to concern about an inflationary upturn, the Bank of Israel raised its key rate by 4 percentage points in November 1998. In the first quarter of 1999, inflation expectations eased considerably, the foreign-currency market was calm, reflected by appreciation of the NIS, and prices declined. From then on, the central bank lowered the nominal interest rate cautiously and gradually, in keeping with the inflation target.

The Bank of Israel interest rate was lowered by 2.3 percentage points during the year and came to 11.2 percent at the end of the year.

Over the year as a whole, the interest rate was lowered by a cumulative 2.3 percentage points and reached 11.2 percent at the end of the year. Prices rose by 1.3 percent, mainly due to the exceptional price decrease in the first quarter—the lowest annual inflation rate Israel has experienced in the past three decades, and below the 4 percent inflation target. Several factors other than monetary policy supported the moderate rate of price increases: the continuation of fiscal discipline, continued under-achievement of the economic growth potential (despite a slight recovery of activity in the course of the year), and the relative easing of turbulence in capital markets around the world (see Chapter 3).

Various trends during the year made much caution necessary in lowering the nominal interest rate. Eventually, many of the inflation risks did not come to pass. Thus, the Consumer Price Index rose by 1.3 percent, the smallest increase in the past three decades and below the 1999 inflation target.

Various trends during the year made it necessary to exercise great caution in lowering the nominal interest rate. The uncertainty surrounding the return of the inflation environment to the trajectory that preceded the exceptional developments in late 1998 was taken into account. This uncertainty was reflected, *inter alia*, in inflation expectations as derived from the capital market and from private inflation forecasts,[2] which exceeded the inflation targets for most of the year. The setting of the interest rate was also influenced by risks related to abrupt changes in the public's portfolio of financial assets and concern about the recurrence of shocks in the foreign-currency market—in view of the liberalization in this market and the narrowing of the yield differentials between Israel and abroad during the year. The contraction of the differentials was caused *inter alia* by rises in interest rates in the industrialized countries (Figure 7.1), concern about the financial implications of Y2K bug preparations, and election-related uncertainty that was reflected, among other things, in a steep increase in the exchange

[1] The main monetary indicators are shown in Table 7.1.

[2] The inflation expectations and forecasts are for twelve months forward. The inflation expectations are derived from the relative yields on indexed and unindexed bonds (see Appendix 1 in the Bank of Israel's *Inflation Report No. 5, July–December 1999*). The forecast data are gathered from ten sources, including commercial banks and private economic forecasters.

Table 7.1
Monetary Indicators, 1992–99

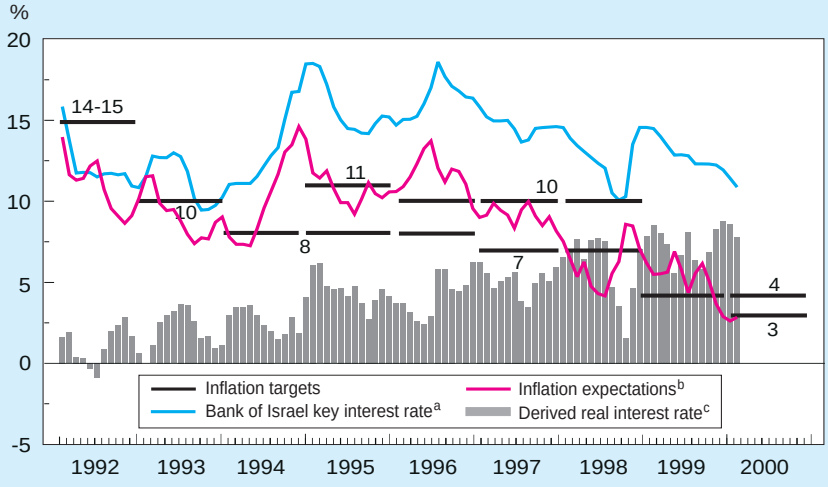
(percent)

	Average						1999			
	1992–94	1995	1996	1997	1998	1999	I	II	III	IV
Inflation environment										
Inflation target	10.8	8–11	8–10	7–10	7–10	4				
CPI[a]	11.7	8.1	10.6	7.0	8.6	1.3	–1.4	1.1	1.2	0.5
Inflation expectations[b]	10.1	10.6	11.7	9.1	6.2	5.3	5.7	6.1	5.4	3.9
Inflation forecasts[c]		9.7	10.0	8.7	5.6	4.9	4.9	5.2	5.0	4.5
Bank of Israel interest										
Key interest rate	11.2	14.6	15.1	13.6	11.7	12.1	13.3	12.2	11.7	11.4
Effective interest on banks' deposits[d]										
Nominal	12.2	15.6	16.1	14.3	12.0	12.4	13.6	12.5	12.0	11.5
Real, expected	2.1	5.1	4.4	4.8	5.6	6.9	7.7	6.2	6.1	7.7
Monetary aggregates[e]										
M1	22.9	16.5	11.9	14.1	12.7	18.6	13.6	11.9	8.7	18.6
M2[f]	32.9	34.4	26.2	24.8	17.5	24.3	20.7	20.9	20.0	24.3
Credit, total	33.0	24.5	22.1	16.5	19.7	15.1	19.5	18.0	18.0	15.1
Unindexed	48.8	42.4	38.0	34.8	34.9	34.9	35.2	35.4	34.6	34.6
CPI-indexed	31.7	35.9	36.5	37.0	36.4	36.5	36.5	36.4	36.7	36.5
In and indexed to foreign currency	19.5	21.6	25.5	28.2	28.7	28.5	28.2	28.2	28.7	29.0
Monetary loan (NIS million)	14,006	4,009	957	1,426	796	784	925	1,153	808	784
Banks' deposits at Bank of Israel auction (NIS million)			5,000	32,500	40,000	48,700	40,200	43,300	45,000	48,700
Capital-market interest rates										
Nominal interest on										
3-month unindexed credit	14.7	17.1	17.6	16.2	14.6	14.7	15.6	14.7	14.1	13.9
3-month dollar credit	5.6	7.3	6.7	6.8	6.7	6.3	6.1	6.1	6.4	6.8
SROs[g]	10.5	13.3	13.8	12.2	10.2	10.7	11.9	10.7	10.2	10.1
Real interest on										
10-year bonds	3.0	4.4	4.6	4.1	4.9	5.2	5.2	5.1	5.2	5.3
Mortgages	4.0	5.0	5.4	5.0	6.0	6.4	6.2	6.4	6.5	6.5
Exchange rates[h]										
Currency basket, average	10.1	4.6	3.4	4.3	9.6	8.3	–4.5	–1.0	2.4	1.5
Currency basket, during period	9.4	5.7	3.1	3.6	20.8	–2.5	–5.5	0.2	5.0	–1.9

[a] Rate of change during year, calculated from last month in period vis-à-vis last month in preceding period.
[b] For 12 months ahead, gross, derived from capital market period average.
[c] For 12 months ahead, as reported at end of month by major banks and forecasting and advisory agencies.
[d] Effective interest at Bank of Israel's auction of banks' deposits, period average.
[e] Average effective interest on monetary loan at quota, period average.
[f] Includes M1, unindexed, interest-bearing local-currency deposits of up to one year.
[g] Self-renewing overnight deposits.
[h] Rate of change.
SOURCE: Based on Central Bureau of Statistics data.

rate. Additional inflation hazards that necessitated a cautious policy regarding lowering the Bank's nominal interest rate were evident in two main fields: the fiscal domain—in which it was widely believed for most of the year (and partly disproved afterwards) that the budget deficit would overshoot the target considerably, for which reason the deficit target for 2000 and subsequent years was raised; and in prices abroad—as prices of oil and its derivatives climbed by more than 100 percent during the year.

Figure 7.1
The Bank of Israel Key Interest Rate, the Derived Real Interest Rate, and the Inflation Targets, 1992–2000



[a] The effective rate of interest on Bank of Israel auctions.
[b] Twelve-month inflation expectations derived from the capital market.
[c] Derived from the nominal rate of interest and inflation expectations.
SOURCE: Bank of Israel data.

The average expected real interest rate climbed to 7.5 percent in 1999.

Inflation expectations declined more swiftly than the nominal interest rate, a phenomenon usually typical of economies in the midst of a disinflation process. Therefore, the expected real interest rate climbed again in 1999, reaching 7.5 percent on average as against 6.2 percent in 1998, 5.5 percent in 1997, and lower rates in previous years. The ex-post real interest rate exceeded the ex-ante real rate considerably this year, and real rates for longer terms also climbed. Real mortgage interest rose from 6.0 percent in 1998 to 6.4 percent in 1999, and the yield to maturity on ten-year CPI-indexed bonds climbed from 4.9 percent in 1998 to 5.2 percent in 1999. The increase in long-term interest rates stems in part from a rise in interest rates abroad, which have had a greater effect on Israel's economy since the liberalization of the foreign-currency market. However, long-term real interest rates in Israel are still about 1.5 percentage points higher than in the industrialized countries. This may be explained (at least partly) by the relatively high level of short-term real interest rates, which reflects the disinflation process. The real yield curve sloped downwards in 1999 (at varying degrees)—attesting to expectations of a decline in real interest in the future, as disinflation continues (Figure 7.2). Indeed, the longer the term, the smaller the interest spread between Israel and the developed countries.

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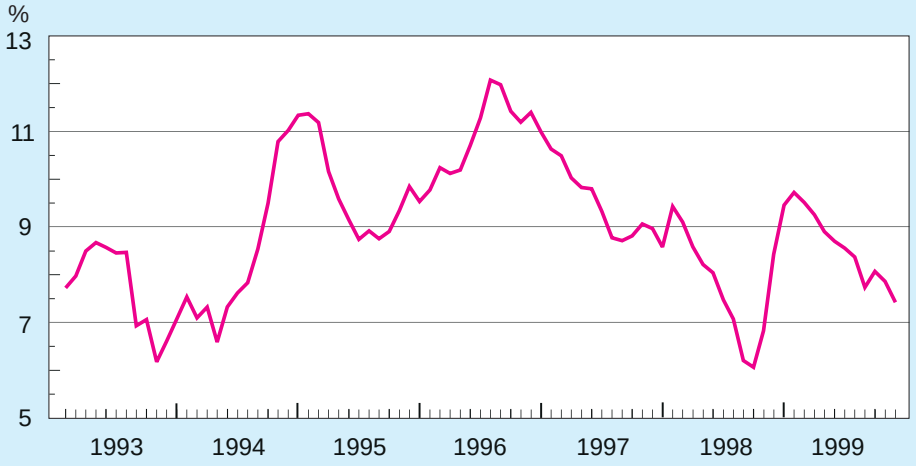
Figure 7.2
Interest-Rate Differentials, Israel and Abroad,[a] 1993–99



[a] The difference between the interest on 3-month local-currency credit and weighted interest on the currency-basket currencies.
SOURCE: Bank of Israel.

The central bank did not intervene in foreign-currency trading. In an era of liberalization in capital flows and internalization of the economic effects of globalization, the policy of eschewing direct intervention in the foreign-currency market, invoked since early 1996, allows market forces to determine the exchange-rate, facilitates correct pricing of the risks related to activity in this market, and thereby makes the economy less vulnerable to financial turbulence abroad. As yield spreads between the local-currency and foreign-currency segments contracted during the year, domestic investors generated a capital outflow, whereas nonresident investors created a sizable inflow, mainly out of long-term considerations. In the course of the year, the NIS appreciated by 2.5 percent against the currency basket and depreciated by 0.4 percent against the dollar. The exchange rate behaved unevenly in the course of the year: the relatively high interest rates early in the year, coupled with the return of nonresident investors, caused the NIS to appreciate considerably in the first quarter. In the second quarter, the exchange rate was virtually unchanged. In the third quarter, the NIS depreciated—evidently due to concerns about the financial implications of Y2K bug preparations and pre-election uncertainty regarding future economic policy. In the last few months of the year, when the fears proved unwarranted and the inflow of long-term capital, originating in nonresident investment, continued, the NIS appreciated again. The relatively moderate exchange-rate trajectory this year helped the economy to return to a low inflation environment.[3]

The relatively moderate exchange-rate trajectory helped slow the pace of price increases.

[3] For a discussion of the empirical relationship between interest rates, the exchange rate, and the inflation rate, see Y. Gibre and S. Ribon (1999), "*Monetary Policy, the Output Gap and Inflation—the Case of Israel*," Bank of Israel Research Department (internal working paper).

In the last three quarters of the year, the inflation rate was 3.7 percent in annual terms, similar to the government's target.

Inflation expectations and prices behaved unevenly during the year and, for the most part, corresponded with the exchange-rate trend. The Consumer Price Index (CPI) declined by 1.4 percent in the first quarter, accelerated thereafter, and hardly changed in the last few months of the year. Inflation expectations, derived from the capital market, were volatile within a range of 5–7 percent for most of the year and declined in the last two months to the 2000–2001 annual inflation target range of 3–4 percent. In the last three quarters, the inflation rate was 3.7 percent in annual terms, similar to the government's target and to the actual inflation rate between the last four months of 1997 and the global financial crisis in late 1998.

Many factors that have helped to lower the inflation environment and consolidate it at a low level will remain in effect after the economy re-attains growth rates that correspond to its potential.

A key question is how accurately the slowdown in price increases—which, as stated, began in late 1997—reflects a decrease in the inflation environment that, at least in greater part, may be expected to endure even after economic activity recovers. Many factors that helped to lower the inflation environment and consolidate it at a low level will remain in effect after the economy again grows at a pace that corresponds to its potential. They include the upturn in the credibility of the commitment of monetary policy to attaining the government's inflation targets; the public's confidence in the continuance of fiscal discipline, with emphasis on the government's undertaking to pare the deficit; the proportional decrease in public consumption relative to GDP (fiscal consolidation), and the awareness that the maintenance of monetary and fiscal discipline (in accordance with the Maastricht benchmarks, for example) is an essential condition for Israel's successful integration into the world economy and the improvement of its international status. All these factors helped inflation expectations fall substantially in late 1999 and the first two months of 2000, to a level below 3 percent in annual terms (see Chapter 3 for a broader discussion).

The main challenge for monetary policy in the next two years is gradually to lower nominal and real interest rates to those prevalent in the industrial countries.

The main challenge facing monetary policy in the next two years is to consolidate a low inflation environment in accordance with the government's targets and, concurrently, to shift from a disinflation policy, typified by relatively high real interest rates, to a gradual convergence of domestic nominal and real interest rates with those in the industrialized countries. Such a policy would support the government's other economic targets, especially the resumption of growth rates that correspond to the economy's potential, while maintaining stability.

* * *

Monetary aggregates are important indicators in assessing the trajectory of inflation. The money supply (M1) is the main aggregate in estimating the inflation environment because it strongly affects the pace of price increases (with a lag of several quarters). M1 expanded by 18.6 percent in the course of 1999 and ended the year at NIS 25.9 billion, after a gentler 12.7 percent increase in 1998. The exceptional expansion in 1999 reflects vigorous demand for NIS liquidity with the approach of the end of the year, due to Y2K concerns. On average, M1 expanded more moderately in 1999, by 11.4 percent. Although theoretically the increase in M1 may cause inflation to accelerate, the stabilization of inflation at a low level, the decrease in nominal interest rates, the

expansion of activity on the stock exchange, and the recovery of real activity suggest that the heightened demand for money was non-inflationary. The M2 aggregate, composed of M1 plus unindexed interest-earning deposits of up to one year, expanded by 24.3 percent in 1999 and came to NIS 196.8 billion at the end of the year, due to a very vigorous 28.4 percent increase in those deposits. The M3 aggregate, composed of M2 plus deposits in and indexed to foreign currency, expanded by a strong 21.9 percent and came to NIS 240 billion at the year-end. These changes reflect portfolio changes: the M2 increase expresses, *inter alia*, the uptrend in the share of unindexed NIS assets in the portfolio that began at the beginning of the decade and gathered momentum in recent years, as monetary restraint and an increase in the credibility of the disinflation policy set the inflation environment on a downward path. Since most unindexed assets today are short-term, their share in the portfolio has risen at the expense of long-term assets. As the disinflation process progresses and acquires greater credibility, issues and use of long-term unindexed assets will presumably grow.

The share of short-term assets in the public's portfolio increased again in 1999, mainly due to the rise in the stock market and a proportional increase in unindexed assets in the portfolio.

In view of the significant real increase in share prices in 1999—by about 40 percent in the first half of the year and another 20 percent in the second half—shares accounted for a larger fraction of public's portfolio of financial assets and the value of the total portfolio increased. The boom market on the Tel Aviv Stock Exchange (TASE) is a by-product of gains in stock markets around the world—especially in the United States, where Israeli shares are traded—and the recovery of real activity during the year, expectations of faster growth next year, the process of lowering nominal interest rates, and expectations of progress in the peace process.

Bank credit to the public expanded by 15 percent in the course of 1999 after growing by 20 percent in 1998. The growth rate of credit in and indexed to foreign currency slowed markedly, from 25 percent in 1998 to 15 percent this year. However, the proportions of the various types of credit (unindexed, CPI-indexed, and in and indexed to foreign currency) have been stable for the past few years (Table 7.1).

2. MONETARY POLICY

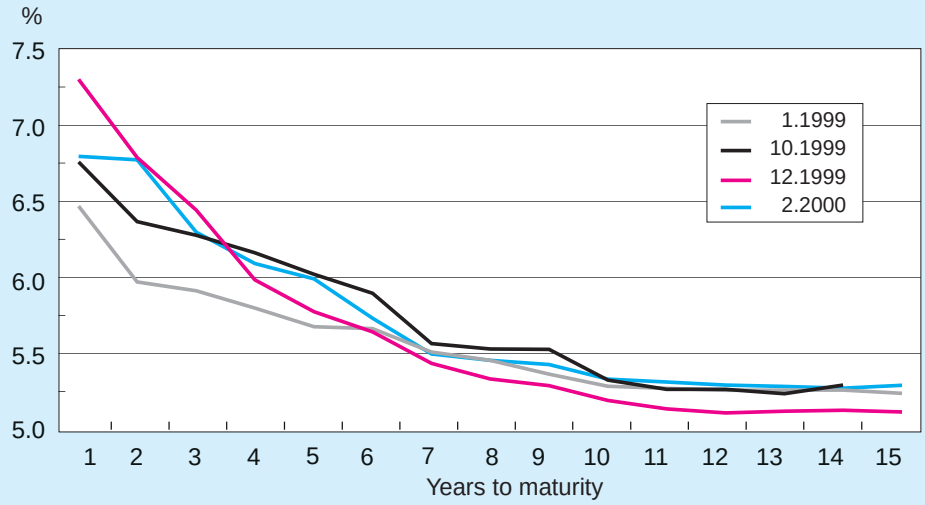
Changes in monetary-policy strategy in the 1990s

Several significant changes introduced gradually in the management of monetary policy during the 1990s have improved the policy and made it more progressive: (1) the focus is on attaining inflation targets set by the government (since the mid-1990s) instead of on the trajectory of the exchange rate. In this context, the central bank thwarts deviations from the inflation target by setting the nominal key interest rate at the end of each month in consideration of the behavior of factors that affect the inflation environment; (2) the exchange-rate regime has been made much more flexible, reflected in a gradual broadening of the crawling band and adoption of a strategy of non-intervention in the foreign-currency market, except to defend the limits of the band. Practically speaking,

The main changes in monetary-policy strategy in the 1990s have focused on attaining inflation targets and making the exchange-rate regime more flexible, while capital-market liberalization intensified.

this means that, as of the late 1990s, the exchange rate is allowed to fluctuate within a broad range (Figure 7.3), against the background of the liberalization in capital flows, which has gradually eliminated most constraints in financial activity between domestic and foreign players, and the ongoing deregulation of the capital market. Many industrialized countries have revised their monetary-policy strategies in these directions in the past decade.

Figure 7.3
Yield Curve of Indexed Bonds, January 1999–February 2000



SOURCE: Bank of Israel.

It was decided in late 1991 to start managing the exchange rate within a crawling band. This marked the beginning of the use of inflation targets.

At the beginning of the 1990s, the exchange-rate regime was implemented within a narrow horizontal band. However, waves of speculation, occasioned *inter alia* by misalignment among fundamentals—between fiscal policy and the exchange-rate regime, for example—set substantial capital flows in motion, eventually made a currency devaluation (effected by raising the midpoint) inevitable and made it necessary to make the exchange-rate regime flexible. Thus it was decided in late 1991 to begin managing the exchange rate within a crawling band and to adjust the slope of the band according to the difference between the domestic inflation target and the inflation rate in Israel's trading partners. The inflation target in 1992 was set by the Minister of Finance, in conjunction with the Bank of Israel, at 14–15 percent. This marked the beginning of the use of inflation targets, but it took several years for policymakers to relate to the targets with greater importance and to lower them gradually. Since the second half of the 1990s, the central bank has focused on striving to obtain the government's inflation targets, and there are indications that this strategy is becoming increasingly credible.

Concurrently, the exchange-rate regime, which is an interim regime between a fixed exchange rate and a floating one, has been made far more flexible. In the first years of the crawling-band regime, the Bank of Israel intervened in foreign-currency trading to

keep the exchange rate within a relatively narrow range inside the band. Since 1996, however, the central bank has not intervened in trading except to defend the limits of the band. Furthermore, the band has been broadened several times in recent years. Among other measures, in August 1998 the slope of the lower limit was reduced to 2 percent and the upper slope was left at 6 percent, thus causing the band to expand to 40 percent by the end of 1999. In practical terms, the broadening of the band to its current limits and the non-intervention policy allow the exchange rate to move within a relatively wide range. In this system, the inflationary (or deflationary) risk occasioned by an acute change in the exchange rate would depend on the magnitude and duration of the change.

In practical terms, the broadening of the band and the non-intervention policy (except to defend the limits of the band) allow the exchange rate to move within a rather wide range.

The introduction of greater flexibility of the exchange-rate regime was coordinated with the foreign-currency liberalization, and both measures helped to open up the foreign-currency market. Concurrently, the business sector increasingly internalized its currency risks, as evidenced in greater use of hedging instruments. These processes, by their very nature, rule out the possibility of sustained intervention in the foreign-currency market, since policymakers cannot assure a given exchange-rate path in an environment of unrestricted capital flows and limited foreign reserves. Another important consideration in making the exchange-rate regime flexible had to do with the commitment to attain the government's inflation targets and to maintain the exchange-rate regime, i.e., to defend a relatively narrow band—by means of the same monetary instrument (the nominal key interest rate).[4]

The strategy of focusing monetary policy on inflation targets without intervening in the foreign-currency market was put to the test in the fourth quarter of 1998, as the world was jolted by financial crises. These crises, against the background of substantially narrowing interest differentials, caused exceptional volatility in Israel's markets as well, and the NIS depreciated by more than 10 percent in the first ten days of October. Nevertheless, the Bank of Israel adhered to its non-intervention policy, in the conviction that the use of market forces to set the exchange rate is a stabilizing factor that makes the economy less vulnerable to financial shocks abroad, and that intervention at that time could actually have destabilizing repercussions. When it became clear that the exceptional price increases, prompted mainly by the currency depreciation, might cause inflation to accelerate and overrun the target, the key lending rate was raised sharply. This move, coupled with the non-intervention and the easing of tension in world markets, calmed Israel's foreign-currency market and lowered the price level and inflation expectations by the end of 1998.

[4] See *Sterilizing International Capital Flows*, Bank of Israel Annual Report, 1996, p. 157.

Monetary policy in 1999

In the course of 1999, the Bank of Israel pursued a policy of lowering the interest rate gradually and gently, and the reductions came to a cumulative 2.3 percentage points—from 13.5 percent (14.4 percent in effective terms) at the beginning of the year to 11.2 percent (11.8 percent in effective terms) at the end of the year. The ex-ante real effective interest rate fluctuated considerably, surpassed 8 percent at the beginning and at the end of the year, and worked out to 7.5 percent on average—about 1.5 percent over the 1998 average.

During the first quarter of 1999, it was increasingly believed that the inflation environment was returning to the level of the twelve months to August 1998. Therefore, the Bank of Israel lowered interest in March, April, and May.

In the course of the first quarter of 1999, it was increasingly believed that the inflation environment was returning steadily to the level of the twelve months ending in August 1998. The rises in the interest rate in November 1998 caused inflation expectations, as derived from the capital market, and inflation forecasts (published by commercial banks and private forecasters) to plummet from more than 8 percent in October 1998 to 5 percent in February 1999. Additionally, the foreign-currency market became relatively calm, the NIS appreciated, and prices declined by 1.4 percent. These conditions allowed the Bank of Israel to lower the key interest rate three times, by half a percentage point each time—in March, April, and May.

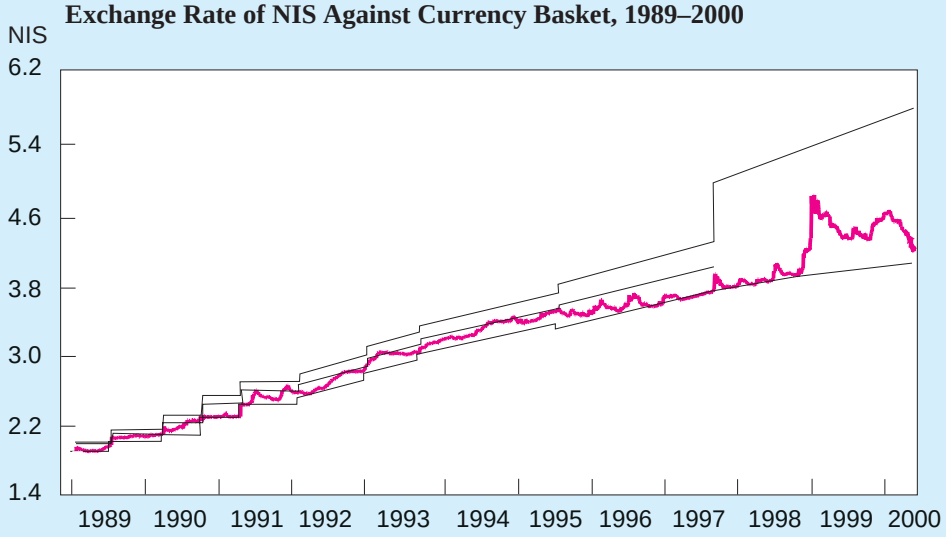
Due to an upturn in inflation risks in June–October, the Bank of Israel was unable to lower interest, except in August.

From June through October—with the exception of August, in which the interest rate was reduced by half a percentage point—interest was left unchanged because of an upturn in inflation hazards: (1) inflation expectations and forecasts for twelve months forward and longer horizons climbed during parts of that period, and exceeded 4 percent—the upper limit of the inflation-target range for 2000 and 2001—throughout the whole of that period. Since the forecasts for 1999 spoke at that time of less than 4 percent inflation, there was concern about an inflationary upturn in early 2000. Therefore, the crafters of monetary policy, which affects prices with a lag of several quarters, were forced to refrain from further interest cuts during that time. (2) Uncertainty about fiscal policy increased as the new government was being formed and when the 1999 budget deficit seemed to be heading for a considerable overrun; in the wake of these estimations, the government raised the trajectory of the budget deficit target for 2000 and subsequent years. (3) In view of the recovery of global trade, surging stock markets around the world, and forecasts of relatively strong growth in 2000, the international commodities markets showed indications of upward price pressure, including oil prices, which more than doubled during the year.[5] To forestall inflationary pressures, central banks abroad began to raise key lending rates. (4) The narrowing of interest spreads, fiscal uncertainty, and growing concern about the Y2K bug affected the foreign-currency market, the NIS depreciating by more than 4 percent against the currency basket and the dollar. The depreciation had an effect on the CPI and especially

[5] The increase in oil prices was prompted mainly by the decision of the OPEC cartel to reduce production quotas. For an expanded discussion, see the inflation report for the second half of 1999.

on housing prices, which rose considerably. This also seems to have occurred in view of the turnabout in economic activity. All these factors indicated the high risk involved in continuing to lower the interest rate; this was manifested in a flattening of the yield-to-maturity curve of unindexed bonds (Figure 7.4).

Figure 7.4
Exchange Rate of NIS Against Currency Basket, 1989–2000



SOURCE: Bank of Israel.

In November and December—against the background of the ebbing of Y2K fears, the resumption of the peace process, and, in its wake, the expected improvement in Israel's country rating and the stronger likelihood of an upturn in long-term capital inflow—nervousness in the foreign-currency market subsided and the NIS appreciated. Fiscal uncertainty also diminished and the estimate concerning a deviation from the budget-deficit target was corrected. In response, the CPI and inflation expectations declined, for the first time during the year, to levels that fell short of the 3–4 percent for 2000–2001 inflation target. Inflation forecasts also leveled off (and declined markedly in early 2000). Thus, the Bank of Israel resumed lowering the key rate—by 0.3 percentage point in December and another 1.3 percentage point in the first quarter of 2000.

Towards the end of the year, nervousness in the foreign-currency market subsided, fiscal uncertainty diminished, and inflation expectations declined to a level below the 3–4 percent inflation target for 2000–2001. Thus, the Bank of Israel resumed lowering the key rate.

3. THE PUBLIC'S FINANCIAL PORTFOLIO AND WEALTH

The public's financial portfolio was worth NIS 971 billion at the end of 1999—a real increase of 20 percent over 1998 (Table 7.A.13). Two main phenomena stood out in the portfolio trend: (1) a 59 percent increase in stock prices (in real terms, i.e., deflated by the CPI and adjusted for dividends) in the course of the year (Table 7.2), which led

Table 7.2
The Capital Market as at December 31, 1999, and Change from Previous Year

(NIS billion)

	Total	Shares[a]	Negotiable bonds[b,c]	Indexed earmarked bonds	Treasury bills[b]	Other assets held by institutions
Institutions						
Provident funds[d]	115.1	18.7	51.6	7.5	1.7	35.6
Change (%)	5.4	35.0	1.9	–18.8	–9.3	5.9
Advanced study funds	37.3	5.3	16.3	0.6	0.8	14.2
Change (%)	15.6	45.4	7.5	–32.9	–11.7	22.7
Old pension funds	101.1		0.7	95.5		4.9
Change (%)	2.9		–0.7	3.1		0.8
New pension funds	5.3		0	3.5		1.8
Change (%)	51.1		0	49.7		54.0
Life insurance plans	64.7	2.7	12.0	30.9		19.0
Change (%)	10.7	73.6	17.2	–0.2		21.9
Mutual funds[e]	34.8	10.7	12.5		6.0	5.6
Change (%)	57.0	86.5	17.5		77.0	132.6
Households and firms	124.8	87.4	28.1		9.3	
Change (%)	47.2	85.4	3.5		–11.2	
Nonresidents[f]	**46.9**	**46.0**	**0.8**			
Change (%)	39.3	40.5	19.5			
Commercial banks	46.5		38.6		7.9	
Change (%)	2.2		–0.4		16.8	
Total	576.6	170.9	160.6	138.0	25.8	81.2
Change (%)	18.2	63.1	4.3	1.5	8.7	17.2
Real change in price[g] (%)	12.1	58.6	0.5	0.1		0.1
Change in quantity (%)	5.4	2.8	3.8	1.4	8.7	17.1

[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.
[d] Adjusted for advanced study funds' holdings.
[e] Adjusted for provident funds' and nonresidents' holdings in mutual funds.
[f] Excluding $15 million of other financial assets held by nonresidents in mutual funds.
[g] Total real return *minus* interest and dividend.
SOURCE: Bank of Israel Research Department.

The General Share Index climbed by 59 percent in real terms and was the decisive factor in the increase in value of the public's financial portfolio.

to a proportional increase in shares in the portfolio and became the most important factor in the growth of portfolio value; and (2) the continuation of a trend that began in the late 1980s—an upturn in the fraction of short-term assets in the portfolio at the expense of long-term assets.

The rise in the proportion of short-term assets in the portfolio in recent years (net of the shares component) traces to the ebbing of the inflation environment and the growing

credibility of monetary policy, in view of the policy commitment to attaining the inflation target. This trend was abetted by the relatively high interest rates set by the Bank of Israel, which were necessary to meet the inflation target and which affected interest rates on other NIS assets. The continuing tax discrimination between unindexed saving and some kinds of indexed saving has also reinforced the public's predisposition to increase the fraction of unindexed assets, which are tax-exempt, in its portfolio.[6] This development also reflects withdrawals from provident funds, whose share in the asset portfolio has declined from 22 percent to 15 percent in the past five years (see section on institutional investors, below). Thus, the public's direct involvement in the capital market increased in 1999 and that of institutional players declined (Table 7.2).

The proportion of unindexed assets in the portfolio (excluding shares) rose *inter alia* because of the decline in the inflation environment.

The 1999 boom in the stock market was reflected in an increase in the value of firms and, as stated, of financial assets. These increases may lead to an upturn in private consumption[7] and investments and, by so doing, may help fulfill expectations of more rapid growth. However, many countries perceive an increase in the prices of shares and assets as a factor that may, if it persists, also portend a future surge in inflation ("asset inflation").

The net financial wealth of the private sector, comprising the business sector and the public,[8] increased by 13 percent this year (Table 7.A.14). The proportion of net financial assets in the public's wealth grew slightly, at the expense of the share of physical wealth. The increase stems from the expansion of the government's financing needs and the relative upturn in the prices of financial assets relative to physical assets—mainly dwellings and equipment. Physical wealth grew by 10 percent; mostly in stocks of buildings and equipment in the business sector and in housing stocks. The growth of equipment and building stock reflects the upturn in investments, even though the growth of GDP and increase in profitability were sluggish in 1999.

Physical wealth grew by 10 percent, mostly in stocks of buildings and equipment in the business sector and in housing stocks.

The financial liabilities of the private sector increased but the average distribution of loans by types of indexation was unchanged. The adjustment of the credit portfolio for the decrease in inflation, monetary policy adopted in recent years, and the capital-market liberalization process was made mainly in 1994–1997, as the share of unindexed credit declined and that of CPI-indexed credit, and especially credit indexed to exchange rates, expanded. Since 1997, the annual average portfolio has been stable (Table 7.3), apparently indicating that yield gaps between the various types of indexation have been narrowing.

[6] See *Taxation of Financial Assets in Israel*, Bank of Israel Annual Report, 1998, p 193.

[7] See Y. Lavi, "*Does Change in Current Income Help Explain Change in Consumption in Israel?*" Bank of Israel, Discussion Paper Series, 95.05 (Hebrew).

[8] For a precise definition, see Table 7.A.14, note 2.

Table 7.3
Actual Cost of Credit, and its Distribution by Indexation Type, 1993–99

	1993	1994	1995	1996	1997	1998	1999
Percent, annual terms							
Real interest							
Weighted cost	4.7	1.5	7.2	6.1	7.6	9.2	6.8
Unindexed credit	5.2	2.9	11.7	9.5	11.4	8.9	15.2
CPI-indexed credit	4.2	3.9	4.6	5.6	6.1	5.4	6.8
Foreign-currency-indexed credit	0.8	–8.4	–0.5	–0.4	3.4	12.5	–1.8
Real interest, in terms of business-sector-product prices[a]							
Weighted cost	7.6	4.7	9.0	6.0	7.0	8.6	4.4
Unindexed credit	8.1	6.2	13.6	9.5	10.8	6.7	12.5
CPI-indexed credit	7.1	7.1	6.4	5.5	5.5	4.8	4.4
Foreign-currency-indexed credit	3.5	–5.5	1.2	–0.5	2.8	11.8	–4.1
Percent, period average							
Distribution of nondirected credit							
Unindexed credit	47	48	42	37	33	33	33
CPI-indexed credit	31	33	34	35	36	36	36
Foreign-currency-indexed credit	22	19	24	28	31	31	31

[a] Product prices for 1999 are estimates.
SOURCE: Bank of Israel.

4. THE CAPITAL MARKET

Bonds

The government had to increase its domestic issues due to a decline in privatization revenue, and net government redemption of debt abroad.

Some 93 percent of the bond market in Israel is composed of government bonds. In 1999, even though the government deficit (including credit) of NIS 8 billion was not larger than expected, bond issues increased because of a significant and unexpected decline in privatization proceeds, and net government redemption of debt held abroad. These factors forced the government to increase net domestic issues to NIS 7.4 billion, mostly in unindexed securities.

The background for the increase in the share of unindexed bonds in issues, and the corresponding lengthening of term to maturity of these bonds—which had been typified by relatively short terms—was the decline in the inflation environment and the public's propensity in recent years to raise the proportion of unindexed assets in its portfolio.

Under certain conditions, the debt-recycling policy and the increase in the share of unindexed assets may render the economy more vulnerable to shocks by making the debt more liquid. However, in comparison with developed countries and despite the change in issues, the share of such assets in Israel has remained under the accepted level. The level and composition of government debt (domestic and foreign) has not changed significantly in the past five years: 40 percent is non-negotiable—issued to pension funds and for life-insurance plans—and the share of unindexed negotiable bonds, although it has risen (mainly in 1992–1996), is still low at 8 percent.[9]

Yields on indexed bonds climbed; so did yields on long-term bonds, evidently because short-term interest rates affected long-term ones.

Most of the increase in yield to maturity of indexed bonds occurred in short-term bonds (up to five years),[10] on which the average interest rate climbed from 5.4 percent in 1998 to 6.0 percent in 1999. However, the yield on long-term indexed bonds (ten to fifteen years) also increased slightly—from 5 percent in 1998 to 5.2 percent on average in 1999, evidently because short-term interest rates had an effect on long-term ones. The yield curve of indexed bonds was negative for most of the year, reflecting the public's expectations of a decline in interest rates—which came true in 1999 in nominal terms only (Table 7.A.8).

Yields to maturity on unindexed bonds were about 12 percent in short-term (one-year) bonds and 11 percent in longer terms (up to five years). In the course of 1999, as inflation and interest rates came down, yields on unindexed bonds declined. However, because of steep interest hikes in late 1998, the average yield on unindexed bonds in 1999 remained at approximately the 1998 level. The yield to maturity of bonds indexed to exchange rates also climbed this year—evidently because of the uptrend in world interest rates.

Shares

The General Share-Price Index surged despite low profitability, due inter alia to expectations of economic recovery.

The General Share-Price Index surged by 59 percent in real terms in 1999, after falling by 7.6 percent in 1998. This increase, as stated, caused the public's portfolio to expand (see section on the portfolio, above). The rise occurred despite poor corporate earnings, due *inter alia* to expectations of an economic recovery. American stock market developments in general, and the price increases of Israeli shares traded in the US in particular, also did much to explain the changes in the domestic stock market, in the public's portfolio of assets, and in investments, chiefly in high-tech industries.

Stock indices rose considerably in many countries in 1999. The largest increases, 60 percent on average, occurred in the emerging markets and in Japan. The increases in other developed countries were more modest but vigorous nonetheless: in the United

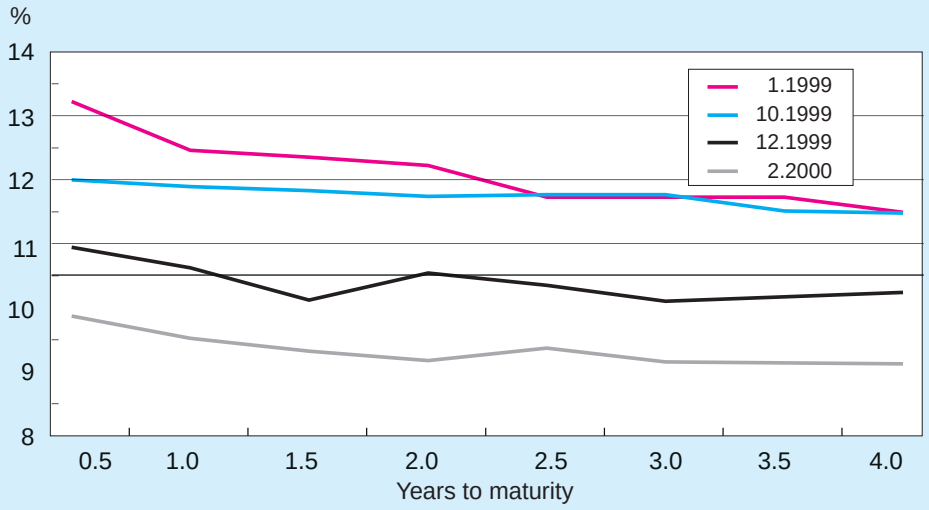
[9] Unindexed government debt should also include Treasury bills and banks' deposits with the Bank of Israel .

[10] Indexed bonds are issued for periods of between one and twenty years; unindexed bonds are issued for periods of between one and five years.

Over the two years 1998 and 1999, most stock markets throughout the world rose at similar rates of about 20 percent, annual average.

States, the S&P index climbed by 21 percent and the Nasdaq index by 80 percent, and the share indices in Germany and France rose by 24 percent and 51 percent, respectively (Figure 7.5). Notably, however, the increases in share indices in developing countries this year followed decreases in 1998 and reflected the recovery from the global financial crisis in 1997 and 1998; on average for the past two years, most share indices climbed by some 20 percent per year. In 1998 and 1999, Israel's share index behaved similarly to that of the developing countries from an annual perspective. From a longer perspective, the correlation of monthly yields in the various markets in recent years is explained by the high level of openness, the velocity of information transfer, and the interdependency of the economies at issue. In this respect, 1999 was not an exceptional year (Table 7.4).

Figure 7.5
Yield Curve of Unindexed Bonds, January 1999–February 2000



SOURCE: Bank of Israel.

Low corporate earnings and lethargic real economic activity evidently dampened the rates of increase in the stock index.

As in previous years, domestic events in 1999 also affected the development of shares. Predictions of faster economic growth, especially in the second half of the year (as explained in Chapter 2); optimism evidently associated with the elections that took place in May, and the resumption of the peace process (during the months of the election campaign and towards the end of the year); and the decline in the inflation environment and, pursuant to it, in the nominal interest rate, all these evidently had an upward effect on the share index. In contrast, low corporate earnings (Table 7.A.10), lethargic real economic activity, the high real interest rate, and concerns about the 2000 budget and its deficit dampened the rates of increase.

Table 7.4
Correlation Coefficients of Total Monthly Returns on Shares, 1992–99

(in dollar terms)

	Israel	Asia	Europe Africa & Middle East	Latin America	Japan	US	UK[a]
Asia	0.25	1.00					
Europe, Africa, and Middle East	0.23	0.40	1.00				
Latin America	0.38	0.49	0.37	1.00			
Japan	0.07	0.30	0.16	0.25	1.00		
US	0.34	0.46	0.31	0.52	0.30	1.00	
UK	0.36	0.32	0.30	0.40	0.33	0.55	1.00
Germany[b]	0.28	0.35	0.34	0.32	0.22	0.54	0.57

[a] Data for the UK start in January 1993.
[b] Data for Germany start in May 1993.
SOURCE: Based on data from IFC and Bloomberg.

The surge in the stock market in 1999 underscored the gap between current real activity—a sluggish economy with low levels of productivity and earnings—and developments in the capital market. This phenomenon is not new, either in Israel or abroad. It was strongly evident in the slump years of 1989 and 1997, when the stock exchange rose, and in 1994, when the exchange slumped amidst rapid economic growth. However, the intensity of the increase in the share index in 1999 stands out in view of the low levels of real activity and earnings. In contrast to trends in the American market, where technology share indices were specially buoyant, developments in the domestic stock exchange this year were not specific to any particular principal industries and did not point to a structural change: share indices in all the principal industries climbed steeply and at similar rates (Table 7.A.9).

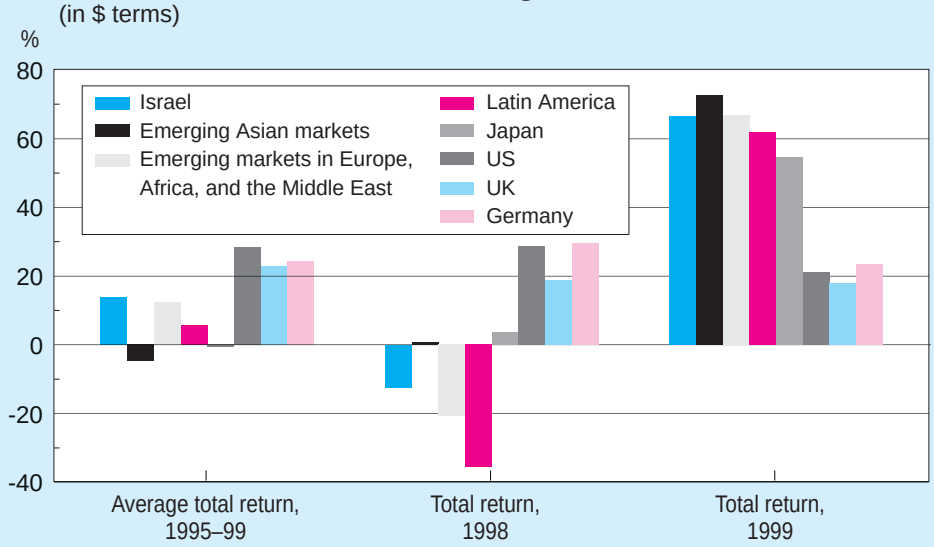
The value of Israeli shares traded abroad and their share in the market climbed throughout the 1990s and especially in 1999. Thus, their market value came to about $60 billion at the end of 1999—150 percent higher than at the end of 1998—as against only $29 billion in shares traded in Israel (net of government holdings and double-counted shares). In addition, shares traded both in the US and in Israel (dual-listed shares) had a market value of about $10 billion in 1999.[11] The increase in value of shares abroad reflects the price increases of shares traded in 1998 and the listing of

The value of Israeli shares traded abroad and their share in the market climbed throughout the 1990s and especially in 1999.

[11] This description does not take into account shares traded in Europe, mainly in London. If these shares are taken into account, the value and weight of shares traded abroad, and of dual-listed shares, is even greater relative to shares traded in Israel only.

additional Israeli firms for trade abroad (Figure 7.6). The high market value of the shares abroad and rapid increase in their prices reflect expectations of the firms' future profits. If these expectations come to pass (and assuming that the attendant economic activity takes place in Israel), these profits will help boost domestic product.

Figure 7.6
Total Returns for Selected Stock Exchanges, 1995–99
(in $ terms)



SOURCE: Based on data from Tel Aviv Stock Exchange, IFC, and Bloomberg.

Box 7.1

Venture Capital Funds

Venture capital funds usually invest in new ("start-up") companies that are R&D-intensive and considered as high risk in order to obtain an especially high return. Various studies have shown that the return on venture capital funds' investments is three to five times that of an alternative investment in research and development. As one would expect, many companies that attract investments from venture capital funds generate no earnings for many years. However, in the event of success—if the company goes public or is sold—venture capital funds seldom continue to hold a large ownership stake in them.

Israel has more than sixty active venture capital funds today, and most activity in this field is performed by the thirty largest funds. About 60 percent of the funds are private; the rest are governmental or public. Investment in Israel in the development of high-risk companies is undertaken by the government, via the Office of the Chief Scientist of the Ministry of Trade and Industry, by

technological incubators supported by the government, and by foreign venture capital funds. Over the past decade, venture capital funds have invested about $2 billion in more than 500 Israeli companies, with considerable success: about forty of these companies went public by the end of 1999 (raising $2 billion in capital) and twenty-five companies were sold off the exchange. The funds are extensively involved in the issuing of Israeli companies abroad, and the level of their involvement is rising steadily. In 1999, venture capital funds supported about half of Israeli companies' overseas issues—ten out of nineteen.

The Israeli companies that issue shares abroad with the funds' support—all of which are in high-tech—resemble other foreign-issuing Israeli companies in many respects. However, it seems that companies that avail themselves of venture capital funds are typified by especially high returns on equity after their issues, giving evidence of the quality of the funds' selection and/or their favorable influence on the companies' performance.

Source: IVA (1998–99) and processing by the Bank of Israel; A. Blass and I. Yafeh (2000), "Vagabond Shoes Longing to Stray—Why Foreign Firms List in the United States," *Journal of Banking and Finance* (forthcoming).

Box 7.2

The Great Wave of Stock Issues—Where Did the Money Go?

In the course of the 1990s, and especially in 1992–1994, the Tel Aviv Stock Exchange experienced a large wave of issues, in which industry raised NIS 9 billion in capital (at 1999 prices). The spate of issues raises the question of the use of these proceeds and, especially, whether the moneys were invested in accordance with business considerations.

A new study,[1] based on the annual cash flows of all industrial firms traded on the Tel Aviv Stock Exchange in 1990–1997, elicits the following statistical findings:

(1) Firms that finance themselves mainly by bank credit invest more than the average in working capital and inventory (the average for all firms is 16 percent), and less than the average (54 percent for all firms) in fixed equipment and buildings.

[1] A. Blass and O. Yosha (2000), *Reforms in Israel's Financial System and the Cash Flow of Manufacturing Companies Traded on the Stock Exchange*, in Articles in Memory of Michael Bruno, Am Oved (Hebrew).

(2) The investment in fixed equipment and buildings is a function of the firms' relative level of liquidity; it also positively correlated with the ratio of market value of the firm to capital substitution cost (Tobin's Q). This means that both the level of liquidity and the level of share prices on the stock exchange have a positive effect on national investment. The study shows that an increase of 10 percent in share prices may bring about a 6 percent increase in investment and equipment.

(3) Public issues are more important in firms' total resources in Israel than abroad. Firms that rely mainly on this kind of financing direct the proceeds to specific uses and do not pay out above-average dividends. Industrial firms traded on the stock exchange evidently invested in fixed equipment and buildings, *inter alia*, on the basis of business considerations.

(4) Many companies that issued shares in the 1990s have reduced their levels of credit, giving evidence, among other things, of the extent of substitution between the banking system and the stock exchange.

5. INSTITUTIONAL INVESTORS

Israel's capital market has unique structural problems related to the decisive involvement of banks, the severe centralization of the banking industry, and restrictions imposed on institutional players.

Israel's capital market has unique structural problems related to the decisive involvement of banks, the severe centralization of the banking industry, and restrictions imposed on institutional players. Institutional investors hold 63 percent of assets in Israel's capital market (Table 7.2), the public holds 21 percent directly, the banks hold 8 percent, and nonresidents hold the rest. Provident funds and pension funds stand out among the institutional players, at 32 percent and 29 percent of the market respectively (Figure 7.7).

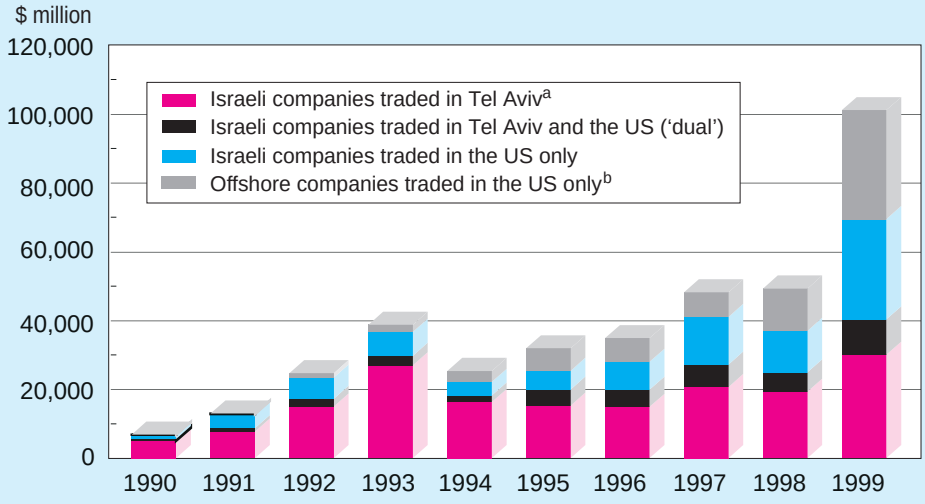
No reform that would tackle the provident funds' main problems has been carried out to date.

Although the matter has been discussed at length, no reform that would tackle the main problems regarding provident funds—including inflexible distribution of investments, centralization, conflicts of interest, lack of transparency, and high commissions—has been carried out to date. For these reasons, the funds have been experiencing net withdrawals (Table 7.A.11). Furthermore, a comprehensive tax reform that would eliminate the distortions occasioned by tax discrimination between indexed and unindexed savings and domestic saving and saving abroad has yet to be implemented.[12]

Another important limitation originates in the guarantee of high yields for pension funds and insurance companies by means of earmarked bonds, because the interest burden flowing from the government's commitment to these bonds creates much rigidity

[12] In 1999, a committee under the Director-General of the Ministry of Finance was established to look into the taxation issue.

Figure 7.7
Market Capitalization of Israeli Companies in Tel Aviv and the US, 1990–99



[a] Excluding government-owned companies and share holdings of other quoted companies (double counting).
[b] Subsidiaries of Israeli companies registered abroad, which are not considered Israeli companies even if most of their activity is in Israel.
SOURCE: Based on TASE data.

in reducing the public debt. Furthermore, the guaranteed high yield on these bonds, along with additional limitations enshrined in law—on investments in the stock exchange (especially for pension funds) and on investments abroad *inter alia*—keep institutional investors from entering the capital market in full force and limit their ability to diversify their portfolios. Although there are good reasons to prevent the investment of long-term savings in excessively dangerous paths, Israel's capital market would become larger and more efficient if the restrictions on the funds' investment opportunities were eased and the benefit embodied in the earmarked bonds were lowered.

The guaranteed high yield on earmarked bonds creates much inelasticity in reducing the public debt.

Net withdrawals from provident funds, despite the tax benefits that this saving avenue offers, are explained mainly by two factors: (1) the discontinuance of earmarked-bond issues for these funds in 1986, and, consequently, a decrease in the proportion of these bonds in the funds' total investments;[13] this decrease reduced the minimum guaranteed yield and, in turn, an increase in the relative risk of investment in provident funds; and

[13] At the end of 1999, only 3 percent of provident-fund assets were invested in earmarked bonds.

(2) the provident funds' poor average yields during this decade, relative to alternative investment paths. This occurred, *inter alia*, because the funds have avoided unindexed investments and hold a relatively low proportion of shares in their portfolio, although this proportion increased in 1999. The acute centralization occasioned by the dominance of banks in managing provident funds is evidently injurious to the funds' considerations in choosing the optimum investment.

The second-largest institutional investors in the financial assets market are the pension funds, which held NIS 106.4 billion in assets at the end of 1999 (Table 7.2). Since March 1995, because of a change in regulations, new pension funds have been established that receive earmarked bonds at interest of only 5 percent and for only 70 percent of members' accrual,[14] while the old pension funds have continued to benefit from earmarked bonds that pay 5.6 percent. The old pension funds have amassed large actuarial deficits that the government has undertaken to cover. This undertaking and the issue of earmarked bonds for the funds—an unusual practice from an international point of view—have been detrimental to the performance of the capital market and provide the funds with a hefty subsidy that, in terms of its cumulative effect, will cause the budget deficit to grow.

[14] For the remaining 30 percent of savings with the new pension funds, the government created a safety net composed of a 3 percent minimum yield on negotiable bonds.