Chapter 2

Financial Activity of the Commercial Banks[1]

The year 2002 was a difficult one for the Israeli economy, and the worst experienced by the banking system in the last decade. A combination of domestic and external factors had an adverse effect on the activity, risk exposure, and financial results of the banking system. The banking system was influenced by macroeconomic conditions, chief among them the recession, but it also influenced them, and its moderating effect could increase in the future.

The year was notable for the cessation of the expansion of bank credit to the public, and this remained at its 2001 level after having risen continuously and markedly for the last decade, in years of both boom and recession. The deterioration in 2002 stemmed primarily from the contraction of the supply of credit by the banks, but also from the fall in demand for it by firms and households, because of the recession.

The quality of credit from Israel's banking system has also deteriorated in the last two years, making increased loan-loss provision necessary. This eroded banks' capital and led to greater caution in extending credit. Credit substitutes offered by extra-bank intermediaries continued to contract in 2002, because of the slump in the capital markets in Israel and abroad and the rise in the risk premium ascribed to Israel's economy and firms in it, in view of the ongoing deterioration in economic activity and the geopolitical situation.

Another change that characterized 2002 was the real decline in the supply of the public's deposits in banks and the general contraction of the public's asset portfolio, after positive growth rates for the past ten years. The contraction stemmed from the fall in disposable income and the private saving rate, as well as the erosion of the value of the shares in the public's portfolio. An

[1] Unless specified otherwise, this chapter refers to the activities in Israel of the commercial banks. This year our calculations also include data from Jerusalem Bank and two foreign banks (HSBC and Citibank), while the data for Trade Bank are not included.

examination of the public's asset portfolio shows a marked shift away from unindexed deposits to those indexed to the CPI and foreign currency—due to the marked rise in the inflation rate as well as to local-currency depreciation. There was also an appreciable decline in the proportion of shares in the portfolio due to the erosion of their value, and a rise in residents' investments in banks abroad.

Interest rates in local-currency activity channels rose during 2002 as a result of the hike in the Bank of Israel's key interest rate, which was part of monetary policy, and the increase in net borrowing by the government, restriction of credit by the banks, and greater interbank competition for sources. The effects of all these left the total net interest margin close to its 2001 level (1.9 percent, compared with 2.0 percent in 2001), and the net interest margins in other intermediation segments also remained at similar levels to the past, with the exception of the foreign activity segment, where it rose.

1. INTRODUCTION

The recession evident since 2000:IV has worsened in the last two years, adversely affecting the economic activity, performance, and exposure to risk of the banking system in 2002. For the first time there was been a real decline in the assets of the commercial banks (–2 percent), compared with an average growth rate of 9 percent in the last five years, and they stood at NIS 695 billion (Table 2.1). The contraction of the banks' assets was due mainly to the cessation of the expansion of credit to the public alongside the accelerated decline in cash and deposits in banks (–13 percent), while there were no significant changes in the other assets. With regard to banks' liabilities, there was a marked fall in deposits of the public—especially unindexed deposits—a decline in deposits from banks, and an increase in bonds and subordinated notes.

The deepening of the recession in 2002 was expressed by a 3 percent decline in per capita GDP and business-sector product, a rise in the unemployment rate—to 10.3 percent—and a reduction (the first time for many years) in private consumption (–0.5 percent), in the wake of the entrenchment of individuals' assessments that their income would be affected on an ongoing basis. The economic developments were accompanied by shocks to the money and capital markets, reflected by the acceleration of the inflation rate to an annual 6.5 percent—considerably above the price stability target—local-currency depreciation vis-à-vis the major currencies (9.8 percent against the dollar and 14 percent against the currency basket), a slump in the domestic and foreign capital markets (a decline of 25 percent in the Tel Aviv 100 index and of 31 percent in the Nasdaq), and increased uncertainty in all these markets.

The economic slowdown of the last two years derived from the sharp drop in demand, due in turn to two main developments: 1. The Intifada, which led to greater uncertainty in the political-security situation and the business environment; this primarily affected

Table 2.1
Assets and Liabilities[a] of the Commercial Banks (Israel Offices),[b] by Segment, 2000–2002

	End-of-year balances (NIS million)[b]			Real change (%)		Annual average balance (NIS million)[b]		Real annual change (%)	Balance-sheet composition (%)	
	2000	2001	2002	2001	2002	2001	2002	2002	2001	2002
Total assets	**661,689**	**710,151**	**694,925**	**7**	**–2**	**684,797**	**694,260**	**1**	**100**	**100**
Total liabilities	**661,689**	**710,151**	**694,925**	**7**	**–2**	**684,797**	**694,260**	**1**	**100**	**100**
Unindexed local currency										
Assets	242,297	269,646	247,433	11	–8	251,316	246,670	–2	37	36
Liabilities	273,491	309,566	277,080	13	–10	291,848	275,926	–5	43	40
Derivatives	26,014	31,836	22,233	22	–30	32,481	23,336	–28	5	3
Surplus (+)/Deficit(–)[c]	–5,180	–8,085	–7,413	.	.	–8,052	–5,920	.	.	.
CPI-indexed										
Assets	170,692	168,658	168,354	–1	0	168,908	168,397	0	25	24
Liabilities	150,581	143,655	151,180	–5	5	143,699	147,738	3	21	21
Derivatives	–2,097	–3,138	–2,419	50	–23	–3,674	–2,168	–41	–1	0
Surplus (+)/Deficit(–)[c]	18,014	21,865	14,755	.	.	21,535	18,490	.	.	.
Foreign-currency (indexed and denominated)										
Assets	213,230	233,786	237,992	10	2	227,928	240,502	6	33	35
Liabilities	194,803	212,021	222,720	9	5	205,135	225,996	10	30	33
Derivatives	–23,918	–28,696	–19,815	20	–31	–28,806	–21,167	–27	–4	–3
Surplus (+)/Deficit(–)[c]	–5,491	–6,931	–4,543	.	.	–6,013	–6,661	.	.	.
Buildings, etc.[d]	35,470	38,060	41,145	7	8	36,646	38,690	6	5	6
Equity, etc.[e]	42,814	44,908	43,945	5	–2	44,116	44,600	1	6	6
Surplus (+)/Deficit(–)[f]	–7,344	–6,848	–2,800	.	.	–7,469	–5,909	.	.	.

[a] The tables in this survey are adjusted according to the classification of assets and liabilities in the published financial statements. They do not include activity contingent on collection.

[b] Does not include data on Bank of Jerusalem Ltd., which engages mainly in mortgage activity.

[c] A positive number denotes a surplus of assets over liabilities; a negative number denotes an excess of liabilities over assets.

[d] Buildings, equipment, and nonfinancial assets; including investment in subsidiaries and affiliates.

[e] Equity and nonfinancial liabilities (deferred capital notes).

[f] A deficit in the ownership segment denotes positive financial capital.

SOURCE: Returns to Supervisor of Banks.

tourism, construction, exports to the Territories, and investment by nonresidents. 2. The global slump in trade and bursting of the high-tech bubble, which caused demand for and exports of high-tech products to plummet.

Economic developments in Israel and abroad influenced the behavior of the banks and the public, and hence the extent of bank credit and deposits of the public in banks. The supply of bank credit contracted for several reasons: 1. The deterioration in the quality of bank credit—because of the worsening recession the extent of problem loans soared, as did loan-loss provision; this caused bank managers to adopt a more cautious policy with regard to credit than in the past, expressed in the establishment of stricter criteria for extending credit and restriction of its supply. 2. The fact that the risk-weighted capital ratio was close to the required limit. Consequently, the banks in Israel, encouraged by the Supervisor of Banks, acted to raise the minimum capital ratio to a higher level than that required by the Supervisor of Banks (9 percent), in order to improve their robustness and ranking by international rating agencies, as well as to enable them to be licensed as financial holding companies by the US supervisory authorities.[2]

Demand for credit by the public was affected by two opposing developments: 1. Because of the income effect due to the contraction of economic activity, firms' and households' financing needs apparently declined too. 2. The substitution effect, on the other hand, which reduced the supply of sources from nonbank financial intermediaries, served to increase the demand for bank credit. The security situation, the absence of any indication that the economy was emerging from the recession, the slump in the capital markets in Israel and abroad, and the downgrading of Israel's credit rating in the course of the year by the three major rating agencies, from 'stable' to 'negative,' reduced the ability of Israeli firms to raise capital in Israel and abroad, to obtain direct credit from abroad, and to make use of financing from venture capital funds. Flows of bank credit[3] and its substitutes amounted to NIS 32 billion in 2002, compared with NIS 77 and NIS 107 billion in 2001 and 2000 respectively, and the share of bank credit in total credit and its substitutes fell to its lowest level for many years (Table 2.2). Thus, credit from the banking system accounted for only 28 percent of total credit, compared with an average of 60 percent in the last five years.

In the *public's asset portfolio and the supply of its deposits* there was a real 4.6 percent decline in 2002, for the first time in ten years. The contraction of the supply of deposits stems from the reduction in both disposable income (by 3.4 percent, compared with a rise in previous years) and the private saving rate (to about 18.6 percent, compared with an average of 20.3 percent in the last decade). However, because alternative investments were less worthwhile, due to the negative yields in the mutual and providence funds and

[2] One of the conditions for obtaining a license of this kind is a minimum capital ratio of at least 10 percent.

[3] Flows of bank credit are calculated as the difference in gross outstanding bank credit (credit *plus* the general, supplementary, and special loan-loss provision) at the end of the year compared with the end of the previous year. The calculation is made using credit flows, since credit substitutes, such as capital raised in the capital market, are in terms of flows rather than stocks.

Table 2.2
Changes in Bank Credit and its Substitutes, 1997–2002

(NIS million, Dec. 2002 prices)

			Changes in credit substitutes						
					Capital raised[c]				
	Changes in bank credit to public[a]	Total	Direct credit from abroad[b]	Credit from institutional investors[c]	Shares	Corporate bonds	Capital raised abroad	Venture capital funds[d]	Share of bank credit in total credit and substitutes
1997	36,522	20,700	4,804	–2,232	7,865	1,473	7,028	1,764	63.8
1998	43,000	16,276	–328	–1,186	8,047	2,598	4,650	2,495	72.5
1999	46,974	40,146	6,609	3,365	5,767	1,713	18,145	4,547	53.9
2000	51,438	55,403	2,990	4,384	14,486	298	19,638	13,608	48.1
2001	50,782	26,349	–1,247	2,460	5,945	2,853	7,463	8,875	65.8
2002	**9,010**	**23,420**	**4,590**	**1,972**	**5,662**	**4,723**	**1,082**	**5,391**	**27.8**

SOURCES:

[a] Balance-sheet credit to public from commercial and mortgage banks—from returns to Supervisor of Banks. The change in outstanding credit is assumed to reflect new credit extended.

[b] Direct credit from abroad—reports to the Controller of Foreign Exchange; money and credit aggregates—from the *Annual Report* of the Monetary Department.

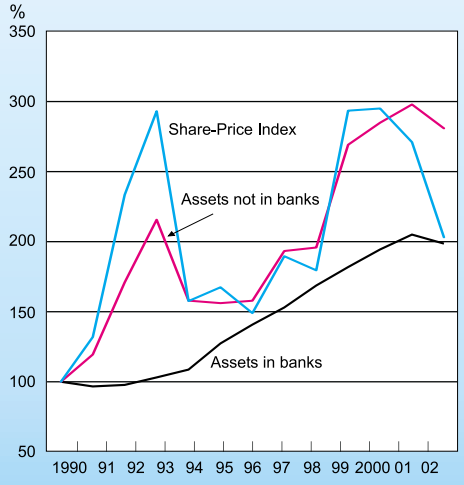
[c] Including credit extended by institutional investors and insurance firms, and nontradable corporate bonds. Data from the Monetary Department and from the Ministry of Finance Capital Markets Division.

[d] Venture capital funds data—from *IVC online*; capital raised in Israel—from *This Month on the Stock Exchange* (Hebrew); capital raised abroad—from the Controller of Foreign Exchange.

erosion of the value of shares traded in the stock market, most of the decline in private saving was in nonbank investment, while the fall in the supply of deposits of the public was relatively moderate. The banks' demand for deposits of the public derives to a great extent from their need for credit, so that the demand for bank credit increased the banks' demand for sources of various kinds, including deposits of the public.

Two main changes characterized the development of the public's assets in 2002: 1. A shift from unindexed, local-currency assets to those indexed to the CPI or foreign currency, in contrast with the trend in previous years, because of the marked rise in the inflation rate and inflationary uncertainty, as well as local-currency depreciation. 2. A decline in the share of the public's nonbank assets, due largely to the erosion of the value of the public's shares. The variables which affect the public's decisions regarding investments in banks (in the various indexation segments) and not in banks (mainly in the capital market), derive not only from expected yields in each investment channel but also from the public's level of sophistication and risk-aversion. It is generally assumed that conservative customers tend to prefer the banking system to other alternatives, as its deposit terms, yields, and fees are usually certain and known in advance. Investment in some capital market channels, on the other hand, could give high yields but involve a high level of risk, which could be expressed in the real erosion of the capital. Consequently, most of the public's investment in the capital market is implemented via provident and mutual funds, enabling individuals to avoid having to monitor market developments on an ongoing, daily basis.

Figure 2.1
Developments of Assets of the Public in Banks and not in Banks,[a] and General Share-Price Index, 1990–2002



[a] All the definitions of the public's asset portfolio are in accordance with Table 2.7.

SOURCE: Returns to Supervisor of Banks and reports of Bank of Israel Foreign Exchange Activity Department.

A long-term examination of the distribution of the public's assets shows that the public's *assets in banks* have risen at a similar rate since 1994 (8.6 percent on average), except for a decline in 2002. The annual rates of change of the public's *nonbank assets* were not uniform, being influenced to a great extent by prices (revaluation of securities in the portfolio), as reflected in the high correlation between the General Share-Price Index and the public's nonbank assets (a correlation coefficient of 83 percent, Figure 2.1).

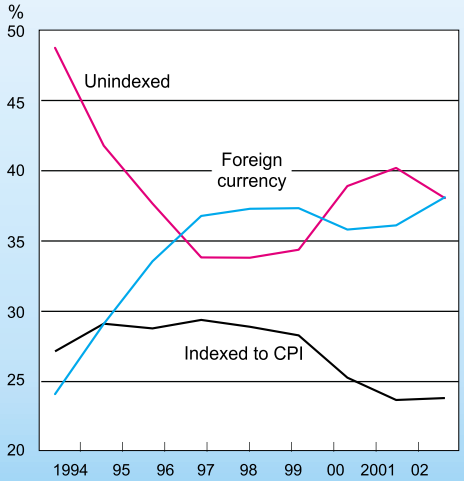
An *examination of credit by indexation segment* shows that credit remained at its 2001 level but its composition changed (Table 2.3). Foreign-currency credit to residents rose by 3.5 percent, while local-currency credit contracted. Part of the

Table 2.3
Distribution of Credit to the Public,[a] 2000–2002

	End-of-year balances (NIS million)[a]			Real change (%)		Annual average balance (NIS million)[a]		Real annual change (%)	Balance-sheet composition (%)	
	2000	2001	2002	2001	2002	2001	2002	2002	2001	2002
Total credit to the public[b]	**386,993**	**430,370**	**429,962**	**11**	**0**	**411,987**	**430,845**	**5**	**100**	**100**
Total local-currency credit	**253,114**	**273,823**	**269,712**	**8**	**–2**	**263,223**	**266,618**	**1**	**64**	**62**
Unindexed	158,756	172,524	169,052	9	–2	165,616	163,946	–1	40	38
Overdraft acccounts and facilities[b]	45,489	46,116	46,383	1	1	44,541	43,279	–3	11	10
Other short-term credit[b]	58,588	72,442	76,491	24	6	66,679	74,931	12	16	17
On-call credit	54,679	53,966	46,179	–1	–14	54,396	45,737	–16	13	11
Indexed	94,358	101,300	100,660	8	–1	97,607	102,672	5	24	24
Total foreign-currency credit	**133,879**	**156,547**	**160,250**	**17**	**2**	**148,766**	**164,227**	**10**	**36**	**38**
To residents (total)	118,832	134,562	139,271	13	3	129,124	142,264	10	31	33
of which Foreign-currency-indexed	3,716	3,261	2,602	–18	–20	3,377	2,880	–15	1	1
To nonresidents (total)	15,046	21,985	20,979	46	–5	19,641	21,963	12	5	5

[a] At December 2002 prices. See note a to Table 2.1. Credit includes credit from earmarked deposits.
[b] Includes only credit at the banks' responsibility; does not include credit to special banking corporations.
SOURCE: Returns to Supervisor of Banks.

Figure 2.2
Share in Total Credit of Different Types of Credit,[a] 1994–2002



[a] The weights were calculated from average annual balance, as in Table 2.3.

SOURCE: Returns to Supervisor of Banks.

growth of foreign-currency credit is explained by the diversion of demand by Israeli firms; these formerly raised capital abroad, but since it was difficult to do this in 2002, they increased their demand for domestic credit. The expansion of foreign-currency credit was concentrated in the first half of 2002, when the dollar interest rate was lower than that on local currency, and expected exchange-rate changes were lower than the actual ones; as a result, the cost of foreign-currency credit was perceived as being low. In the second half of the year the demand for foreign-currency credit declined because of greater uncertainty regarding future exchange-rate changes which increase the risk implicit in the high price of credit. In 2002 the continuous expansion of unindexed credit was checked for the first time, and it dipped by 2 percent, in view of increased uncertainty regarding the development of inflation. CPI-indexed credit was the cheapest credit substitute, and it remained at its 2001 level of NIS 101 billion (Table 2.3 and Figure 2.2).

Several other important developments characterized the activity of the banking system in 2002:

- There was a marked decline in cash and deposits in the Bank of Israel and other banks (down by 13 percent, i.e., NIS 21 billion). In the past the banks channeled their surplus sources in the unindexed segment to Bank of Israel deposits, within the framework of the auctions for monetary deposits, where the return is risk-free. The decline in deposits derived from the Bank of Israel's reduced need to use deposit auctions in order to absorb excess liquidity, as a result of the fall in capital inflow. In addition, at the beginning of 2002 there was a change in the monetary policy instruments, with a gradual reduction in these auctions and their substitution by issues of Treasury bills, the ceiling on which was removed (see Box 2.1).
- Households' investment abroad—especially in deposits—rose. Transfers by individual residents amounted to $ 2.4 billion (some $ 1.4 billion in deposits in banks abroad, and the rest in purchases of foreign securities by mutual funds). This was due in part to the increased security uncertainty and country risk, as perceived by depositors, in view of the worsening of the recession in 2002 and increase in bank risk, as reflected by the lower ranking accorded to the major banks by the international rating agencies during

the year. These were compounded by the income tax reform, which widened the tax base of capital income while partly consolidating tax rates on it, as well as by legislation regarding money laundering, which may also have contributed to the desire to transfer deposits abroad. The deposits thus transferred were usually placed in foreign banks rather than in overseas offices of Israeli banks (see Chapter 4).

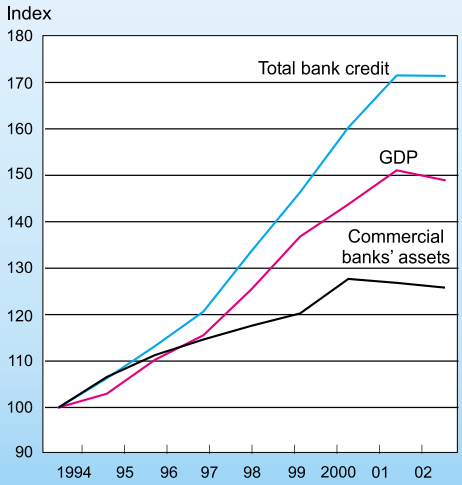
- Monetary and fiscal policy, on the basis of which the central bank's key interest rate was raised several times in the course of 2002, as well as the extent of the government's borrowing requirements, served to increase local-currency interest—both long- and short-term. The development of interest rates was not uniform throughout the year: in the first half real interest declined, because of the high inflation rate, while in the second half the real interest rate rose considerably. Dollar interest declined in step with the Libor interest rate, but in real local-currency terms it rose in the first half of 2002 as a result of the local-currency depreciation, but fell in the second half. Interest rates arising from financial intermediation were also affected by the supply and demand of bank deposits and deposits of the public. The contraction of the supply of credit, expressed in the decline in bank credit substitutes and stricter policy in extending bank credit, served to raise the interest on credit. In addition, the decline in the supply of deposits of the public, as well as interbank competition for these sources, acted to increase the interest on sources. These developments led to stability in interest-rate spreads in most segments, and the relative stability of net interest margins. The total net interest margin remained at almost the same level as in 2001 (1.9 percent vis-à-vis 2.0 percent).
- A long-term examination shows that there is convergence between interest rates in the various segments as regards deposits and credit, as a result of the liberalization of the money markets, with temporary deviations at times of sharp shifts in exchange and inflation rates. Shifts of this kind characterized 2002, as did marked differences in interest between the various segments.

2. CREDIT TO THE PUBLIC

The balance of bank credit[4] to the public in 2002 was NIS 430 billion, similar to its 2001 level, compared with two-digit growth rates in the previous four years, while GDP fell by about 1 percent (Figure 2.3 and Table 2.3). The marked upward trend in the credit/GDP ratio evident in the last ten years—the result of the far greater expansion of bank credit than of economic activity—was checked in 2002 (Figure 2.4). Nevertheless, this high ratio in Israel relative to other western countries attests to the predominance and centrality of the banking system in financial intermediation activity, and particularly to the considerable exposure of the banking system to credit risk, as GDP is the main source for credit repayment (see Chapter 5).

[4] Credit to the public is that extended by all the ordinary commercial banks and refers solely to balance-sheet credit at the bank's responsibility, and only to activity in Israel.

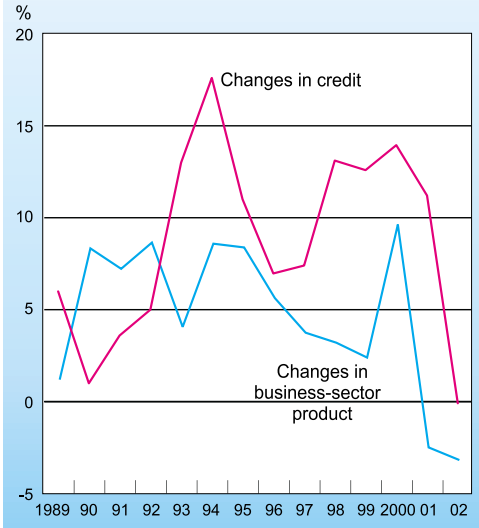
Figure 2.3
The Activity of the Banking System, and GDP[a], 1994–2002



[a] 1994 =100.

SOURCE: Based on returns to Supervisor of Banks.

Figure 2.4
Changes in Business-Sector Product and in Bank Credit, 1989–2002



SOURCE: Based on returns to Supervisor of Banks.

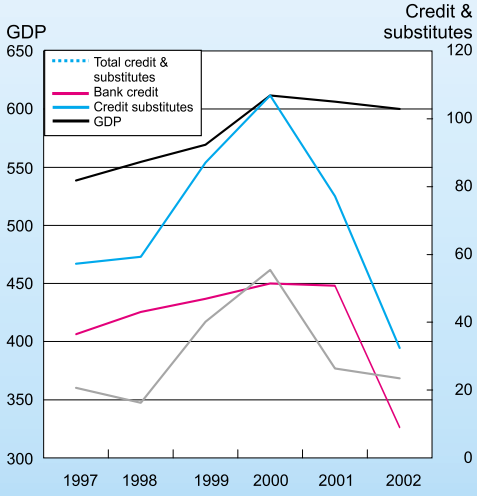
Firms' financing needs can be met by several sources: credit from domestic and foreign banks, capital raised on the domestic and foreign capital markets, financing via venture capital funds, and credit extended by institutional investors.[5] The credit supplied by domestic banks[6] rose by an annual average of NIS 45 billion in 1997–2001, constituting 60 percent of total sources of finance. This trend changed in 2002, when credit from the banking system rose by only NIS 9 billion (down by 80 percent from the average of the previous five years) and accounted for only 28 percent of total credit (Figure 2.5 and Table 2.2). Thus, the steep rise in the banking system's share of finance to the economy, evident since 2001, was checked. The main substitute for bank credit was capital raised on the capital market; the ability of a firm to raise money in this way depends first of all on the state of the economy and—to a lesser extent—on that of the firm itself.

[5] There are other credit substitutes, such as R&D subsidies provided by the government and benefits provided under the Encouragement of Capital Investments Law, but these are not available to all individuals and firms, and hence are not examined here.

[6] Data on the credit balances of the banking system refer to stocks, representing the total credit owed to the banks, while data on capital and credit taken from venture capital funds refer to flows, expressing the new sources of finance provided by them to firms. In order to examine the development of the various alternative sources of finance, we estimate credit flows from the banking system (commercial and mortgage banks) as the difference between gross credit balances at the beginning and end of the year.

In years when the stock exchange is booming most firms, even the less successful ones, manage to raise capital, and this sometimes leads to financial bubbles and market value that is far in excess of book value. This is what happened with the share issues of many start-ups in 1999. The reverse is the case in a capital market recession, when most of the public stays away from the capital market, so that even successful firms have difficulty raising capital. The slump in the capital markets in Israel and abroad, and the higher cost of raising capital on the various stock exchanges in 2002 reduced firms' ability to raise capital there. In addition, the acceleration of inflation, a higher government borrowing requirement, and apprehensions that the government would be unable to attain its deficit target all caused investors to demand a higher risk premium, as reflected by the rise in yields on local-currency bonds (*Shahar* and *Gilon*). These high yields hampered firms' ability to borrow in the capital market, intensifying the credit squeeze. Capital raised in this market (in Israel and abroad) amounted to NIS 11 billion—further to the decline in this sphere, which stood at NIS 34 billion in the peak year of 2000. Most of the capital raised in 2002 was through corporate bonds (up from NIS 2.9 billion in 2001 to NIS 4.7 billion in 2002); their increased share in total borrowing is characteristic of a recession, when the public prefers to invest in short-term bonds (as a substitute for shares) which pay interest irrespective of the company's profit. Capital raised via share issues remained at the same level as in 2001 (NIS 5.7 billion), considerably less than in previous years. Venture capital funds represent another source of finance for firms, and this channel has developed in recent years due to the readiness of these funds to finance the activities of start-ups. In 2000, when the number of start-ups in Israel soared, financing via venture capital funds reached a peak of NIS 14 billion, but since then it has plummeted, standing at only NIS 5.4 billion in 2002.

Figure 2.5
Flows of Credit and its Substitutes,[a] and GDP, 1997–2002
(NIS billion, Dec. 2002 prices)



[a] The change in outstanding credit extended to the public by commercial and mortgage banks is an estimate of credit flows from the banking system. Credit substitutes include direct credit from abroad, capital raised in Israel and abroad via shares and corporate bonds, and financing from venture capital funds.

SOURCE: Based on returns to Supervisor of Banks.

Israeli firms can also borrow abroad. The readiness of foreign lenders to finance Israeli firms depends to a great extent on the state of the economy, its potential for growth, and the extent of risk ascribed to it. In 2002 the rating of the major banks was downgraded

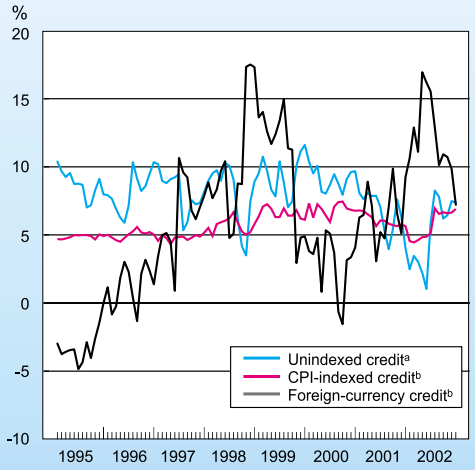
and the economy performed negatively, so that direct credit from abroad amounted to only NIS 4.6 billion. Nevertheless, this was more than in 2001, however, partly due to the revaluation of credit in real local-currency terms and partly—some $ 300 million—to the purchase of bonds issued by the Israel Electric Corporation by foreign investors.[7]

In order to gain a better understanding of the factors behind the development of credit, as well as of the characteristics of agents who borrow from the banking system, below we review credit by indexation segment and industry, and also examine credit extended in order to purchase controlling interests.

a. The distribution of credit by indexation segment

The development of credit by indexation segment is affected by two main factors: the first is the lifetime of the project for which finance is sought and the nature of the firm's activity. Thus, for example, long-term investments are usually financed by long-term credit (primarily CPI-indexed), while importing and exporting firms tend to take foreign-currency credit. The second factor is the relative interest rate on each kind of credit. At each point in time firms assess the expected real cost of the different kinds of credit, in accordance with expectations regarding the development of credit, inflation, and the exchange rate. This calculation also takes uncertainty and fluctuations in the price of credit into account.

Figure 2.6
Cost of Credit, 1995–2002
(real rates, in NIS terms)



[a] The change in outstanding credit extended to the public by commercial and mortgage banks is an estimate of credit flows from the banking system. Credit substitutes include direct credit from abroad, capital raised in Israel and abroad via shares and corporate bonds, and financing from venture capital funds.

SOURCE: Based on returns to Supervisor of Banks and Research Unit Calculations.

Total bank credit to the public amounted to NIS 430 billion[8] in 2002, similar to its level in 2001 (Table 2.3)—after expanding by double-digit figures in recent years—alongside a rise in its price during the year (Figure 2.6).

The rise in the share of unindexed credit in total credit evident in the last three years came to a stop in 2002, and it declined by about 2 percentage points (to some 38 percent). This credit finances short-term credit and hence serves as a substitute for unindexed credit. The ongoing downward trend in the share of CPI-indexed credit was also checked in 2002, and this amounted to 24 percent of total credit, similar to its share in 2001 (Table 2.3, Figure 2.2).

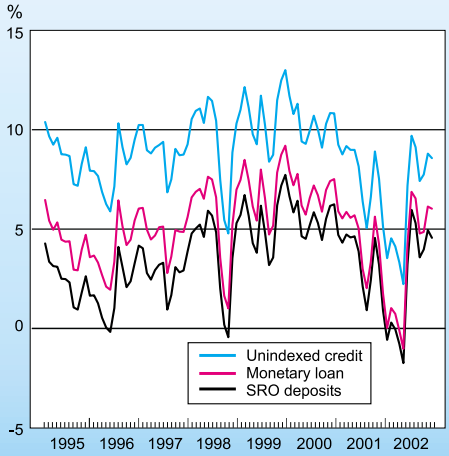
[7] The remaining increase in credit derived from suppliers' credit and new loans.

[8] Credit to the public, which includes credit guarantees, rose by about 1 percent to stand at about NIS 535 billion.

(i) Unindexed credit

After four years in which unindexed local-currency credit rose markedly (by 22 percent on average), it reached some NIS 169 billion at the end of 2002—down by 2 percent from 2001 (Table 2.3). The development of credit over the year was not uniform: outstanding credit declined by 8 percent in the first half because of increased uncertainty with regard to the course of inflation at that time. In the second half of the year, in view of the stability of the inflation rate and uncertainty as regards its course, demand for this credit rose again. The composition of unindexed credit changed during the year: at the beginning, when the Bank of Israel cut its key interest rate, the nominal interest on all credit categories fell (Table 2.4 and Figure 2.7). The public preferred to increase the share of long-term unindexed credit (term credit) at the expense of short-term interest (overdraft facility and on-call deposits), in order to reduce financing costs while interest rates were low and inflation expectations high. In the first half of the year the share of term credit in total unindexed credit rose from 42 to 46 percent, whereas in the second half this trend stopped. This development is characteristic of an economic slump, when banks limit overdraft facilities to firms, while credit intended to reinforce firms' working capital and restructure their debt (term credit) expands. In 2002, for the first time since 1997, on-call deposits declined (by 5 percent). This credit is extended to firms for short terms, and its decline is explained by banks' desire to reduce it and extend other term credit, with a higher interest rate, instead. Overdraft facilities, which are usually given to firms, and households' overdrawn bank accounts, expanded by about 1 percent, similar to the rate in 2001. The share of excess credit in this credit has risen gradually, from 29 percent in 1999 to about 34 percent at the end of 2002, reflecting individuals' and firms' financing difficulties (Figure 2.8). The Supervisor of Banks has been monitoring this

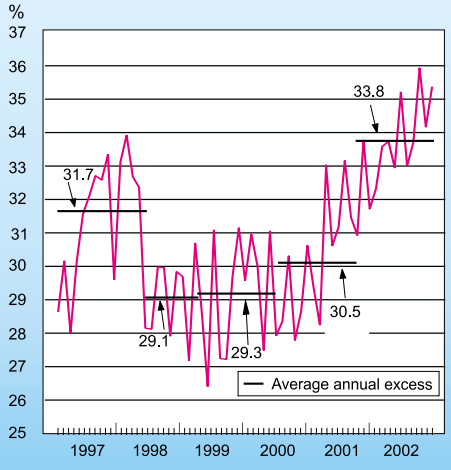
Figure 2.7
Real[a] Interest Rates in the Unindexed Local-Currency Segment, 1995–2002



[a] Real interest rates were calculated from inflation expectations derived from the capital market.

SOURCE: Based on returns to Supervisor of Banks.

Figure 2.8
Share of Excess Credit in Total Overdraft Facilities and Overdrawn Deposits, the Seven Major Banks, 1997–2002



SOURCE: Returns to Supervisor of Banks.

Table 2.4
Average Annual Yields on Selected Assets and Liabilities, 2001–2002

(percent)

	Nominal yields						Real yields[i]					
	Annual average		2002				Annual average		2002			
	2001	2002	I	II	III	IV	2001	2002	I	II	III	IV
Unindexed local-currency segment												
Demand deposits[a]	1.6	1.4	1.0	1.2	1.8	1.8	–0.5	–1.8	–2.1	–2.7	–1.1	–1.3
SRO deposits[a]	5.6	5.8	3.1	4.3	7.9	7.9	3.4	2.4	–0.1	0.2	5.0	4.5
Resident time deposits[a]	6.2	6.0	3.6	4.5	7.9	8.0	4.0	2.6	0.5	0.5	4.9	4.6
Monetary loan	6.6	6.8	3.8	5.1	9.1	9.1	4.5	3.3	0.6	1.0	6.1	5.7
Total unindexed sources	**5.8**	**5.7**	**3.4**	**4.2**	**7.4**	**7.6**	**3.7**	**2.3**	**0.2**	**0.2**	**4.5**	**4.2**
Term credit[a]	8.8	8.6	6.2	7.2	10.5	10.5	6.6	5.1	3.0	3.1	7.4	7.1
Overdraft accounts and facilities[a]	13.4	13.6	10.7	12.1	15.8	15.5	11.1	9.9	7.3	7.8	12.6	11.9
Total unindexed credit	**10.0**	**9.9**	**7.4**	**8.4**	**11.9**	**11.9**	**7.7**	**6.4**	**4.1**	**4.2**	**8.7**	**8.4**
Treasury bills[b]	8.2	5.8	2.1	0.1	8.8	12.2	6.0	2.4	–1.0	–3.8	5.8	8.7
Banks' deposits with Bank of Israel[c]	5.7	5.2	3.1	3.9	6.9	7.0	3.5	1.9	0.0	–0.1	4.0	3.6
Total unindexed assets	**8.8**	**8.7**	**6.3**	**7.3**	**10.4**	**10.6**	**6.6**	**5.2**	**3.1**	**3.2**	**7.4**	**7.1**
CPI-indexed local-currency segment												
Savings schemes[d]	-	-	-	-	-	-	**4.9**	**4.2**	**3.7**	**3.9**	**4.5**	**4.8**
Indexed bonds[e]	-	-	-	-	-	-	4.6	4.8	3.5	4.5	5.6	5.7
Credit[f]	-	-	-	-	-	-	6.1	5.7	4.5	4.9	6.7	6.7
Mortgages[g]	-	-	-	-	-	-	6.4	5.7	5.3	5.3	5.8	6.2

Table 2.4 (continued)

(percent)

	Nominal yields (in dollar terms)[h]						Real yields[i]					
	Annual average		2002				Annual average		2002			
	2001	2002	I	II	III	IV	2001	2002	I	II	III	IV
Foreign-currency-denominated and indexed segment												
Time deposits	1.1	0.2	0.2	0.2	0.2	0.1	2.7	8.9	8.5	12.9	8.0	6.1
Foreign-currency-denominated deposits[j]	3.3	1.3	1.4	1.4	1.4	1.1	4.9	10.1	9.8	14.3	9.3	7.2
Foreign-currency-indexed credit	5.5	3.5	3.4	3.6	3.6	3.4	7.2	12.5	11.9	16.7	11.7	9.6
Foreign-currency credit to residents	4.9	3.1	3.0	3.2	3.3	3.1	6.6	12.1	11.5	16.2	11.3	9.3
Deposits abroad[k]	3.7	1.7	1.8	1.8	1.7	1.4	5.3	10.5	10.2	14.7	9.6	7.5
Annual rates of change												
CPI	1.4	6.5	9.8	16.3	2.6	–1.8	-	-	-	-	-	-
NIS/$ exchange rate	9.3	7.3	24.9	8.9	8.8	–10.6	-	-	-	-	-	-

[a] Effective annual yield/cost, as reported by the seven major banking groups.

[b] Yield on Treasury bills (market rate).

[c] Interest on banks' deposits in the framework of the deposit auctions instituted by the Bank of Israel in the last quarter of 1996.

[d] Average interest on savings schemes.

[e] Average gross yield to maturity of all CPI-indexed bonds (market rate).

[f] Based on reports of cost of credit extended during the month.

[g] Weighted average interest on nondirected mortgage loans.

[h] The data refer to dollar-denominated credit and deposit items.

[i] Real interest calculated on the basis of the public's inflation expectations, derived from the capital market, and the expected exchange rate, calculated from the rate of actual depreciation over the previous twelve months.

[j] Including nonresidents' and residents' restitutions deposits.

[k] 3-month Libor interest rate.

SOURCE: Based on returns to Supervisor of Banks, and data from Monetary Department, Bank of Israel.

development because it impairs full transparency and proper disclosure to customers: thus, for example, the customer does not know for sure what is his credit limit from the bank, whether he is permitted to deviate from that limit, and if so under what circumstances. The contract between the bank and the customer specifies the credit framework made available by the bank to the customer, and also that there is to be no deviation from it. From banks' returns, however, it transpires that there have been exceptional and frequent departures from the overall credit framework, and that the banks do not appear to have acted to reduce them—whether by increasing the amount permitted within the framework, collecting the amount of the deviation, or requiring that customers eliminate the overdraft immediately. The Supervisor of Banks intends to deal with the various aspects of the problem.

There does not appear to have been any change in the distribution of unindexed credit to firms and private customers in the last two years, and the share of credit to firms constitutes some 80 percent of total new unindexed credit. In December 2001 the Supervisor of Banks issued a regulation requiring the banks to report on activity, financial results, and risks, by profit centers, in view of the shift of emphasis in banking activity, so that it is now divided up into independent profit centers according to category of customer. The profit centers are discussed in Chapter 3.

(ii) CPI-indexed credit

CPI-indexed credit, which is generally long-term and used to finance investment and consumption of durables, rose by some 3 percent, after expanding by 8 percent in 2001, to stand at NIS 101 billion. The 9 percent decline in gross domestic investment served to reduce firms' demand for long-term credit, which is primarily CPI-indexed. Despite the fall in total investment, some of its components—mainly in the transport infrastructure, which consists of long-term projects—continued to rise sharply in 2002.

In view of the adverse credit situation and the ongoing slump in the capital markets in Israel and abroad it would appear that the financing of credit-intense infrastructure projects such as roads and desalination installations can be implemented using the BOT and PFI methods, which aim at obtaining the involvement of the private sector.[9] Thus, sources for these projects may be institutional bodies, such as insurance companies, or provident and pension funds.

[9] BOT, Build-Operate-Transfer; PFI, Private Finance Initiative. In projects of this kind a national or international tender is published by the Ministry of Finance, and is awarded to an independent entity, defined as the concession-holder. The concession-holder operates and maintains the project, benefits from the resulting profits for a pre-set period, and eventually returns the project to the State. In projects of this kind some bank financing is defined as of limited recourse, and international entities are allowed to participate in the tender (in either a participatory or a financing capacity).

(iii) Credit denominated in and indexed to foreign currency

Foreign-currency credit continued to expand by about 2 percent in 2002 (Table 2.3), and amounted to NIS 160 billion at the end of the year—up by NIS 3.7 billion over 2001. The increase in foreign-currency credit was extended to residents, whereas credit to nonresidents was down by 5 percent from 2001. The increase in foreign-currency credit can be explained by the wider interest-rate differential between Israel and abroad, which made it more worthwhile to take credit in foreign currency.[10] On the other hand, the fluctuations in the local-currency exchange rate, and especially the expectations of depreciation which increased in the course of the year, partly offset the worthwhileness of taking foreign-currency credit, especially in the second half of the year. Part of the increased demand for foreign-currency credit derived from the difficulties encountered by Israeli firms in raising capital abroad. As regards real costs, it transpires that for most of the year the *ex post* cost of this credit exceeded that of unindexed credit, which is the main substitute for foreign-currency credit from the banking system. This was due to the local-currency depreciation—by 14 percent against the currency basket and 9.8 percent against the dollar (Figure 2.6).

The development of residents' demand for foreign currency was not uniform throughout the year: until July this credit rose (also in dollar terms), but declined subsequently, continuing to do so until the end of the year. In the first half of 2002 expectations of exchange-rate shifts were below the actual changes, so that the cost of foreign-currency credit was perceived as being low. At the end of August there was some local-currency depreciation, and this trend accelerated in mid-September against the backdrop of the worsening security situation and increased fears that the international rating agencies would downgrade Israel's credit rating. During this period outstanding foreign-currency credit declined in dollar terms. In the second half of the year demand for foreign-currency credit fell—despite the 5 percent local-currency depreciation against the dollar—because the assessment of risk in this market remained high, as expressed in the implicit volatility of NIS/dollar options.

The greater expansion of foreign-currency credit than of foreign-currency deposits in the first half of 2002 was financed principally by the decline in the deposits abroad of Israeli banks (by some 33 percent, Table 2.5). In the second half of the year, however, and especially in and after August, the Bank of Israel announced the gradual reduction of the Tier 2 reserve requirement until its eventual abolition. Once it is completely annulled foreign-currency deposits will have to comply with the Tier 1 reserve requirement that applies to all deposits of the public (6 percent on deposits of up to 6 days, and 3 percent on deposits of between a week and a year). The reduction of the reserve requirement by 1 percent a month reduces the banks' compulsory deposits with the Bank of Israel and

[10] The Fed interest rate was 1.75 percent in the first three quarters of 2002, and 1.25 percent in the last quarter; the Bank of Israel's interest rate was higher, and rose markedly during the year.

Table 2.5
Assets and Liabilities Denominated in and Indexed to Foreign Currency, 2000–2002

	End-of-year balances ($ million)[b]			Real change (%)		Annual average balance ($ million)[b]		Real annual change (%)	Balance-sheet composition (%)	
	2000	2001	2002	2001	2002	2001	2002	2002	2001	2002
Assets										
Notes and coins	249	348	303	40	–13	286	320	12	1	1
Deposits in banks abroad	7,625	5,591	5,968	–27	7	6,965	5,187	–26	14	10
Deposits in banks in Israel	838	1,216	1,552	45	28	634	1,394	49	2	3
Deposits in Bank of Israel	2,240	2,421	1,491	8	–38	2,392	2,162	–10	5	4
Nondirected credit to residents	27,234	28,617	29,406	5	3	28,597	29,635	4	57	59
Nondirected credit to nonresidents	3,448	4,675	4,429	36	–5	4,347	4,572	5	9	9
Credit to the government	545	629	653	15	4	634	693	9	1	1
Securities[b]	5,499	4,719	4,594	–14	–3	5,017	4,467	–11	10	9
Other assets	1,183	1,495	1,847	26	24	1,305	1,702	30	3	3
Total assets	**48,859**	**49,711**	**50,241**	**2**	**1**	**50,477**	**50,132**	**–1**	**100**	**100**
of which Denominated in foreign currency	45,819	47,388	47,540	3	0	48,014	47,748	–1	95	95

Table 2.5 (continued)

	End-of-year balances ($ million)[b]			Real change (%)		Annual average balance ($ million)[b]		Real annual change (%)	Balance-sheet composition (%)	
	2000	2001	2002	2001	2002	2001	2002	2002	2001	2002
Liabilities										
Deposits from banks abroad	1,215	1,211	2,298	0	90	1,373	2,330	70	3	5
Deposits from banks in Israel	352	539	329	53	–39	403	441	9	1	1
Loans from Bank of Israel	1	1	1	–25	–34	2	1	–48	0	0
Deposits of the government	1,716	1,691	1,653	–1	–2	1,707	1,677	–2	4	4
Nonresidents' deposits	20,464	20,661	20,429	1	–1	20,849	20,512	–2	46	44
Residents' and restitutions deposits	3,831	3,847	4,374	0	14	3,802	4,076	7	8	9
Residents' other deposits	16,167	15,611	15,957	–3	2	15,969	16,144	1	35	34
Other liabilities[d]	892	1,523	1,975	71	30	1,323	1,927	46	3	4
Total liabilities	**44,637**	**45,083**	**47,017**	**1**	**4**	**45,428**	**47,108**	**4**	**100**	**100**
of which Denominated in foreign currency	41,216	41,746	43,730	1	5	42,084	43,625	4	93	93
Derivatives	–5,480	–6,102	–4,183	11	–31	–6,379	–4,411	–31	–14	–9
Surplus of assets over liabilities	-1,258	–1,474	–959	.	.	–1,330	–1,387	.	.	.

[a] Credit to the government and the public, and deposits from banks in Israel and abroad from earmarked deposits.
[b] Excluding investment in shares in subsidiaries and in affiliated companies.
[c] Including normal credit lines from banks abroad raised by the banking corporations and approved as earmarked deposits.
[d] Including intermediate sums, bonds, and promissory notes recognized as earmarked deposits.
SOURCE: Returns to Supervisor of Banks.

releases about $ 200 million a month, which can be directed to credit to the public. In fact, towards the end of the year, with the increase in freed-up sources, the banks once again increased the balance of their deposits in banks abroad to its level at the beginning of the year.

b. Credit for the purchase of controlling interests

One explanation of the expansion of credit in recent years is that it is due to the credit extended to the financial services industry (which excludes banks) in order to finance the acquisition of controlling interests; this increased by some 5 percent, and the credit/GDP ratio rose from 1.7 to 1.8 (Table 5.4). In 1998 and 1999 credit to this industry rose massively (by an average of 70 percent), increasing the credit/GDP ratio from 0.7 to 1.7. Most of this growth derived from credit extended for the purchase of controlling interests in order to finance privatization. In the last two years the privatization process has run out of steam, so that this credit was used primarily for purchases in the business sector. Outstanding credit for the purchase of controlling interests was NIS 29 billion—similar to the amount in 2001. Some 29 percent of this credit was intended for the purchase of controlling interests in companies providing financial services, such as banks, and 23 percent was for the purchase of communications and computer services companies.

In December 2002 the Supervisor of Banks issued a regulation tightening the restrictions on extending credit for the purchase of controlling interests; this was because of the state of the economy and the high risk that characterizes such credit which, because it replaces equity, carries a high level of financing, increasing both the rate of leverage and financial risk.[11] Data for December 2002 indicate that the level of financing of some 55 percent of this credit was above 80 percent. Payment of interest and principal on this credit is generally based on the purchased corporation's ability to distribute high, permanent cash dividends to shareholders, and in some of these loans the only collateral is the shares purchased, so that the bank has no possibility of obtaining the debt from the borrower (no right of recourse). The share of non-recourse loans for the purchase of controlling interests amounted to 48 percent. With the passage of time, about 16 percent of the loans reached rates of financing that were above 100 percent—due to accrued interest and the effect of local-currency depreciation on foreign-currency credit.

c. Credit by principal industry

The demand for credit by firms and individuals is directly connected with their activity. In view of the deepening recession and reduction in firms' sources of finance (both

[11] Furthermore, the owners of such firms have a motive to direct their activities to projects with large potential profits and high risks, because if they succeed the owners will benefit from large profits, and if they fail the banks will bear a large proportion of the loss.

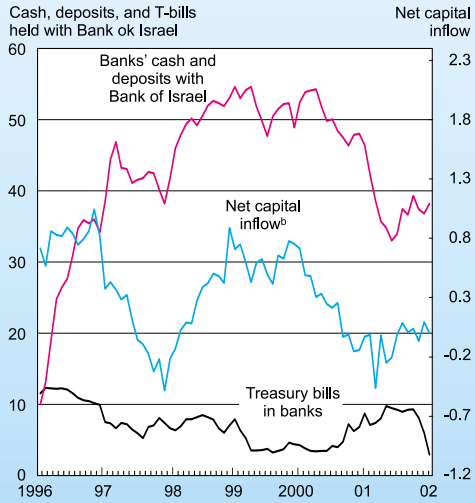
within and outside the banking system), it is particularly important to examine the development of the credit/GDP ratio, as this is one of the indices of the quality of credit and the ability to repay it. In most principal industries the credit/GDP ratio was stable or rose slightly, and the total ratio was similar to its level in 2001—1.8. Credit by principal industry includes credit on the balance sheet and off-balance-sheet credit risk, and activity solely in Israel of the entire banking system on a consolidated basis (Table 5.4). A detailed analysis of credit developments within each industry is given in Chapter 5.

3. OTHER PRINCIPAL USES

In recent years the unindexed local-currency segment has been characterized by a surplus of deposits of the public over credit to the public. Most of these surplus sources were directed to other uses in the unindexed local-currency segment, and some served to finance uses, primarily in the foreign-currency segment. One of the main uses made by the banks of surplus sources in the unindexed segment was for deposits with the Bank of Israel through deposit auctions. The balance of these deposits[12] reached a peak of NIS 61 billion in December 2000, and dipped to NIS 43 billion at the end of 2002 (Table 2.6 and Figure 2.9). For the banks they constitute an alternative use to extending credit or investing in Treasury bills, and are characterized by a similar level of risk to the latter. Their share in the commercial banks' total unindexed local-currency assets fell from 30 percent in previous years to 17 percent at the end of 2002.

There were two reasons for the marked decline in the extent of the banks' deposits with the Bank of Israel. First, the central

Figure 2.9
Cash and Deposits with Bank of Israel, Balance of Treasury Bills, and Capital Inflow,[a] 1997–2002
(NIS billion, Dec. 2002 prices)



[a] Treasury bills and banks' cash and deposits with Bank of Israel are average balances.
[b] Net capital inflow is calculated as average monthly flow (over last 12 months) of nonresidents' investments in Israel *less* residents' investments abroad.

SOURCE: Returns to Supervisor of Banks and Bank of Israel Foreign Exchange Activity Department.

[12] The balance includes the interest-bearing deposits of the monetary auctions and reserve requirement deposits.

Table 2.6
Unindexed Local-Currency Assets[a] and Liabilities,[b,c] 2000–2002

	End-of-year balances (NIS million)[c]			Real end-of-year change (%)		Annual average balance (NIS million)[c]		Real annual change (%)	Balance-sheet composition (%)	
	2000	2001	2002	2001	2002	2001	2002	2002	2001	2002
Assets										
Notes and coins	2,498	2,428	2,429	–3	0	2,621	2,675	2	1	1
Deposits in Bank of Israel	61,223	56,646	43,140	–7	–24	57,022	40,895	–28	23	17
of which Monetary deposits	50,463	46,752	33,484	–7	–28	48,607	33,956	–30	19	14
Deposits in banks	6,325	9,716	5,094	54	–48	8,561	9,127	7	3	4
Credit to the public	158,756	172,525	169,052	9	–2	165,616	163,802	–1	66	66
of which Overdraft facilities & overdrawn deposits	45,489	46,116	46,383	1	1	44,541	43,279	–3	11	10
Treasury bills and unindexed government bonds	9,457	23,145	21,472	145	–7	12,770	24,276	90	5	10
of which Treasury bills	4,916	9,522	3,276	94	-66	5,553	8,718	57	2	4
Other assets	4,038	5,186	6,246	28	20	4,725	5,894	25	2	2
Total assets	**242,297**	**269,646**	**247,433**	**11**	**–8**	**251,316**	**246,670**	**-2**	**100**	**100**
Liabilities										
Monetary loan from Bank of Israel	769	778	[3]2,931	1	-	1,036	1,612	56	0	1
Deposits from banks	5,088	6,921	2,843	36	–59	7,137	6,190	–13	2	2
Deposits of the government	730	733	326	0	–55	697	672	–4	0	0
Total deposits of the public	259,507	294,139	264,088	13	–10	275,918	260,283	–6	95	94
Demand deposits	20,029	24,557	22,619	23	–8	19,865	20,707	4	7	8
SRO deposits	28,563	32,131	24,217	12	–25	26,080	24,421	–6	9	9
Resident time and short-term deposits	207,529	232,380	209,964	12	–10	225,389	209,634	–7	77	76
Other deposits	3,387	5,071	7,288	50	44	4,584	5,520	20	2	2
Other liabilities	7,396	6,995	6,890	–5	–1	7,060	7,170	2	2	3
Total liabilities	**273,491**	**309,566**	**277,080**	**13**	**–10**	**291,848**	**275,926**	**–5**	**100**	**100**
Derivatives	26,014	31,836	22,233	22	–30	32,481	23,336	–28	11	8
Surplus of assets over liabilities	**–5,180**	**–8,085**	**–7,413**	**-**	**-**	**–8,052**	**–5,920**	**-**	**-**	**-**

[a] Assets at the banks' responsibility.
[b] See note a to Table 2.1.
[c] The increase stems from the Bank of Israel's loans to Industrial Development Bank.
SOURCE: Returns to Supervisor of Banks.

bank's need to use deposit auctions as a way of absorbing surplus liquidity declined as a result of the fall in capital inflow (both gross and net). Gross capital inflow represents total investment in Israel by nonresidents, and this fell from $ 11.5 billion in 2000 to $ 3.8 billion in 2002. Capital inflow is offset in part by capital outflow by residents, and the difference between the two is net capital inflow. The development of the latter in the last two years indicates a downward trend, reducing the need to sterilize it. Second, since the beginning of the year the instruments of monetary policy have changed, involving the gradual reduction of the monetary deposit auctions—previously the main instrument of absorbing liquidity—and removal of the ceiling on the extent of Treasury bills issued (Box 2.1). This development, together with high nominal yields[13] on Treasury bills and unindexed bonds, led to a rise in the balance of unindexed securities in banks' nostro accounts. Thus, the average balance of Treasury bills rose from NIS 5.6 billion in 2001 to NIS 8.7 billion in 2002. This increase was concentrated in the first three quarters of the year, while there was a trend reversal towards the end of the year, when the banks sold Treasury bills to the public and mutual funds in order to realize capital gains, meeting the great demand that arose at the end of the year in view of the tax exemption on this channel in 2003. The banks' holdings of other unindexed bonds also rose considerably—from NIS 7.2 billion in 2001 to an average of NIS 15.6 billion in 2002.

Local-currency depreciation vis-à-vis the euro (by 14 percent) led to the transfer of money from deposits in domestic banks to banks in the eurozone. The balance of deposits in banks abroad amounted to NIS 29 billion—up by 7 percent over 2001.

Box 2.1
The Cancellation of the Ceiling on Treasury Bill Issuance

Until 2001 the principal instrument for managing liquidity on an ongoing basis was the auction for the banks' time deposits with the Bank of Israel. This situation changed at the end of 2001, as part of the economic program introduced by the government and the Bank of Israel, which made structural changes in the financial markets, among them the removal of the ceiling on the issuance of Treasury bills in February 2002 and its establishment in law. The Bank of Israel now conducts monetary policy by means of daily and

[13] The increase in nominal yields derived from expectations of a rise in the Bank of Israel's key interest rate, greater uncertainty regarding macroeconomic policy, misgivings as to the government's ability to attain the deficit targets, and the deterioration in the political and security situation, causing investors to demand a risk premium. Throughout most of 2002 there were also extensive withdrawals from unindexed local-currency mutual funds, which sold their holdings in Treasury bills and other liquid assets, thereby contributing to the rise in yields. The large withdrawals and decline in prices reduced the value of these funds' assets from NIS 36.5 billion in December 2001 to NIS 21.2 billion at the end of 2002.

weekly auctions for the banks' deposits,[1] thereby influencing the interest rate in the financial and capital markets.

The removal of the ceiling on the amount of Treasury bills that may be issued has led to a gradual change in the use of this monetary instrument by the Bank of Israel. During 2002 the average balance of Treasury bills held by the public rose from NIS 35 billion to NIS 41 billion, while the banks' auction deposits with the Bank of Israel fell from an average of NIS 50 billion in 2001 to NIS 34 billion in 2002. In the wake of the increase in the balance of Treasury bills and the tax exemption on this form of investment in 2003, the general public (excluding institutional investors) increased its holdings of them, from about NIS 10 billion in 2001 to some NIS 17 billion in 2002, as the yield on this channel was higher than that on unindexed deposits. Other investors, including mutual funds and banks, also increased their holdings, albeit to a lesser extent.

The removal of the ceiling on Treasury bill issuance is expected to adversely affect banks' profits and risk exposure in four ways:

1. The preference for Treasury bills over unindexed deposits will reduce the supply of unindexed sources available to banks and raise the interest on them, thus narrowing the interest-rate spread.
2. Banks' income from operating fees on Treasury bills (custody and ledger fees on securities) will apparently be lower than their net interest income on deposits of the public.
3. Treasury bills, which have a longer term, than deposits, are expected to lead to a longer duration of assets, and as a result banks may find themselves having to sell Treasury bills unexpectedly and irregularly in order to manage ongoing liquidity, thereby incurring losses.
4. The replacement of banks' relatively short-term deposits with longer-term Treasury bills could lead to a rise in the banks' operating needs.

[1] In 1998 the 3-month deposits were cancelled, and in July 2002 the monthly deposits were cancelled.

4. THE SUPPLY OF DEPOSITS OF THE PUBLIC TO THE BANKING SYSTEM, AND THE PUBLIC'S ASSET PORTFOLIO

In 2002, for the first time since 1994, there was a real contraction in the public's asset portfolio, especially in the supply of its deposits, which constitute the main source for banks' activity. The value of the public's assets stood at NIS 1,190 million, down by 4.6 percent from 2001 (Table 2.7). The main factors affecting the supply and composition of the public's financial assets were the slump in the capital markets in Israel and abroad,

Table 2.7
The Public's Asset Portfolio in Banks and not in Banks,[a] 1993–2002

	End-of-year balances (NIS billion, December 2002 prices)						Composition (%)										Real change (%)
	1997	1998	1999	2000	2001	2002	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2001-2002
Unindexed local-currency deposits	159.7	174.3	219.1	260.5	295.5	266.2	9.6	13.4	18.5	19.4	18.5	19.4	19.6	21.9	23.7	22.4	–9.9
Foreign currency[b]	65.3	78.2	75.1	77.4	82.4	88.6	7.3	9.2	7.6	8.7	7.6	8.7	6.7	6.5	6.6	7.5	7.5
Indexed and earmarked deposits[c]	78.0	76.9	75.2	74.4	67.7	66.0	8.7	9.2	9.0	8.6	9.0	8.6	6.7	6.3	5.4	5.6	–2.5
Savings schemes	104.7	112.0	115.4	105.9	101.0	108.6	9.7	12.5	12.1	12.5	12.1	12.5	10.3	8.9	8.1	9.1	7.5
Total in banks[d]	**407.8**	**441.5**	**484.8**	**518.2**	**546.6**	**529.4**	**35.2**	**44.2**	**47.3**	**49.2**	**47.3**	**49.2**	**43.4**	**43.6**	**43.8**	**44.5**	**–3.1**
Cash in hands of public	10.3	11.1	8.3	10.6	12.9	13.0	1.1	1.2	1.2	1.2	1.2	1.2	0.7	0.9	1	1.1	0.8
Traded bonds and Treasury bills[e]	139.1	141.4	150.9	170.4	196.4	208.0	17.3	19.1	16.1	15.8	16.1	15.8	13.5	14.4	15.8	17.5	5.9
Nontraded bonds[f]	129.5	130.2	159.4	163.4	171.5	178.9	11.8	15.5	15.0	14.5	15.0	14.5	14.3	13.8	13.8	15	4.3
Shares[g]	153.4	147.2	241.7	242.6	241.7	172.4	32.7	18.9	17.8	16.4	17.8	16.4	21.6	20.4	19.4	14.5	–28.7
Residents' investments abroad	22.1	26.2	72.4	82.7	77.7	87.8	1.9	1.1	2.6	2.9	2.6	2.9	6.5	7	6.2	7.4	13.1
Total not in banks	**454.4**	**456.1**	**632.6**	**669.7**	**700.2**	**660.1**	**64.8**	**55.8**	**52.7**	**50.8**	**52.7**	**50.8**	**56.6**	**56.4**	**56.2**	**55.5**	**–5.7**
Total assets of the public	**862.1**	**897.6**	**1,117.4**	**1,187.8**	**1,246.8**	**1,189.5**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**–4.6**
In provident institutions[h]	316.3	324.1	354.3	373.5	391.4	386.8	34.2	41.9	38.8	36.1	38.8	36.1	31.7	31.4	31.4	32.5	–1.2
In provident funds[i]	152.4	152.9	126.8	129.6	131.9	19.8	21.4	23.5	18.8	17.0	18.8	17.0	15.0	10.9	10.6	10.1	–9.2
Total assets of mutual funds	23.7	25.1	38.8	49.5	67.1	45.8	7.0	4.3	2.3	2.8	2.3	2.8	3.5	4.2	5.4	3.9	–31.7
Direct holdings of public[j]	222.8	218.9	349.7	373.8	389.7	351.9	35.5	23.4	23.0	24.4	23.0	24.4	31.9	31.5	31.3	29.6	–9.7

[a] The public does not include the government, the Bank of Israel, the commercial banks, or mortgage banks.
[b] Including unindexed earmarked deposits.
[c] Including approved earmarked deposits for credit to related and other companies.
[d] Including commercial and mortgage banks.
[e] Including government bonds (indexed and unindexed) and corporate bonds.
[f] Earmarked government bonds and non-negotiable corporate bonds.
[g] Non-bank shares in the hands of the public and provident funds *less* holdings of nonresidents and the government, and shares of provident funds.
[h] Including provident and severance pay funds, advanced study funds, pension and life insurance funds in 'Yield-assurance' and 'Project-sharing' schemes.
[i] Including provident and severance pay funds and advanced study funds.
[j] Including cash in the hands of the public, Treasury bills, unindexed bonds, CPI- and dollar-indexed bonds, shares, and residents' investments abroad.
SOURCE: Returns to Supervisor of Banks, and Monetary Department, Bank of Israel.

which eroded the value of securities, the recession in Israel and the decline in disposable income, which reduced the public's ability to save, and the rise in economic uncertainty and exchange-rate changes, which dictated a shift away from unindexed activity.

As stated, as a result of macroeconomic developments, including the decline in the private saving rate,[14] the public's portfolio contracted, after an average annual growth rate of 12 percent in the preceding decade. The development of the public's assets was not uniform in the two halves of the year: in the first half there was a marked shift in the composition of the public's asset portfolio, as a result of the reduction of the interest rate at the end of 2001 and the rise in both expected and actual inflation; these factors led to a change in the public's preferences regarding the composition of its asset portfolio, with a rise in demand for instruments that hedge against inflation, and this served to increase the share of CPI-indexed deposits at the expense of unindexed ones. Concurrently, the contraction of the interest-rate differential between Israel and abroad—in the wake of the interest-rate cut at the beginning of the year and increase in economic uncertainty—served to augment apprehensions regarding the possibility of local-currency depreciation, impelling the public to divert sources to deposits denominated in or indexed to foreign currency. At the same time, the sharp decline in the capital markets in Israel and abroad throughout the year eroded the value of the tradable portfolio. In the latter half of the year, following the sharp interest-rate hikes in June, the public's assessment of expected yields changed again, expectations of depreciation plummeted, and consequently the share of unindexed deposits rose once more at the expense of foreign-currency ones.

Another marked shift in the composition of the public's asset portfolio was the 15 percent increase in residents' investments abroad, after this had contracted in 2001. These investments were influenced—particularly in the first half of the year—by the uncertainty in the money markets in Israel alongside the contraction of the interest-rate differential between Israel and abroad, the deterioration in Israel's security situation, and the rise in its country risk, as perceived by investors. Transfers to deposits abroad continued in the second half of the year, albeit less intensively than in the first half (due to the decline in uncertainty regarding fiscal and monetary policy, and the rise in the interest-rate differential), but still at a considerably higher rate than in the past. Total transfers by individual residents to bank deposits abroad amounted to $ 1.4 billion in 2002, most of it in the first half of the year (monthly averages of $ 164 million from February to July, and $ 66 million from August to December).

The public's assets can be divided into those deposited in banks and those held outside banks, primarily in capital markets in Israel or abroad. In the last decade this distribution of the public's assets was directly affected by developments in the capital market (Figure 2.1). In years when share prices rose and stock market activity intensified the share of the public's assets in banks fell, and vice versa. On the basis of this distribution, and because of the slowdown that characterized the capital market throughout the year, the share of the public's assets in banks rose at the expense of those not in banks, in line with

[14] The net private saving rate was 18.6 percent in 2002, down from 19.8 percent in 2001.

developments in 2001. The decline in the public's assets not in banks is explained mainly by the real 29 percent erosion of the value of the shares in the public's asset portfolio, which was consistent with the real fall in the General Share-Price Index in 2002 (by 25 percent). The slump in the stock market was also reflected by low daily turnover and limited capital raised, as a result of the recession, deteriorating security situation, apprehensions regarding the war in Iraq, and downgrading of the credit rating of the major commercial banks by international rating agencies.

Despite the decline in the extent of the public's assets, its holdings of Treasury bills and bonds grew notably in 2002.[15] Holdings of Treasury bills rose at the expense of unindexed deposits, due to the income-tax reform which went into effect in January 2003 whereby investment in Treasury bills is tax exempt for that year.[16] With respect to bonds, the acceleration of inflation and inflationary uncertainty led to an increase in the share of CPI-indexed bonds at the expense of unindexed ones. In addition, as a result of the local-currency depreciation and considerable exchange-rate volatility the public increased its holdings of dollar-indexed bonds.

Deposits of the public, by indexation segment

The composition of the deposits of the public is affected primarily by the expected relative interest rates on each type of deposit, as well as by the volatility of interest, inflation, and exchange rates.

In 2002, for the first time since 1993, the upward trend of the share of unindexed local-currency deposits was checked (Table 2.7), and it even dipped slightly, to about 22 percent of the public's assets. In 1993 unindexed deposits constituted less than 10 percent of the value of the portfolio, and from then until 2001 their share rose continually, as a result of the disinflationary process and the convergence of the inflation rate to price stability, as is accepted in western economies. The reduction of inflation risk in the last decade (as regards both the absolute inflation rate and inflationary uncertainty) together with tight monetary policy made unindexed deposits more worthwhile than the various indexed ones. In 2002, however, as inflation uncertainty increased and confidence in monetary policy was eroded, the balance of unindexed deposits fell by about 10 percent, to stand at NIS 266 billion at the end of the year.

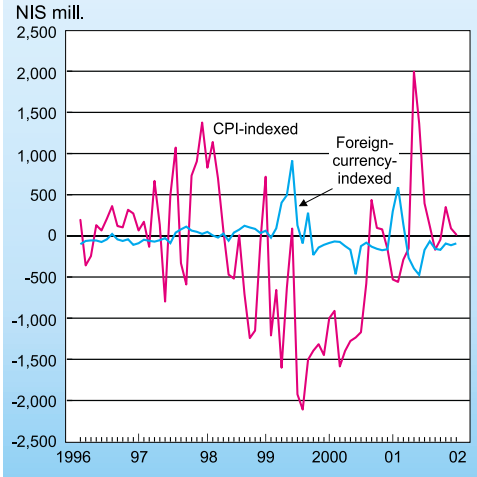
The steep 2 percentage-point cut in the Bank of Israel's key interest rate in December 2001, and its immediate effect on unindexed local-currency deposits, alongside the rise in inflation expectations derived from the capital market, made unindexed local-currency deposits less worthwhile. In the first half of 2002 real yields on these deposits ranged between –0.1 and 0.5 percent—considerably below those on deposits in the other indexation segments and on unindexed bonds (Table 2.4). In December 2001 and January

[15] Mainly nontradable bonds held in provident, advanced study, and pension funds, and in life insurance schemes.

[16] The public's demand was met due to the cancellation of the ceiling on Treasury-bill issuance and extensive withdrawals from local-currency mutual funds.

2002, when there was considerable uncertainty, the public preferred the most liquid channels, especially short-term SRO deposits, even increasing the share of these at the expense of the other deposits, adjusting its behavior to developments in the financial markets. From then until 2002:III there was a continuous decline in all types of unindexed deposits, but this trend reversed in 2002:IV, when unindexed deposits began to expand again, together with their share in total deposits of the public. In 2002:IV the yields on unindexed deposits rose—following the hike in the Bank of Israel's key interest rate which brought it to 9.1 percent. The uncertainty in the markets appears to have abated somewhat in this period—due *inter alia* to the approval of the national budget by the Knesset, assessments that the US government would grant additional defense aid and guarantees, and to the reduction of the interest rate in the US and the eurozone, causing further local-currency appreciation.

Figure 2.10
Net Accumulation in CPI-indexed and Foreign-Currency-Indexed Savings Schemes, 1996–2002
(monthly data, Dec. 2002 prices)



SOURCE: Based on returns to Supervisor of Banks.

CPI-indexed deposits rose substantially in 2002 (by 10 percent, i.e., NIS 12 billion), for the first time in five years, after falling continuously in previous years (Table 2.8). This represented a positive accrual of some NIS 3.1 billion in approved CPI-indexed savings schemes and a negative accrual of about NIS 1.3 billion in foreign-currency-indexed schemes (Figure 2.10). The public generally uses CPI-indexed deposits for medium- and long-term savings, their main component (75 percent) being approved savings schemes. One explanation for the rise in indexed deposits is the need to hedge assets against inflation because of the rise in the rate and variance of inflation, as well as the diversion of money from mutual and provident funds, which constitute an alternative investment channel to these deposits. In 2002 the real yield in mutual funds specializing in indexed bonds and Israel Bonds was a negative 7.5 percent, and withdrawals amounted to NIS 4.2 billion (after positive accrual in the preceding three years). The provident funds also showed a negative real yield of 6.9 percent, and their balance shrank by NIS 4 billion to stand at NIS 120 billion. The real decline in the balance of the provident funds stemmed from net withdrawals of NIS 3 billion and the erosion of their value due to the negative yields. The high volatility of the capital market and the poor performance of the funds, alongside the high, safe yield (averaging 4.2 percent) provided by the banks on savings schemes, explain the transition to savings schemes and CPI-indexed deposits.

Table 2.8
CPI-Indexed Local-Currency Assets and Liabilities,[a] 2000–2002

	End-of-year balances (NIS million)[b]			Real change (%)		Annual average balance (NIS million)		Real annual change (%)	Balance-sheet composition (%)	
	2000	2001	2002	2001	2002	2001	2002	2002	2001	2002
Assets										
Credit to the public	90,426	97,334	100,660	8	3	93,680	102,772	10	55	61
Deposits in banks	44,713	47,626	47,115	7	–1	46,590	47,221	1	28	28
Credit to the government	11,576	5,891	4,518	–49	–23	8,050	5,160	–36	5	3
Bonds	19,801	13,687	15,132	–31	11	16,442	12,972	–21	10	8
Other assets	4,176	4,121	930	–1	–77	4,146	272	–93	2	0
Total assets	**170,692**	**168,658**	**168,354**	**–1**	**0**	**168,908**	**168,397**	**0**	**100**	**100**
of which Credit from earmarked deposits	16,377	5,995	4,389	–63	–27	11,833	5,147	–57	7	3
Liabilities										
Deposits of the public										
Approved savings schemes	87,982	84,437	94,218	–4	12	83,941	90,278	8	58	61
Indexed deposits	25,075	23,760	25,764	–5	8	23,628	25,860	9	16	18
Other deposits	9,926	4,453	4,457	–55	–4	6,513	4,280	–34	5	3
Total deposits of the public	**122,983**	**112,650**	**124,240**	**–8**	**10**	**114,083**	**120,418**	**6**	**79**	**82**
Deposits from banks	3,274	4,551	2,391	39	–47	3,899	3,762	–4	3	3
Deposits of the government	8,525	7,460	6,358	–12	–15	7,951	6,887	–13	6	5
Other liabilities	15,799	18,994	18,191	20	–4	17,766	16,671	–6	12	11
Total liabilities	**150,581**	**143,655**	**151,180**	**–5**	**5**	**143,699**	**147,738**	**3**	**100**	**100**
of which Earmarked deposits	17,753	6,936	5,151	–60	–26	12,910	5,982	–54	9	4
Derivatives	–2,097	–3,138	–2,419	50	–23	–3,674	–2,168	–41	–3	–1
Surplus of assets over liabilities	**14,755**	**21,865**	**14,755**	**-**	**-**	**21,535**	**18,490**	**-**	**-**	**-**

[a] See note a to Table 2.1.

SOURCE: Returns to Supervisor of Banks.

Foreign-currency deposits—both denominated and indexed—of the public (residents and nonresidents) rose by some 2 percent in dollar terms, and amounted to $40.9 billion (Table 2.5). The development of the balance of deposits in dollar terms during 2002 was in line with the fluctuations in the exchange rate: in the first half of the year the acceleration of local-currency depreciation (by about 15.5 percent against the dollar) led to an increase in the balance of foreign-currency deposits (by an annual rate of 6.8 percent), since when the gradual appreciation (about 5 percent) has caused foreign-currency deposits to contract, as this investment channel has become less worthwhile. Throughout the year the reduction of tax on dollar deposits in Israel from 35 to 15 percent (as part of the income-tax reform) served to make investment in Israel more worthwhile than investment abroad (see Box 2.2).

Nonresidents' deposits account for about half of foreign-currency deposits. In the 1990s they rose steadily, due to the significant expansion of nonresidents' financial activity in Israel because of the improvement in the country's financial standing. This trend peaked in 2000, and remained static at $ 20 billion in 2001 and 2002. About 80 percent of nonresidents' foreign-currency deposits are in deposits of up to a year, and about 10 percent are for periods of up to three months—but experience has shown that the deposits are renewed upon maturity and held for long terms. The standstill in the rise in nonresidents' deposits in 2002 derived from the persistence of security incidents in the region, the low dollar interest rate on short-term dollar deposits, which constituted an incentive to switch to other financial assets—not necessarily in Israel—and the law against money laundering, which went into effect in 2002, making investors apprehensive regarding the exposure of their identity and business.

Box 2.2
The Tax Reform and its Implications for the Banking System

On 1 January 2003 the tax reform introduced as an amendment to the Income Tax Ordinance, 2002 went into effect. The reform includes the very gradual reduction of the direct tax burden on labor income, the expansion of the tax base on capital income, partial consolidation of tax rates on capital income, and the determination of tax rates on an individual basis. In the framework of the reform it was decided *inter alia* to tax the interest on deposits, savings schemes, local-currency bonds, and Treasury bills, as well as capital gains on transactions in securities traded on the stock market, derivatives, and investments in mutual and provident funds. The tax rate on the interest on CPI- and exchange-rate-indexed deposits and bonds was reduced, however.

The reduction of tax on foreign-currency investment channels in Israel, on the one hand, and the imposition of tax on the interest on local-currency investment instruments, on the other, is expected to encourage a switch to

local-currency channels. The taxation of long-term investments (savings schemes and pre-pensionary accrual in provident funds) is expected to lead to a transition to investment in short-term, liquid instruments, thereby reducing the supply of long-term sources and making them more expensive. This will adversely affect the financing of infrastructure investments and lead to higher mortgage interest rates.

At present the banks charge turnover tax on securities (0.5 percent of the sale value on Israeli securities, rising to 1 percent on 1 July 2003; 5 percent on foreign securities). This tax causes distortions, as even losses are taxed. In fact, banks' returns indicate that because of the system of deduction at source, customers' stock-market activity has contracted, particularly in shares. The extent of money transfers to abroad has also fallen, because the reduction of the tax rate on dollar deposits in Israel from 35 to 15 percent has made investment in Israel relatively more worthwhile. Banks' returns also show that there has been a swing from long-term deposits, such as savings schemes, to shorter-term ones of up to one year. The public does not yet appear to have internalized the principles of the reform, because of its complexity, expressed in the multiplicity of tax rates, uncertainty regarding the reporting requirement, and the various kinds of mutual funds, etc.

In January 2003 the banking system collected NIS 100 million on behalf of the government for implementing the tax reform. This amount (NIS 20 million of which was for stock-market activity, and the rest for interest on deposits) is consistent with the forecast annual income from the tax reform—NIS 1.2 billion. The tax is deducted at source from customers' deposits and transferred to the tax authorities with an average lag of one month, during which the banks benefit from this money.

5. OFF-BALANCE-SHEET AND DERIVATIVES ACTIVITY

The banks' off-balance-sheet activity is conducted via two main channels:

1. Credit guarantees and liabilities; this activity, which consists of extending or guaranteeing credit, includes securing credit, collateral for home-buyers under the Sale (Apartments) Law, and other guarantees, unutilized credit lines (credit cards and authorized overdrafts), and documentary credits. This activity involves exposure to risk, particularly credit risk. Outstanding guarantees and liabilities for credit stood at NIS 264 billion at the end of 2002, down by 5 percent from 2001, largely as a result of as-yet-unutilized commitments to extend credit (Table 2.9), due to the tightening of the banks' credit policy.

Table 2.9
Guarantees and Credit Commitments, 2001–2002

(NIS million, December 2002 prices)

	2001	2002	Rate of change (%)
Documentary credit	4,165	5,630	35.2
Credit commitments	34,059	33,583	–1.4
Home purchasers' guarantees	17,948	19,018	6.0
Commitments for credit-card transactions	10,679	17,637	65.2
Other guarantees and commitments	44,057	35,069	–20.4
Unutilized credit-card quotas	41,457	37,211	–10.2
Unutilized overdraft quotas	50,077	52,654	5.1
Irrevocable commitments for credit[a]	50,708	42,777	–15.6
Commitments to issue guarantees	11,255	9,921	–11.9
Guarantees to provident fund members	12,178	10,207	–16.2
Total	**276,583**	**263,705**	**–4.7**

[a] Approved but not yet extended.

SOURCE: Returns to Supervisor of Banks.

2. Activity in derivatives; this is conducted on behalf of banks' customers or for the banks themselves, as part of market risk management and reduction and as part of an investment policy. These transactions are conducted against interest-rate, currency, and securities risk by means of forwards, futures, and swaps, as well as exchange-rate, interest-rate, index, and commodities options. Activity in derivatives involves credit, interest-rate, market, and liquidity risks, in accordance with the kind of transaction.

Financial derivatives can be classified by four types:

1. Pure intermediation transactions, to which the bank is not a party and merely mediates for a fee.
2. Guaranteed intermediation transactions, in which the bank is not exposed to market risk by virtue of a counter-transaction implemented on the same business day, but is exposed to it as an agent if the counterparty does not meet its obligations.
3. Hedging transactions, intended to hedge a specific balance-sheet transaction or defined group of similar transactions. Hedging transactions have to meet several conditions, such as a high correlation between changes in the fair values of the hedged item and financial derivative, significant reduction of the financial risk implied in the hedged item, and reduction of the bank's exposure.
4. Other transactions.

The extent of the commercial banks' activity in derivatives at face value rose by 10 percent in 2002, continuing the long-term trend, and the balance of these transactions amounted to some NIS 797 billion (Table 2.10). The increase in derivatives was entirely in currency contracts, which went up from NIS 506 billion in 2001 to NIS 585 billion in 2002, and derived from the need of both banks and their customers to hedge the risk implicit in the exchange rates between different currencies, as several currencies displayed considerable volatility in 2002 (see Chapter 5). These data are in line with the expansion

Table 2.10
Derivatives Transactions,[a] All Commercial Banks, 2001–2002

	By type of instrument				By type of transaction				By counter party			
	2001	2002	Year-on-year rate of change (%)		2001	2002	Year-on-year rate of change (%)		2001	2002	Year-on-year rate of change (%)
Interest-rate contracts	174,259	175,984	1	Inter-mediation	228,138	182,014	–20	Government & central bank	7,806	9,701	24
Currency contracts	505,835	584,642	16	Hedging	61,269	61,643	1	Banks	375,273	449,861	20
Share contracts	45,882	35,275	–23	Other	438,502	553,825	26	TASE & brokers	96,438	64,151	–33
Commodities and other contracts	1,933	1,580	–18					customers	248,392	273,769	10
Total	727,909	797,482	10	**Total**	727,909	797,482	10	**Total**	727,909	797,482	10

[a] Face value, NIS million, at December 2002 prices.
SOURCE: Returns to Supervisor of Banks.

of trading in the TA25 (Ma'of) dollar options, daily turnover in which was double that of 2001 and reached 25,000 units. In view of the increased interest in dollar options, in the middle of 2002 the TASE (Tel Aviv Stock Exchange) also launched one-year options, in the wake of the euro options that had been issued in November 2001 following the high volatility in the euro market, which is a major component of Israel's foreign trade.

Activity in derivatives can be classified on the basis of the counterparty. The data show that other banks are the counterparty in 60 percent of cases, and customers in about a third. The remaining players are the TASE, brokers, the government, and the central bank. The counterparty to a transaction reflects the credit risk involved, so that the share of credit exposure in total risk-weighted assets is used in calculating the risk-based capital ratio. Transactions with brokers and customers are weighted at 100 percent, those with other banks and the TASE at 20 percent, and those with the central bank are not weighted at all. The growth in activity in derivatives has increased the need for capital, but this has been almost entirely offset by the rise in the share of transactions weighted at only 20 percent (vis-à-vis banks) at the expense of those weighted at 100 percent (vis-à-vis brokers and customers), which declined.

Box 2.3
Structured Products

In 2002, in view of the banks' difficulties in obtaining sources due to the decline in the public's disposable income and inability to maintain former saving levels, as well as the outflow of capital to banks abroad, the major domestic banks intensified the development and marketing of structured products. A structured product is a combination of several investment instruments. Generally, the principal is guaranteed and is indexed to the CPI or a specific index, while the interest rate is based on one or several derivatives determined during the period of the deposit in accordance with market conditions and depends on the performance of the various indices to which the deposit is linked.

The uniqueness of the structured products lies in the fact that the investor does not risk the principal, but receives it in full at the end of the deposit period, while the uncertainty regarding the yield on the investment is expressed solely in the interest rate. In return for forgoing an assured interest rate the customer may obtain one that is above the market rate, but risks losing it altogether. Although structured products are complex financial instruments, the banks manage to market them as simple ones and even offer them to small investors. In the past, when the markets were less sophisticated, investment strategies of this kind were evolved solely for large customers.

The main benefit to the customer in purchasing a structured product stems from the considerable flexibility of the investment and the wider range of alternatives. The benefit to the banks derives from the variety of financial services offered and wider range of risk-free sources, as the banks inoculate themselves against open positions through counter-transactions in the options market. Structured products also limit banks' liquidity risk, as they cannot be opened during the deposit period.

Structured products have been in existence for ten years, having emerged in the context of the decline in interest rates and low relative yields on investments in the money and capital markets, greater volatility in the capital and money markets (in prices of securities, as well as interest and exchange rates), as well as the desire to reduce the risk implicit in various investment strategies and maximize the yields on investments.

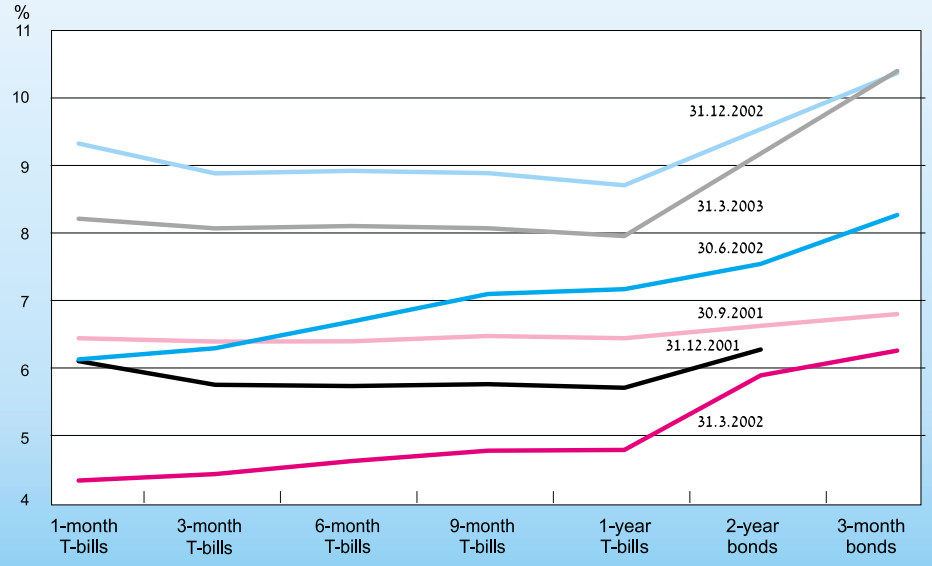
The Supervisor of Banks intends to undertake a far-reaching examination of this topic, placing the emphasis on the various aspects of bank-customer relations in everything connected with the terms of the association between them. This will apply especially to the transparency and clarity of the information given to the customer, and to the risk-management mechanisms the banks employ for handling structured products.

6. INTEREST RATES AND DIFFERENTIALS, AND NET INTEREST MARGINS

a. Interest rates and margins in short-run activity

Most interest rates in the unindexed local-currency segment are short term and are largely dictated by the Bank of Israel's key interest rate. The latter was reduced by 2 percentage points in December 2001, as part of a package deal intended to attain the inflation target with lower interest rates for all terms, so as to bring the recession to an end by stimulating employment and growth. This narrowed the gap between interest rates in Israel and abroad at the beginning of 2002, and exerted pressure for local-currency depreciation against the dollar. The decline in short-term nominal interest alongside the acceleration of depreciation and its inflationary effect led the Bank of Israel to raise its key interest rate in order to check inflation. The nominal interest rate was hiked by a cumulative 4.5 percent in June and July, putting a stop to the weakening of the NIS against the dollar and the inflationary trend. In the first half of 2002 the curve of nominal yields for all terms rose, and was characterized by a positive slope (Figure 2.11). The rise in the nominal interest rate was reflected by a similar rise in the nominal interest on the main components of activity in the unindexed local-currency segment, but the real interest rate on these components declined significantly due to the marked increase in one-year inflation expectations—to 5 percent—in the first half of the year.

Figure 2.11
Term Structure of Yields on Unindexed Bonds, 2001–2003



SOURCE: Based on returns to Supervisor of Banks and Bank of Israel Foreign Exchange Activity Department.

In the second half of the year (since July), once inflation expectations had declined and the Bank of Israel key interest rate remained unchanged, interest rates on various unindexed activities rose once more, in real terms, to the levels evident in the last three years (Figure 2.7). The average real interest rate on unindexed assets rose from 3.1 percent in 2002:I to 7.1 percent in 2002:IV, while the average interest on unindexed sources rose from 0.2 to 4.2 percent in the same period (Table 2.4).

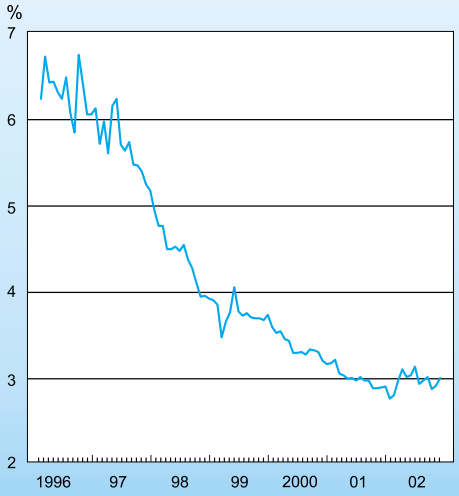
A rise in the Bank of Israel's key interest rate—ceteris paribus—serves to widen the interest-rate spread in the unindexed segment. The spread in 2002 was similar to its 2001 level, 2.9 percent, as a result of changes in the demand and supply of unindexed activity: the recession, the rise in the central bank's interest rate, and increased inflationary uncertainty all suppressed the public's demand for unindexed credit in 2002 and served to depress its price. The banks' more cautious policy as regards extending credit, the closer approximation of the risk-weighted capital ratio to the supervisory restriction in some of the banks, and the attribution of a higher risk to credit extended because of the slump all reduced the banking system's supply of unindexed credit and raised its price. On the deposits side, the supply of the public's unindexed deposits fell because the decline in disposable income and the saving rate made it more expensive to obtain unindexed sources. Concurrently, the shortage of sources impelled the banks to compete for the public's deposits, so that their price rose. These developments in credit and deposits led

to a slight rise in the interest-rate spread activity at the margin, but the average interest-rate spread remained stable.

In calculating the net interest margin in the various segments we include the banks' income/expenditure in the financial segments used to manage assets and liabilities (ALM).[17] The net interest margin in the unindexed local-currency segment dipped slightly, from 2.8 percent in 2001 to 2.7 percent in 2002, continuing the long-term trend evident since 1985 (Figure 2.12). The decline in the margin in 2002 is explained by the rise in non-performing loans (from NIS 5.4 billion in 2001 to NIS 7.6 billion),[18] and by the fall in the market value of negotiable bonds and derivatives not defined as hedging instruments, in the context of the rise in interest rates. In 2002 the sharp interest-rate hikes caused the market value of derivatives to fall, so that a decline in their book value was recorded. The changes in fair value are ascribed to the net interest income and financing costs items of other transactions in the various intermediation segments.

Changes in the composition of sources and uses in the segment served to offset the development of the margin: most of the decline in deposits in the Bank of Israel, which bear a relatively low yield, was offset by the rise in the balance of Treasury bills held by the banks, which bear a similar yield. Similarly, the fall in on-call credit, which is the cheapest credit category, was offset by the rise in the share of other term credit in total credit. The share of the unindexed segment in total uses contracted to 32 percent, and because of the net interest margin on it, which even though it declined is higher than that in other activity segments, it contributed 46 percent to the banks' net interest income (Table 2.11).

Figure 2.12
Interest-Rate Spread[a] in the Unindexed Local-Currency Segment, 1996–2002



[a] The spread between the weighted interest on total assets and that on total liabilities.
[b] Calculated as an aggregate for the seven major banks.
SOURCE: Returns to Supervisor of Banks.

[17] When the derivative is intended to reduce surplus liabilities, the off-balance-sheet amount of the derivative's receivable is deducted from the segment's balance-sheet liabilities. When the derivative is intended to reduce surplus assets, the off-balance-sheet amount of its liability to pay is deducted from the segment's balance-sheet assets. The other side of the off-balance-sheet transaction is added to the total assets or liabilities of the relevant segment, and the income or expenditure on the derivative is recorded in that segment.

[18] Neutralizing the effect of non-performing loans, the net interest margin remained 2.8 percent.

Table 2.11
Estimate of Interest Margins[a] of Commercial Banks and Income From Them, by Uses, 2001–2002

(NIS million, December 2002 prices)

	Average balance		Share in total uses (%)		Net interest margin (%)		Net interest income		Contribution to net interest income (%)	
	2001	2002	2001	2002	2001	2002	2001	2002	2001	2002
Unindexed activities	246,911	243,825	34.2	31.9	2.8	2.7	6,820	6,612	47.8	46.4
CPI-indexed activities	166,190	164,548	23	21.5	1.0	1.1	1,696	1,781	11.9	12.5
Foreign-currency activities in Israel	218,644	229,561	30.3	30.1	1.5	1.4	3,308	3,318	23.2	23.3
Foreign-currency activities abroad	42,126	41,128	5.8	5.4	1.7	2.5	733	1,036	5.1	7.3
Total uses	**673,871**	**679,062**	**93.3**	**88.9**	**1.9**	**1.9**	**12,557**	**12,747**	**88**	**89.4**
Derivatives[b]							87	41	0.7	0 . 3
Commissions on financing transactions[c]	48,569	84,798	6.7	11.1	1.5	0.9	739	731	5.2	5.1
Total uses, incl. derivatives and commissions on financing transactions	**722,440**	**763,860**	**100.0**	**100.0**	**1.8**	**1.8**	**13,389**	**13,519**	**93.9**	**94.8**
Other net interest income[d]	-	-	-	-	-	-	874	733	6.1	5.2
Total net interest income/total interest margin	**722,440**	**763,860**	**100.0**	**100.0**	**2.0**	**1.9**	**14,254**	**14,252**	**100.0**	**100.0**

[a] The rate of income on credit to the public was calculated for credit *less* the outstanding loan-loss provision.

[b] Excluding hedging and ALM transactions, as the results of these activities are included in the relevant segments above.

[c] Including income from acceptances, documentary credits, and credit assurance guarantees.

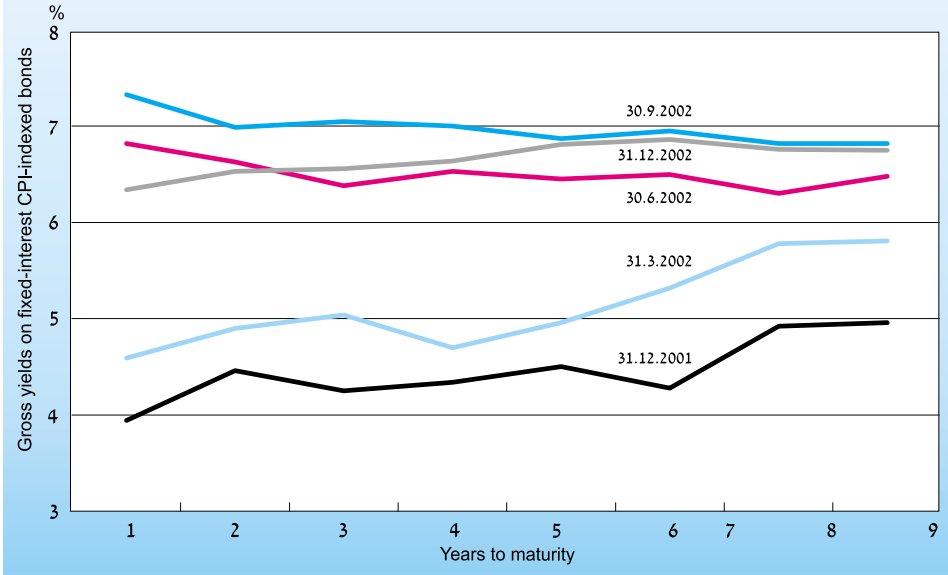
[d] Including profits (losses) on bonds, reduction of loan-loss provision, and collection of debts and early repayment fees.

SOURCE: Based on returns to Supervisor of Banks.

b. Interest rates and margins in CPI-indexed activity

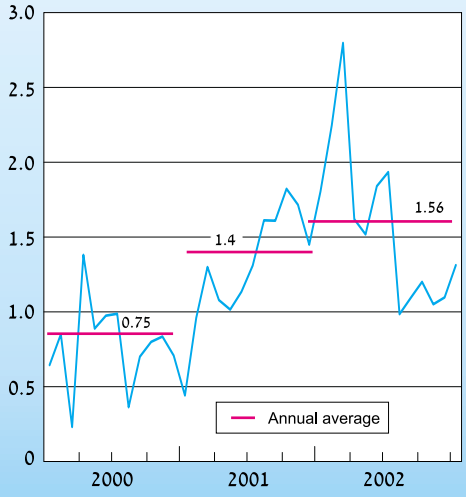
CPI-indexed interest is affected in the short run by the Bank of Israel's key interest rate, so that when this was cut, in December 2001, the CPI-indexed interest rates fell (in 2002:I), and its subsequent hike caused these interest rates to rise (Figure 2.13). In addition, interest in this segment is affected in the medium and long run by developments in yields in the government bond market, which are derived from the government's net borrowing requirements and the public's demand for CPI-indexed credit to finance investment. In the fiscal sphere, the government deficit expanded in 2002, and this can be financed from three sources: borrowing in the domestic capital market, net borrowing abroad, and privatization. The last item was negligible in 2002, and net borrowing abroad was less than expected, so that the government financed most of the deficit via the domestic capital market, through government bonds. The increase in the government's borrowing requirement served to raise real long-term yields and expand the cost of domestic loans. The rise in yields was reflected in the increase in the curve of the real yields for various terms during 2002 (Figure 2.13), intensifying the debt burden on firms and individuals, thereby undermining their repayment ability. The risk premium, estimated from the spread from the interest on indexed credit to the yield on indexed bonds for the same term, rose in the last two years (Figure 2.14), reflecting the increase in risk and decline in repayment ability of firms and individuals.

Figure 2.13
Term Structure of Yields on Indexed Bonds for up to Ten Years, 2001 and 2002



SOURCE: Based on returns to Supervisor of Banks.

Figure 2.14
Interest-Rate Spread Between CPI-Indexed Credit (for 5–10 years) and Interest on CPI-Indexed Bonds (for 5 years),[a] 2000–2002



[a] This spread is an estimate of the risk premium on CPI-indexed credit.

SOURCE: Based on returns to Supervisor of Banks.

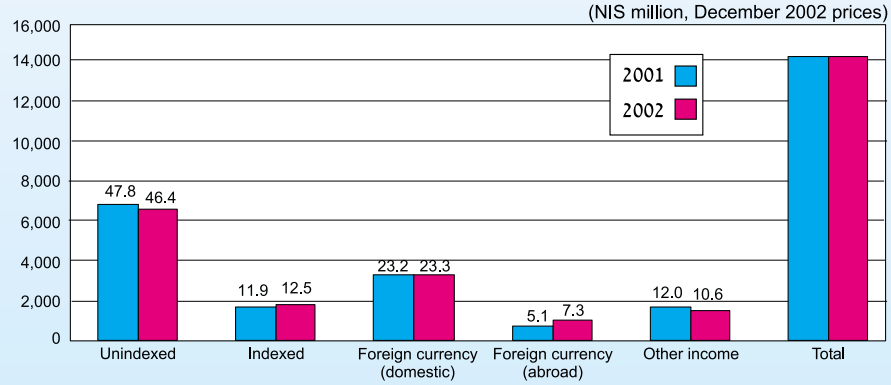
On the sources side, the balance of savings schemes and net accrual rose, as a result of the diversion of money away from mutual and provident funds, which yielded negative returns during the year, and the acceleration of inflation, which made the CPI-indexed channel more worthwhile. The increase in the supply of CPI-indexed sources served to depress the interest paid on savings schemes (down from 4.9 to 4.3 percent), so that the interest-rate spread in the segment widened somewhat, and the net interest margin reached 1.1 percent, compared with 1.0 percent in 2001 (Table 2.11 and Figure 2.15). The banks' activity in derivatives (ALM) in order to close positions was limited in the indexed segment, apparently because the position in this segment is closed against net worth, and hence does not expose the bank to inflation-rate risk. There was considerable activity in derivatives in the other indexation segments, however, leading to a significant fall in exposure to basis risk. The CPI-indexed segment contributed NIS 1.8 billion to the banks' net interest income, constituting 12.5 percent of the net interest margin (Table 2.11).

c. Interest rates and margins in foreign currency: domestic activity

Interest rates abroad, especially Libor, are the dominant factor in determining interest rates in the foreign-currency-denominated segment, because of the liberalization and efficiency of the foreign-currency market in the last few years. The 3-month dollar Libor rate fell from 3.7 to 1.7 percent in 2002, and this together with increased demand for foreign-currency credit led to the decline in the dollar interest rate on foreign-currency credit (from 4.9 to 3.1 percent). However, the ability of Israeli firms to raise money abroad contracted in 2002 because of the global slump in the financial markets and the worsening of Israel's recession and geo-political situation, which caused its credit rating to be downgraded from 'stable' to 'negative.' In the deposits market, the dollar interest rate went down by 2 percentage points, in line with the Libor rate. These developments led to a slight increase in the dollar interest-rate spread on new activity, from 1.6 to 1.8 percent. Nevertheless, the net interest margin in the segment contracted slightly in realocal-

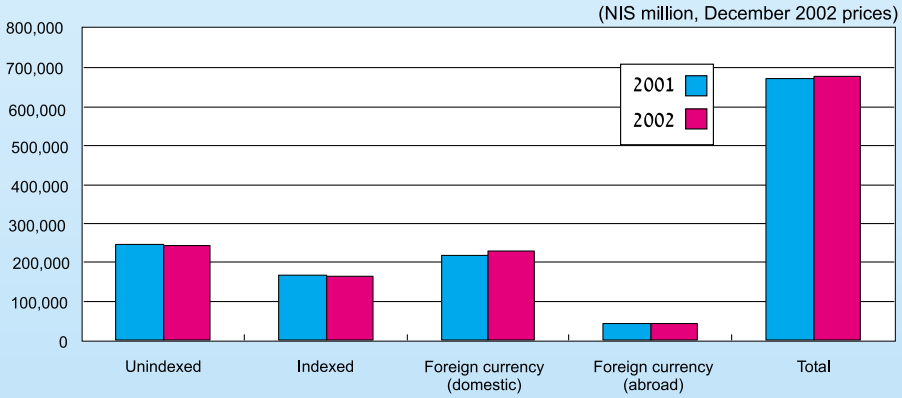
Figure 2.15
Indexation Segments, Financial Intermediation, and Interest-Rate Margin, 2001–2002

a. Contribution to Profit of Various Indexation Segments, 2001–2002

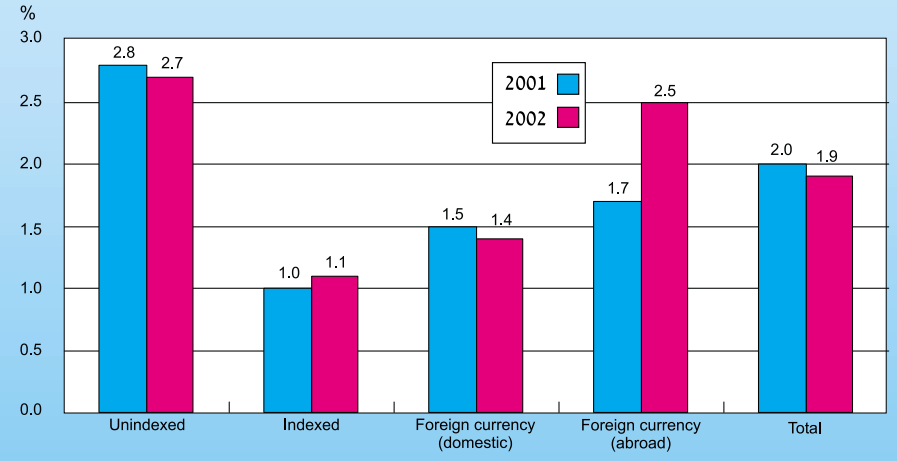


The numbers above the columns represent the segment's share in total net interest income.

b. Extent of Uses, by Financial Intermediation Segment, 2001–2002



c. Interest Margins, 2001–2002



SOURCE: Returns to Supervisor of Banks.

currency terms, from 1.5 to 1.4 percent (Table 2.11). The narrowing of the spread was affected by the marked rise in non-performing loans in the foreign-currency segment,[19] which doubled in extent to stand at NIS 5.3 billion, as well as by the hedging activities undertaken by some of the banks in order to neutralize fluctuations in the tax provision due to changes in the value of the investments of subsidiaries abroad as a result of real depreciation or appreciation. Some banks recorded large losses in this segment in 2002, because of the sharp real local-currency depreciation in Israel against sterling and the Swiss franc. In addition, in some banks investments in securities were realized before their maturity date in order to free sources to finance credit, and this led to capital losses in this segment.

In the past the foreign-currency segment was characterized by a marked surplus of uses, financed from unindexed and/or capital sources, and in the last few years, most of this surplus has been closed against an opposing position in derivatives. In recent years the net interest margin and net interest income in this sphere have been characterized by considerable volatility, because they are influenced by the development of the exchange rate between local currency and various other currencies as well as by the fluctuations in its development during the year. Net interest income in the segment was NIS 3.3 billion, similar to its level in 2001, due to the decline in the net interest margin, which was fully offset by the expansion of activity in it (Figure 2.15).

d. Interest rates and margins in foreign currency: the activity of overseas offices[20]

Income from the activity of overseas offices in foreign currency in 2002 amounted to NIS 1 billion—a rise of 40 percent over 2001 which stemmed entirely from the increase in the net interest margin, from 1.7 to 2.5 percent, alongside stability in the extent of the activity of the overseas offices. There are several reasons for the rise in the margin: 1. The decline in interest rates in the countries in which the overseas offices operate, which led to a similar decline in income and expenditure in financial intermediation activity, but did not affect income from securities activity; as a result, income from investment in bonds, which accounts for 32 percent of the uses of the overseas offices, remained stable, and contributed to the increase in the margin in this segment. 2. The change in the composition of uses of overseas offices—contraction of deposits in banks, which have a relatively low yield, and increase in the other profitable uses, especially securities investments. Alongside these sources, the share of the deposits of the public, which are the cheapest source, rose at the expense of that of deposits of banks, which fell. 3. Local-currency depreciation in Israel had a positive effect on net interest income in the segment, because of the surplus of assets over liabilities in it.

[19] Neutralizing the effect of non-performing loans, the net interest margin remained 1.5 percent, the same as in 2001.

[20] For a more detailed discussion of the activity and income of the overseas offices and subsidiaries, see Chapter 4.