Chapter 2

Financial Activity of the Commercial Banks

The commercial banks' activity expanded considerably during 1999, by 11 percent. At the end of the year, the banks' assets totaled NIS 573 billion and the proportion of short-term assets within the public's asset portfolio continued to grow. The credit aggregate increased by 13 percent, which was more than the financing requirements deriving from the economic growth rate. The rise in the credit aggregate resulted mainly from increased financing requirements in respect of working capital and inventories, the finance of corporate acquisitions and, in the second half of the year, the expansion of economic activity. Concurrently, there was a clear-cut rising trend in the proportion of large borrowers within the banking credit portfolio.

During the second half of the year under review balances of liquid assets in local and foreign currency increased, largely due to Y2K-associated apprehensions and the banks' function as (almost exclusive) market-makers in the foreign-currency market. The public also increased its short-term local-currency deposits to a considerable extent. This development resulted from the decline in inflation and its variance, as well as from liquidity considerations, against the background of the substantial growth in trading turnover on the Tel Aviv Stock Exchange. Unindexed deposits of the public grew by 26 percent in the course of the year. However, the proportion of assets at the banks within the public's asset portfolio fell from 49 percent in 1998 to 45 percent in 1999, mainly as a result of the rise in share prices.

After rising in the last quarter of 1998, short-term interest rates fell during 1999, in line with the decline in inflation. But due to the marked decline in inflation expectations in the second half of the year—and especially towards the end of 1999—real (ex post) interest rates increased during those months. Longer-term interest rates rose during the year as a result of the public's tendency to prefer short-term assets, the government's increased borrowing requirements, and the rise in interest rates abroad. The interest-rate spread in the unindexed local-currency segment narrowed slightly. While the interest-rate spread on CPI-indexed loca-currency activity expanded during the year, in the foreign-currency segment it remained stable.

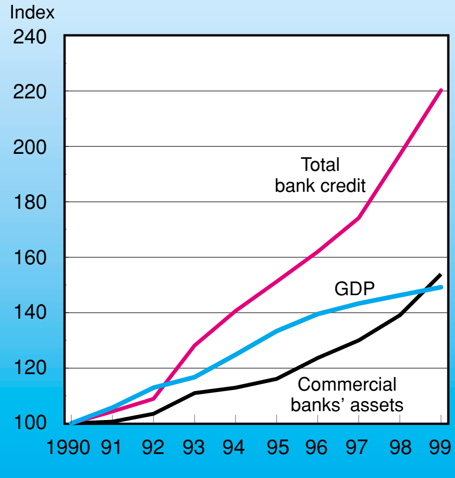
1. INTRODUCTION

The financial activity of the commercial banks, and especially their unindexed local-currency, short-term activity, expanded considerably during 1999. The commercial banks' total assets and liabilities increased by 11 percent (similar to the increase in 1999, Figure 2.1), and reached NIS 573 billion at the end of the year (Table 2.1). The buoyant level of the banks' activity came in the context of the public's expectations of a recovery in economic activity and was accompanied by greater activity in the capital market, reflected by a rise in trading turnover and a 59 percent real increase in rates of return. These developments occurred despite the sluggish state of economic activity (a growth rate of 2.2 percent in 1999) and a significant reduction in inflation (to a rate of 1.3 percent).

An analysis of the changes in the commercial banks' activity during the year involves a close examination of macroeconomic and capital-market developments, which differed to some extent from those of the previous two years. It also involves identifying the long-term trends typical of the financial markets during the 1990s. For several years now, the Israeli banking system has been coping with an influx of sources deriving from capital inflow and from the shift of savings sources from the provident funds to the commercial banks, due *inter alia* to the increased volatility of the funds' yields and the public's tendency to prefer investment in shorter-term financial assets. As a result, unindexed deposits of the public at the banks have grown by an annual average of 20 percent since 1994. Foreign-currency deposits expanded at a similar rate during the past two years.

For most of that period (1994–99) the banks' uses of these sources, primarily meeting the public's demand for credit, were affected by two opposing trends: a

Figure 2.1
The Activity of the Banking System, and GDP, 1990–99[a]



[a] 1990 = 100.
SOURCE: Based on returns to Supervisor of Banks.

Table 2.1
Assets and Liabilities[a] of the Commercial Banks (Israel Offices), by Segment, 1997–99

	End-of-year balances (NIS million)[b]			Real end-of-year change (percent)		Annual average balance (NIS million)[b]		Percent: Real annual change	Percent: Balance-sheet composition	
	1997	1998	1999	1998	1999	1998	1999	1999	1998	1999
Total assets	***468,347***	***515,052***	***573,474***	***10***	***11***	***488,781***	***542,110***	***11***	***100***	***100***
Total liabilities	***468,347***	***515,052***	***573,474***	***10***	***11***	***488,781***	***542,110***	***11***	***100***	***100***
Local currency										
Unindexed										
Assets	147,604	161,138	192,566	9	20	155,201	173,415	12	32	32
Liabilities	156,062	169,548	215,193	9	27	163,527	190,200	16	33	35
Surplus (+)/Deficit(–)[c]	–8,458	–8,409	–22,628			–8,325	–16,616			
CPI-indexed[d]										
Assets	153,427	154,428	160,941	1	4	151,214	159,012	5	31	29
Liabilities	141,448	142,803	141,102	1	–1	140,369	142,331	1	29	26
Surplus (+)/Deficit(–)[c]	11,979	11,626	19,839			10,845	16,682			
Foreign-currency-indexed										
Assets	16,447	16,075	14,378	–2	–11	14,789	15,422	4	3	3
Liabilities	12,202	15,391	14,357	26	–7	14,129	14,839	5	3	3
Surplus (+)/Deficit(–)[c]	4,244	683	21			660	583			
Foreign-currency-denominated										
Assets	125,094	154,967	174,551	24	13	140,697	164,236	17	29	30
Liabilities	122,556	147,924	159,477	21	8	133,524	152,646	14	27	28
Surplus (+)/Deficit(–)[c]	2,537	7,042	15,073			7,173	11,590			
Buildings, etc.[e]	25,775	28,444	31,040	10	9	26,880	29,857	11	5	6
Equity, etc.[f]	36,078	39,386	43,345	9	10	37,233	42,095	13	8	8
Surplus (+)/Deficit(–)[g]	–10,303	–10,942	–12,305			–10,352	–12,238			

[a] The tables in this survey, which are based on returns to the Supervisor of Banks since 1998, including comparative data, are adjusted according to the classification of assets and liabilities in the published financial statements. Total assets and liabilities include, in addition to the data on commercial banks, those on Otzar Hashilton Hamkomi Ltd., Poalim Capital Markets and Investments Ltd., and Leumi and Co. Investment Bankers Ltd., but do not include data on Bank of Jerusalem Ltd., which engages mainly in mortgage activity.
[b] At December 1999 prices.
[c] A positive number denotes a surplus of assets over liabilities; a negative number denotes an excess of liabilities over assets.
[d] Including the indexation option segment.
[e] Buildings, equipment, and nonfinancial assets; including investment in subsidiaries and affiliates.
[f] Equity and nonfinancial liabilities (deferred capital notes).
[g] A deficit in the ownership segment denotes positive financial capital.
SOURCE: Returns to Supervisor of Banks.

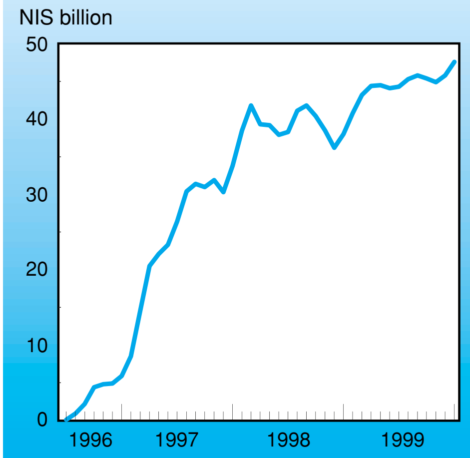
drop in demand deriving from the slacker pace of economic activity (during the past three years), concurrent with a rise in demand due to the financing of corporate acquisitions (*inter alia* within the framework of the privatization process), a decrease in firms' sales, increased investment in inventories, and possibly also a growth in demand from borrowers wishing to restructure their debts.[1] Demand for credit may also have risen in 1999 as a result of expectations of an upsurge in economic activity, increased investment, and the expansion of exports. As a result, during the six years in question outstanding credit to the public grew by 10 percent every year, and in the past two years by 13 percent a year.

Against the backdrop of the economic environment produced by these developments, during the period in question a monetary policy was adopted whereby, in order to achieve its objectives, the banks were offered the option of making deposits at the Bank of Israel on which the yields were set at auctions, as a use for the banks' surplus sources. The balance of the commercial banks' funds in these deposits has grown continually since 1996, and at the end of 1999 reached NIS 50 billion (nearly half the balance of unindexed local-currency credit, Figure 2.2). These developments were expressed by the 20 percent expansion of activity in the unindexed local-currency segment in 1999.

Concurrent with these trends, which persisted in 1999, the year was notable for a number of new trends which left their mark on the activity of the banking system. Although the equity market was buoyant during 1999, after five years of a slump, the volume of flotations in the domestic market by most sectors of the economy fell (flotations in Israel by the private sector fell from NIS 8.7 billion in 1998 to NIS 3.9 billion in 1999, Table 2.2). The impact of these developments on the banks was apparent from the growth in demand for services related to share trading, which was not accompanied by a shift in demand for credit from the banks to the stock market. In addition, IPOs abroad by Israeli firms (principally from the high-tech industry) rose appreciably, as reflected by capital inflow into Israel.

An analysis[2] of capital flows of residents (individuals and the commercial banks) actually reveals a pattern of capital

Figure 2.2
Deposits of Commercial Banks in Bank of Israel Auctions, June 1996–99[a]



[a] December 1999 prices.
SOURCE: Based on returns to Supervisor of Banks.

[1] Profitability in the business sector has been declining for several years (see *Bank of Israel, Annual Report*, 1999).
[2] *Bank of Israel, Annual Report*, 1999.

Table 2.2
Capital Raised in Israel and Abroad by Domestic Firms not via Bank Credit,[a] 1996–99

(NIS billion, current prices)

	Total	Capital raised: In Israel	Capital raised: Abroad	Balance of direct credit from abroad ($ billion)
1996	5.7	1.3	4.4	6.0
1997	13.1	7.5	5.6	7.2
1998	11.9	8.7	3.2	7.1
1999	17.0	3.9	13.1	8.0

[a] Including capital raised through corporate bonds, realization of options, and convertible shares.
SOURCE: Based on data from Bank of Israel Monetary Department and *Bank of Israel Annual Report, 1999*.

outflow, for the second consecutive year, following a long period of capital inflow since 1994. This shift in investors' behavior indicates the narrowing of the yield differentials[3] that prevailed in the middle of the decade and made local-currency investments more attractive than foreign-currency ones. Including nonresidents' investments in Israel in the analysis reveals a net inflow of sources in the past two years (i.e., foreign investments exceeded capital outflow). Domestic firms' growing reliance on IPOs abroad, and nonresidents' increased investments in Israel partly reflect the impact of the liberalization of the foreign currency market, which was largely completed in 1998.

In contrast to previous years, a number of indicators (such as the results of the Bank of Israel's *Companies Survey*) show that for much of the year, the public had been expecting an upturn in economic activity. Since the second quarter of 1999 there has indeed been an economic recovery, as was apparent from the level of domestic demand and exports. These expectations affected the activities of the banks vis-à-vis the public in the course of the year in various ways, including by increasing firms' demand for credit.

Another development that may have affected the composition of the public's asset portfolio 1999 was Y2K-associated apprehensions, and the authorities' response to them. Notable in this respect was the expansion of the monetary base in December, creating a reservoir of liquidity for coping with a surge in demand. The substantial growth of the public's short-term deposits in the last two months of 1999 may also be partly attributable to this.

In line with its policy and in response to economic developments, the Bank of Israel raised its key interest rate by 4 percentage points in the last quarter of 1998. Since then and throughout 1999 the inflation target and indicators of monetary policy objectives (inflation expectations, actual inflation, the budget deficit and the exchange rate) dictated

[3] In the comparison of yields on the various assets, those on investments in foreign-currency assets include the expected change in the exchange rate.

a declining path of nominal interest rates. As a result, interest rates on activity in the unindexed local-currency segment gradually fell. However, due to the rise in interest rates abroad, the government's increased borrowing requirements, and the public's continued preference for short-term financial assets, real interest rates continued to rise in 1999 as well. Furthermore, short-term (ex post) real interest rates went up because the interest rate declined more slowly than the actual inflation rate.

The interest-rate spread in the unindexed local-currency segment declined moderately throughout 1999. Both interest rates and the interest-rate spread on activity in the CPI-indexed local currency segment rose during the year. But despite an increase in the dollar Libor interest rate (in nominal terms) during the second half of the year, the interest-rate spread in the foreign-currency-denominated segment remained stable.

2. THE PUBLIC'S ASSET PORTFOLIO AND THE SUPPLY OF DEPOSITS OF THE PUBLIC TO THE BANKS

a. The public's asset portfolio

Changes in the supply of the public's sources to the banks are analyzed within the more inclusive framework of changes in the public's entire asset portfolio. The banking system's sources grew by 11 percent in 1999 (following an increase of 10 percent in 1998). These sources consist mainly of deposits of the public which are an important component of the public's asset portfolio. The latter soared by 22 percent in 1999, to total more than NIS 1 trillion (Table 2.3).

Since the decline in the public's total assets in 1994, as a result of the slump in the equity market in that year, these assets have risen by 10 percent a year. During 1999, as stated, their value soared. This upturn resulted mainly from the buoyant state of the equity market, the growth in residents' investments abroad, and the rise in unindexed local-currency deposits at banks. Adjusting for the increase in the value of the public's share portfolio during the year, the rate of increase in the public's total assets matched the long-term trend evident since 1994 (an annual increase of 10 percent).

The public's assets can be divided into assets at the banks, which include deposits of the public and savings schemes, and assets outside the banks, which include the public's holdings of cash, securities, and other financial investments. The rise in share prices and the growth in residents' investments abroad had the effect of reducing the proportion of assets at the banks within the public's total asset portfolio to 45 percent in 1999. Their proportion remained higher than in 1992 and 1993, however, when the stock market surged (Table 2.3). This followed a long period of stability, when half the assets in the portfolio were held at the banks.

The composition of the public's assets by term to maturity shows that the preference for short-term, more liquid assets (cash, unindexed local-currency deposits, foreign-currency deposits, and shares) continued. This trend resulted *inter alia* from the transition

Table 2.3
The Public's Asset Portfolio in Banks and not in Banks,[a] 1993–99

(NIS billion, December 1999 prices)

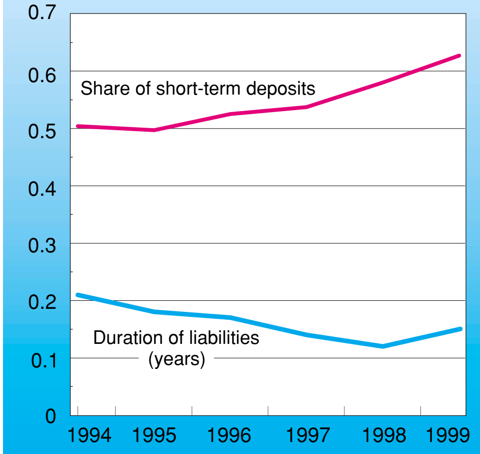
	End-of-year balances (NIS million)							Composition (percent)							Real change
	1993	1994	1995	1996	1997	1998	1999	1993	1994	1995	1996	1997	1998	1999	1998–99
Financial assets															
Unindexed local-currency deposits[b]	69.0	82.7	104.1	128.2	148.6	161.4	203.0	9.5	13.5	15.9	18.2	18.6	19.2	19.7	25.8
Deposits in and indexed to foreign currency[c]	52.4	52.6	52.3	54.2	54.2	79.9	83.3	7.2	8.6	8.0	7.7	6.8	9.5	8.1	4.3
Indexed and earmarked deposits[d]	63.9	58.0	75.9	72.3	77.9	71.2	68.7	8.8	9.5	11.6	10.3	9.8	8.4	6.7	–3.4
Savings schemes	69.1	75.1	82.2	92.8	97.1	103.8	103.0	9.5	12.3	12.6	13.2	12.2	12.3	10.0	–0.7
Total in banks[e]	**254.4**	**268.3**	**314.5**	**347.5**	**377.7**	**416.3**	**458.1**	**35.2**	**43.9**	**48.1**	**49.3**	**47.3**	**49.4**	**44.5**	**10.1**
Cash in hands of public	7.8	7.7	8.8	9.1	9.7	10.2	12.2	1.1	1.3	1.3	1.3	1.2	1.2	1.2	19.5
Traded bonds and Treasury bills[f]	125.0	117.7	113.9	114.9	128.8	131.2	140.2	17.3	19.2	17.4	16.3	16.1	15.6	13.6	6.8
Nontraded bonds[g]	85.7	95.4	98.3	109.9	119.9	121.6	129.0	11.8	15.6	15.0	15.6	15.0	14.4	12.5	6.1
Shares[h]	236.9	116.3	111.5	115.5	142.1	135.9	221.7	32.7	19.0	17.1	16.4	17.8	16.1	21.5	63.2
Residents' investments abroad	14.0	6.7	7.2	7.5	20.4	27.3	68.7	1.9	1.1	1.1	1.1	2.6	3.2	6.7	151.4
Total not in banks	**469.4**	**343.7**	**339.7**	**357.0**	**420.8**	**426.2**	**571.8**	**64.9**	**56.2**	**51.9**	**50.7**	**52.7**	**50.6**	**55.5**	**34.2**
Total assets of the public	**723.6**	**611.9**	**654.1**	**704.4**	**798.4**	**842.4**	**1,029.8**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**22.2**
In provident institutions[i]	251.3	257.9	258.6	261.6	292.9	300.1	321.9	34.7	42.1	39.5	37.1	36.7	35.6	31.3	7.3
In provident funds[j]	157.0	144.6	142.7	127.0	141.1	141.5	153.4	21.7	23.6	21.8	18.0	17.7	16.8	14.9	8.4
Total assets of mutual funds	51.7	26.5	20.5	15.5	21.9	23.2	35.9	7.1	4.3	3.1	2.2	2.7	2.8	3.5	54.8
Direct holdings of public[k]		143.9	155.3	155.1	206.3	205.8	329.3		23.5	23.7	22.0	25.8	24.4	32.0	60.0

[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 time deposits, nonresident deposits, institutions' deposits, resident deposits and residents' nonresident deposits.
[d] Including approved earmarked deposits for credit to related and other companies.
[e] Including commercial and mortgage banks.
[f] Including government bonds (indexed and unindexed) and private bonds.
[g] Earmarked bonds *less* earmarked bonds of related companies (estimate) issued to cover earmarked deposits.
[h] Shares in the hands of the public and provident funds *less* holdings of nonresidents and the government, and shares of provident funds.
[i] Including provident and severance pay funds, advanced study funds, pension and life insurance funds in 'Yield-assurance' and 'Project-sharing' schemes; life insurance schemes data for 1996 are from June 1996.
[j] Including provident and severance pay funds and advanced study funds.
[k] Including cash in the hands of the public, Treasury bills, unindexed bonds (*Gilon* and *Shahar*), CPI- and dollar-indexed bonds, shares, and residents' investments abroad.

SOURCE: Monthly returns to Supervisor of Banks and Monetary Department, Bank of Israel.

to a lower inflation environment, and also possibly from the public's increased demand for liquidity from the banks, a characteristic of a recession period. Short-term assets expanded by 34 percent during 1999 compared with a more moderate 12 percent increase in total long-term assets. This trend is even more marked with regard the public's assets at the banks, where the balance of savings schemes and indexed deposits fell while short-term NIS deposits rose considerably (by 26 percent). These preferences on the part of the public are reflected by the increased share of unindexed local-currency and foreign-currency deposits in total deposits at the banks, as well as by the reduced duration (average term to maturity) of the banks' unindexed liabilities to the public (Figure 2.3).

Figure 2.3
Share of Unindexed and Foreign-Currency Deposits in Total Bank Deposits and Duration of Unindexed Liabilities, 1994–99[a]



[a] Average of seven major banks.
SOURCE: Returns to Supervisor of Banks.

The decline in the share of provident fund assets, a trend that had begun in 1994, continued in 1999, despite the funds' improved performance during the year (the real yield on the funds' assets rose from 6.6 percent in 1998 to 8.6 percent in 1999). The public's net withdrawals from the provident funds were offset by the funds' profits, so that the provident funds' total assets increased moderately in 1999 (Table 2.3).

Monetary policy and the exchange-rate regime had a major impact on the public's asset portfolio as a whole, and on its assets at the banks in particular. The Bank of Israel has refrained from intervening directly in the foreign-currency market (by buying and selling currency) in the past two years Concurrently, the exchange-rate band was widened, a policy that makes the exchange-rate regime more flexible. From the viewpoint of the public and the banks, several short-term aspects are involved in this change in the exchange-rate regime and the decline in the inflation environment. These are the expectation of increased exchange-rate volatility concurrent with reduced volatility in nominal interest rates—developments that prompt the public to prefer the local-currency to the foreign-currency component in its asset portfolio. The banks which, as a result of these developments, have become the main market-makers in the foreign currency market (due chiefly to the Bank of Israel's withdrawal from the market), increased their demand for liquid assets in general, and for foreign-currency liquid assets in particular. This background explains the substantial growth during the past two years in nonresidents' foreign-currency deposits at the banks (by over 11 percent in dollar terms each year). In this new environment it is natural that the banks have also become a major party in the

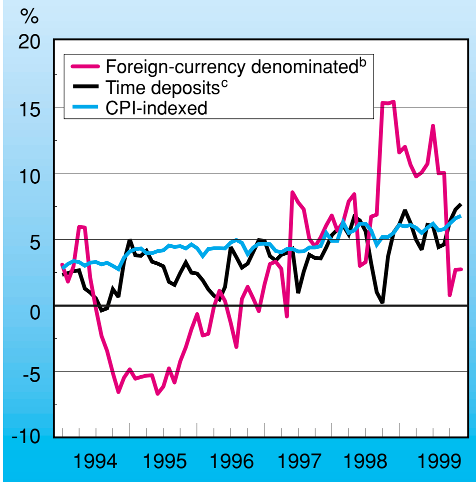
Table 2.4
Unindexed Local-Currency Assets and Liabilities,[a] 1997–99

	End-of-year balances (NIS million)[b]			Real end-of-year change (percent)		Annual average balance (NIS million)[b]		Percent: Real annual change	Percent: Balance-sheet composition	
	1997	1998	1999	1998	1999	1998	1999	1999	1998	1999
Assets										
Notes and coins	1,775	1,909	3,452	8	81	1,865	2,308	24	1	1
Deposits in Bank of Israel	42,711	45,393	53,893	6	19	43,806	49,689	13	28	29
Deposits in banks	3,159	3,907	6,025	24	54	6,031	4,883	–19	4	3
Credit to the public	84,484	95,122	111,628	13	17	88,779	100,971	14	57	58
Treasury bills and unindexed government bonds	12,585	11,753	13,972	–7	19	11,619	12,552	8	7	7
of which Treasury bills	7,900	6,747	7,900	–15	17	7,155	7,478	5	5	4
Other assets	2,889	3,055	3,596	6	18	3,102	3,180	3	2	2
Total assets	**147,604**	**161,138**	**192,566**	**9**	**20**	**155,201**	**173,583**	**12**	**100**	**100**
Liabilities										
Monetary loan from Bank of Israel	1,511	741	715	–51	–4	835	820	–2	1	0
Deposits from banks	1,915	2,654	5,098	39	92	4,738	3,744	–21	3	2
Deposits of the government	506	345	306	–32	–11	362	323	–11	0	0
Total deposits of the public	147,687	160,849	202,212	9	26	152,800	180,197	18	93	95
Demand deposits	14,863	15,137	17,933	2	18	12,860	14,207	10	8	7
SRO deposits	21,722	19,793	23,549	–9	19	19,399	19,625	1	12	10
Resident time and short–term deposits	109,047	124,438	158,697	14	28	118,775	144,774	22	73	76
Other deposits	2,054	1,481	2,034	–28	37	1,765	1,593	–10	1	1
Other liabilities	4,442	4,959	6,862	12	38	4,792	5,115	7	3	3
Total liabilities	**156,062**	**169,548**	**215,193**	**9**	**27**	**163,527**	**190,200**	**16**	**100**	**100**
Surplus of assets over liabilities	**–8,458**	**–8,409**	**–22,628**			**–8,325**	**–16,616**			

[a] See note a to Table 2.1.
[b] At December 1999 prices.
SOURCE: Monthly returns to Supervisor of Banks.

market for swaps and futures transactions, which are used for hedging against unexpected changes in the exchange rate.

Figure 2.4
Interest on Deposits,[a] 1994–99



[a] Real rates, in NIS terms.
[b] Calculated using change in CPI in previous 12 months.
[c] Calculated using inflation expectations derived from capital market.
SOURCE: Returns to Supervisor of Banks.

b. Unindexed local-currency deposits of the public

The public's deposits in the unindexed local currency segment are affected to a great extent by the returns that are expected on each type of deposit and on alternative assets alongside their standard deviation (risk). The real yields on the various deposits at the banks (term deposits, savings schemes and foreign-currency deposits, Figure 2.4) have been converging for the last few years. The exchange-rate shock at the end of 1998 led to a deviation from this trend, and this persisted in 1999. In the second half of the year, however, the yields on the different types of deposits began to converge once more. This trend is consistent with the process of liberalization in the foreign-currency market and the low inflation environment.

In this financial environment, deposits in the unindexed local-currency segment have been preferred in recent years, for several reasons: a. The volatility of yields on these deposits has fallen considerably due to the decline in inflation and its variability and the increased credibility of the government's price-stabilization policy; b. The relatively high real interest rate on them; c. Due to the economic recession, the public may have preferred highly liquid assets to long-term ones.

As a result of the aforementioned developments, the public's term deposits, overnight (SRO) deposits, and demand deposits rose by 26 percent in 1999, following an increase of 9 percent in 1998 (Table 2.4), and their balance at the end of the year totaled NIS 202 billion. The NIS 2.8 billion rise in demand deposits also stemmed from the public's increased demand for liquid assets prior to the end of the millennium due to Y2K-associated apprehensions. The nominal and real interest rates on unindexed deposits also rose in line with the Bank of Israel's interest-rate policy. The real (ex post) yield on term deposits reached 6 percent in 1999 compared with 4.6 percent in 1998 (Table 2.5)—the highest yield recorded on unindexed local-currency deposits since 1994 (when the period of monetary restraint began)—and was the reason why the public preferred to deposit money in this form of saving.

Table 2.5
Average Annual Yields on Selected Assets and Liabilities, 1998–99

(percent)

	Nominal yields						Real yields[i]					
	Annual average		1999				Annual average		1999			
	1998	1999	I	II	III	IV	1998	1999	I	II	III	IV
Unindexed local-currency segment												
Demand deposits[a]	1.8	2.2	2.3	2.2	2.1	2.2	–4.1	–2.7	–3.1	–3.5	–3.2	–1.1
SRO deposits[a]	10.3	10.7	12.0	10.7	10.3	10.1	3.9	5.4	6.1	4.5	4.5	6.5
Resident time deposits[a]	11.0	11.3	12.5	11.4	10.9	10.7	4.6	6.0	6.5	5.1	5.1	7.1
Monetary loan	12.1	12.5	13.8	12.5	12.0	11.7	5.6	7.1	7.8	6.2	6.1	8.1
Total unindexed sources	10.2	10.6	11.7	10.7	10.2	10.0	3.8	5.3	5.8	4.4	4.4	6.5
Term credit[a]	14.7	14.9	16.1	15.0	14.4	14.1	8.1	9.3	10.0	8.5	8.4	10.4
Overdraft accounts and facilities[a]	18.3	19.0	20.4	19.2	18.5	18.2	11.5	13.3	14.0	12.5	12.3	14.4
Total unindexed credit	16.2	16.4	17.6	16.5	15.8	15.5	9.4	10.7	11.4	9.9	9.8	11.8
Treasury bills[b]	12.3	12.5	13.7	12.5	12.0	11.8	5.8	7.0	7.7	6.2	6.1	8.2
Banks' deposits in the Bank of Israel[c]	10.4	10.8	11.9	10.9	10.4	10.1	4.1	5.5	6.0	4.6	4.6	6.6
Total	14.1	14.3	15.4	14.4	13.8	13.5	7.5	8.7	9.4	7.9	7.8	9.9
CPI-indexed local-currency segment												
Savings schemes[d]							4.1	4.2	4.7	4.1	4.1	3.7
Indexed bonds[e]							4.9	5.2	5.2	5.1	5.2	5.3
Credit[f]							5.7	6.6	6.9	6.5	6.5	6.3
Mortgages[g]							6.0	6.3	6.2	6.3	6.4	6.4

Table 2.5 (continued)

(percent)

	Nominal yields (US $)[h]						Real yields[i]					
	Annual average		1999				Annual average		1999			
	1998	1999	I	II	III	IV	1998	1999	I	II	III	IV
Foreign-currency denominated and indexed segment												
Time deposits	1.6	1.4	1.0	1.1	1.3	2.1	5.2	5.4	8.1	6.8	7.7	–1.0
Foreign-currency-denominated deposits[j]	4.7	4.5	4.1	4.2	4.6	5.2	8.4	8.7	11.4	10.2	11.2	2.1
Foreign-currency-indexed credit	7.2	7.0	6.6	6.7	6.9	7.6	10.9	11.2	14.1	12.7	13.7	4.4
Foreign-currency credit to residents	6.6	6.4	6.1	6.1	6.4	6.9	10.4	10.6	13.4	12.2	13.2	3.7
Deposits abroad[k]	5.4	5.3	4.9	4.9	5.3	6.0	9.1	9.5	12.2	10.9	12.0	2.8
Annual rates of change												
CPI	8.6	1.3	–5.5	4.3	5.1	1.9						
NIS/$ exchange rate	17.6	–0.2	–11.6	4.2	21.1	–11.0						

[a] Effective annual yield/cost, as reported by the seven major banking groups.
[b] Yield on 2-month Treasury bills (market rate).
[c] Interest on banks' deposits in the framework of the deposit auctions instituted by the Bank of Israel.
[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.
[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.

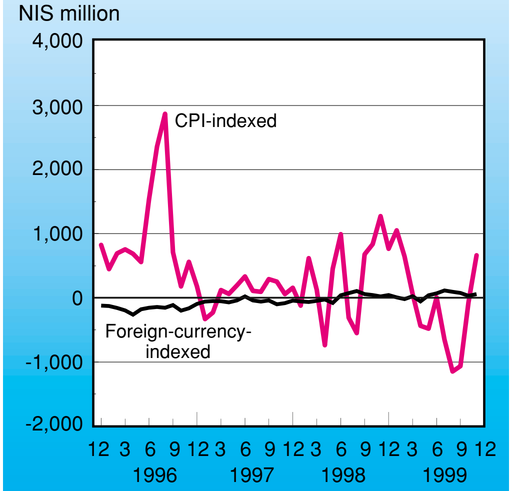
c. CPI-indexed deposits of the public

Deposits of the public in the CPI-indexed segment served as medium- and long-term savings. Savings schemes, which are used as an alternative to deposits in the provident funds and longer-term institutional savings, are the main component of these deposits. Deposits in savings schemes increased during the 1990s due to the public's transfer of money from the provident funds to the banks. By its nature, this trend has been weakening over the years, because it resulted mainly from a structural reform—linking the performance of the provident funds to the market's performance concurrent with reduced reliance on the government, the effect of which declined as the public adjusted its asset portfolio. The relative rise in real yields on short-term NIS deposits and the reduced variability of inflation also led to a decline in the public's deposits in savings schemes in 1999.

The accrual of funds in savings schemes during the last two years was therefore usually small in its extent, with the exception of relatively brief periods of instability when deposits in the savings schemes increased substantially. This happened when money was withdrawn from the savings schemes in 1996 and after the large rise in the exchange rate in October 1998 (Figure 2.5).

The balance of CPI-indexed deposits at the banks (including earmarked deposits, Table 2.6) remained stable in 1999 and totaled NIS 141 billion. The average yield on savings schemes at the banks rose during the first half of 1999, due *inter alia* to the higher yields on government bonds as the government's borrowing requirements increased. A positive accrual was recorded in the savings schemes during that period. This trend changed during the second half of the year, when a negative accrual was recorded in the savings schemes at the banks concurrent with a decline in their yield.

Figure 2.5
Net Accumulation in CPI-Indexed and Foreign-Currency-Indexed Savings Schemes,[a] 1996–99



[a] At December 1999 prices.
SOURCE: Returns to Supervisor of Banks.

d. Deposits of the public denominated in foreign currency or indexed to the exchange rate

Deposits of the public in the foreign-currency segment include deposits of residents and nonresidents. With the liberalization process and marked increase in IPOs abroad by Israeli firms, residents' deposits in foreign currency have risen in recent years. Part of this increase derives from the proceeds of stock issues abroad, which are deposited at the banks until they are used. Against this trend, the natural

Table 2.6
CPI-Indexed Local-Currency Assets and Liabilities,[a] 1997–99

	End-of-year balances (NIS million)[b]			Real end-of-year change (percent)		Annual average balance (NIS million)[b]		Percent: Real annual change	Percent: Balance-sheet composition	
	1997	1998	1999	1998	1999	1998	1999	1999	1998	1999
Assets										
Indexed segment excluding credit from earmarked deposits:										
Credit to the public[c]	72,728	78,816	84,843	8	8	75,324	82,646	10	50	52
Deposits in banks	24,888	29,527	36,054	19	22	26,773	32,719	22	18	21
Credit to the government	5,234	2,429	2,283	–54	–6	2,999	2,289	–24	2	1
Bonds	27,539	25,547	24,447	–7	–4	25,916	25,729	–1	17	16
Other assets	253	696	143	175	–79	270	346	28	0	0
Total	130,641	137,014	147,771	5	8	131,283	143,729	9	87	90
Credit from earmarked deposits	22,786	17,414	13,170	–24	–24	19,931	15,284	–23	13	10
of which Credit to the government	21,486	16,690	12,740	–22	–24	18,983	14,647	–23	13	9
Total assets	**153,427**	**154,428**	**160,941**	**1**	**4**	**151,214**	**159,012**	**5**	**100**	**100**

Table 2.6 (continued)

	End-of-year balances (NIS million)[b]			Real end-of-year change (percent)		Annual average balance (NIS million)[b]		Percent: Real annual change	Percent: Balance-sheet composition	
	1997	1998	1999	1998	1999	1998	1999	1999	1998	1999
Liabilities										
Deposits of the public:										
Approved savings schemes	86,075	89,538	91,382	4	2	86,575	91,373	6	62	64
Other deposits	17,502	19,840	20,576	13	4	18,545	19,829	7	13	14
of which CPI-indexed deposits	17,358	19,711	20,481	14	4	18,406	19,708	7	13	14
Total deposits of the public	103,577	109,378	111,959	6	2	105,119	111,193	6	75	78
Deposits from banks	2,268	3,141	3,403	38	8	2,620	3,210	23	2	2
Deposits of the government	11,082	10,916	10,366	–1	–5	10,943	10,630	–3	8	7
Indexed segment excluding earmarked deposits	116,927	123,435	125,728	6	2	118,682	125,033	5	85	88
Total earmarked deposits	22,892	17,588	13,529	–23	–23	20,057	15,561	–22	14	11
of which Of the public	19,948	15,799	12,195	–21	–23	17,772	13,966	–21	13	10
Other liabilities	1,630	1,780	1,844	9	4	1,630	1,736	7	1	1
Total liabilities	**141,448**	**142,803**	**141,102**	**1**	**–1**	**140,369**	**142,331**	**1**	**100**	**100**
Surplus of assets over liabilities	**11,979**	**11,626**	**19,839**			**10,845**	**16,682**			

[a] See note a to Table 2.1.

[b] At December 1999 prices.

[c] The credit balance given here excludes credit to the public from earmarked deposits (about 2 percent of total credit to the public in 1998).

SOURCE: Monthly returns to Supervisor of Banks.

Table 2.7
Assets and Liabilities Denominated in and Indexed to Foreign Currency, 1997–99

	End-of-year balances ($ million)			Real end-of-year change (percent)		Annual average balance ($ million)		Percent: Real annual change	Percent: Balance-sheet composition	
	1997	1998	1999	1998	1999	1998	1999	1999	1998	1999
Assets										
Notes and coins	223	242	359	9	48	248	291	17	1	1
Deposits in banks abroad	5,833	7,083	7,145	21	1	6,257	7,348	17	16	17
Deposits in banks in Israel	750	924	870	23	–6	852	876	3	2	2
Deposits in Bank of Israel	2,177	1,900	2,578	–13	36	1,863	2,010	8	5	5
Nondirected credit to residents	19,491	20,895	24,058	7	15	20,534	22,193	8	54	52
Nondirected credit to nonresidents	1,833	2,453	2,798	34	14	2,050	2,336	14	5	5
Credit from earmarked deposits[a]	1,601	1,528	1,545	–5	1	1,557	1,550	0	4	4
Credit to the government	442	495	506	12	2	510	530	4	1	1
Securities[b]	3,556	4,298	4,994	21	16	3,802	4,930	30	10	12
Other assets	457	752	639	65	–15	613	617	1	2	1
Total assets	**36,363**	**40,571**	**45,492**	**12**	**12**	**38,286**	**42,682**	**11**	**100**	**100**
of which Denominated in foreign currency	32,137	36,758	42,030	14	14	34,643	39,016	13	90	91

Table 2.7 (continued)

	End-of-year balances ($ million)			Real end-of-year change (percent)		Annual average balance ($ million)		Percent: Real annual change	Percent: Balance-sheet composition	
	1997	1998	1999	1998	1999	1998	1999	1999	1998	1999
Liabilities										
Deposits from banks abroad	1,469	1,570	1,446	7	–8	1,554	1,481	–5	4	4
Deposits from banks in Israel	347	452	451	30	–22	396	426	8	1	1
Loans from Bank of Israel	18	8	7	–56	–13	14	8	–43	0	0
Deposits of the government	347	335	297	–3	–11	342	392	15	1	1
Earmarked deposits[c]	1,601	1,528	1,545	–5	1	1,557	1,550	0	4	4
Nonresidents' deposits	14,957	16,540	18,736	11	13	15,638	17,452	12	43	44
Residents' and restitutions deposits	4,367	4,472	4,046	2	–10	4,306	4,185	–3	12	11
Residents' other deposits	10,944	12,916	14,716	18	14	11,732	13,544	15	32	34
Other liabilities[d]	571	917	703	61	–23	809	752	–7	2	2
Total liabilities	**34,620**	**38,738**	**41,857**	**12**	**8**	**36,347**	**39,791**	**9**	**100**	**100**
of which Denominated in foreign currency	31,485	35,087	38,400	11	9	32,876	36,264	10	90	91
Surplus of assets over liabilities	**1,742**	**1,832**	**3,629**			**1,939**	**2,891**			

[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: Monthly returns to Supervisor of Banks.

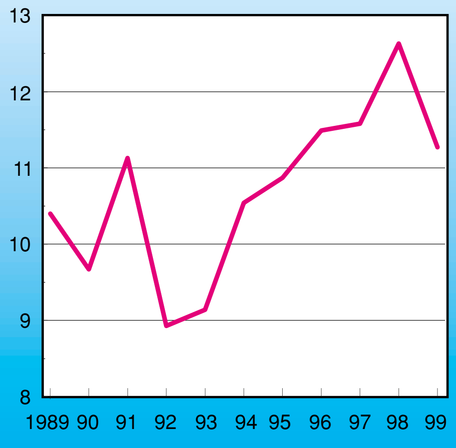
decrease in the number of restitutions payments recipients has the effect of reducing the supply of restitutions deposits to the banks. The net balance of residents' deposits in foreign currency rose by $1.4 billion during 1999, following an increase of $2 billion in 1998 (Table 2.7).

Nonresidents' foreign-currency deposits also constitute a source in this segment. The notable rise in demand for foreign-currency bank credit in the last few years prompted the banks to obtain appropriate sources, including these deposits and deposits from banks abroad. The balance of nonresidents' deposits at the banks grew by $2.2 billion in 1999, following a more moderate increase of $1.5 billion in 1998. This increase partly resulted from the interest in the Israeli economy shown by foreign investors, who hold part of their financial capital at banks in Israel for business purposes. As a result, nonresidents' financial investments in Israel grew by $7 billion and approached the 1997 record level of approximately $8 billion. Some $2.3 billion of these investments were directed towards foreign-currency deposits at banks. Note that of these investments, only $91 million was directed into local-currency deposits, indicating that the yield differential (in NIS terms) between foreign-currency and local-currency deposits is relatively small, and that this is not the driving force behind nonresidents' deposits in Israel.

3. THE DEMAND FOR CREDIT

Continuing a long-term trend, the rate at which the bank credit aggregate rose outstripped that consistent with the growth in economic activity and estimates of the income elasticity of the public's demand for credit calculated at the beginning of the 1990s.[4] Total bank credit expanded by 13 percent during 1999 (similar to the increase in 1998, Table 2.8) and totaled NIS 317 billion. Evidence of this exceptional development is the continued increase since 1992 in the ratio of credit to GDP (Figure 2.1) and the ratio of credit to the narrow money supply, M1 (Figure 2.6), although the increase in the latter slowed to some extent in 1999. The rise

Figure 2.6
Ratio of Bank Credit to M1, 1989–99



SOURCE: Returns to Supervisor of Banks and *Bank of Israel Annual Report.*

[4] A. Barnea, Y. Landskroner, J. Paroush and D. Ruthenberg estimated the unit income elasticity of the public's demand for bank credit: "An Econometric Model of the Israel's Banking System," *Bank of Israel, Banking Review*, 7 (1999).

Table 2.8
Distribution of Credit to the Public,[a] 1997–99

	End-of-year balances (NIS million)[b]			Real end-of-year change (percent)		Annual average balance (NIS million)[b]		Percent: Real annual change	Percent: Balance-sheet composition	
	1997	1998	1999	1998	1999	1998	1999	1999	1998	1999
Total credit to the public	**248,527**	**281,146**	**316,532**	**13**	**13**	**264,363**	**295,814**	**12**	**100**	**100**
Total local-currency credit	**167,814**	**180,991**	**201,674**	**8**	**11**	**172,501**	**189,795**	**10**	**65**	**64**
Unindexed	84,484	95,122	111,628	13	17	88,779	101,075	14	34	34
Overdraft acccounts and facilities[c]	37,623	36,096	37,207	–4	3	36,136	36,921	2	14	12
Other short-term credit[c]	28,466	33,773	39,130	19	16	30,852	35,107	14	12	12
On-call credit	18,394	25,252	35,291	37	40	21,790	29,047	33	8	10
Indexed	83,331	85,869	90,046	3	5	83,723	88,720	6	32	30
To CPI	73,458	79,339	85,261	8	7	75,935	83,164	10	29	28
To foreign currency	9,872	6,530	4,785	–34	–27	7,787	5,556	–29	3	2
Total foreign-currency-indexed credit	**80,713**	**100,156**	**114,858**	**24**	**15**	**91,862**	**106,019**	**15**	**35**	**36**
To residents	73,540	89,810	103,239	22	15	83,518	96,181	15	32	33
To nonresidents	7,173	10,345	11,619	44	12	8,344	9,838	18	3	3

[a] See note a to Table 2.1.
[b] At December 1999 prices.
[c] According to returns from the seven major banks.
SOURCE: Returns to Supervisor of Banks.

Table 2.9
Ratio of Bank Credit to GDP and M1, Selected Countries,1998–99

	Credit/GDP	Credit/M1	
	1999[a]	1999	1998
UK	1.27	–	–
Denmark	0.60	1.85	1.99
Greece[b,c]	0.36	2.79	2.84
Norway[b]	0.59	1.49	1.48
Switzerland	1.85	3.32	3.49
Euro-11[d]		3.28	3.34
US	0.83	6.64	6.41
Japan	1.45	3.23	3.36
Israel	0.84	11.27	12.63

[a] June 1999 data, except for Israel, where figures are updated to end-1999.
[b] Credit/GDP data for Norway and Greece are for 1998.
[c] Credit data for Greece refer solely to the private sector.
[d] Average weighted data for the eleven countries of the euro zone.
SOURCE: *Bank of Israel Annual Report, 1999*; *International Financial Statistics*; *Eurostat 12*, 1999.

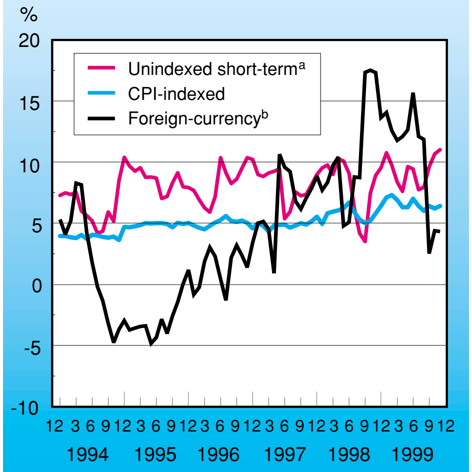
in these ratios despite the marked economic slump is consistent with the findings obtained in other advanced economies, in which M1 responds more quickly to a rapid monetary contraction than the bank credit aggregate,[5] which also expanded in 1999.

An international comparison (Table 2.9) shows that the rise in the ratio of bank credit to GDP in Israel during the 1990s was not exceptional in comparison with other advanced economies, while the ratio of bank credit to M1 in Israel was higher than that in these economies. This is an indication of the public's heavy reliance on bank credit and the relative shallowness of the capital market in Israel, a situation that is also indicative of the crucial role of Israel's banking system as a financial intermediary.

Bank credit expanded during the 1990s at times of both economic prosperity and recession. In order to better understand this 'anomaly,' we will analyze developments in credit in a number of areas: the ratio of bank credit to business-sector product; bank credit by intermediation segment (unindexed local currency, CPI-indexed local currency and foreign currency); credit by borrower size; and by-industry credit. When analyzing developments in credit, it should be noted that, as has happened with deposits, the costs of the different types of credit have converged in the last few years (with the exception of

[5] See: C.D. Romer and D.H. Romer (1990), "New Evidence on the Monetary Transmission Mechanism," Brooking Papers on Economic Activity; 0(1), pp. 149–198; L.J. Christiano, M. Eichenbaum and C.L. Evans (1996), "Identification and the Effects of Monetary Policy Shocks". In *Financial Factors in Economic Stabilization and Growth*, ed. M. Blejer, Z. Eckstein, Z. Hercowitz and L. Leiderman, pp. 36–74, Cambridge, New York and Melbourne: Cambridge University Press.

Figure 2.7
Interest (Real) on Credit, 1994–99



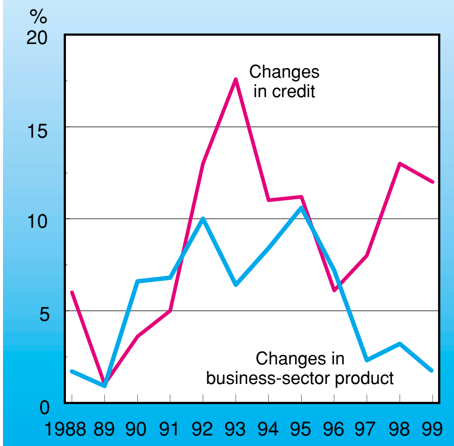
[a] Calculated using inflation expectations derived from capital market.
[b] Deflated by change in CPI in previous 12 months.
SOURCE: Returns to Supervisor of Banks.

the first quarter of 1999, following marked local-currency depreciation). This happened when a large differential emerged in 1994 between the ‘low’ cost of foreign currency credit and the cost of unindexed local-currency credit (Figure 2.7).

a. Bank credit relative to business-sector product

A positive correlation is obtained from a long-term comparison of the rates of change of bank credit with those rates of business-sector product in Israel (Figure 2.8). However, deviations from this trend were recorded on two occasions—at the beginning of the 1990s (1992, 1993), during the surge in the stock market, and especially when credit was granted for the purchase of stock issues within the framework of auctions (with a maximum price) in the equity market. At these auctions depositors were required to place an amount equivalent to the securities order at the central bank for a short period until the auction was held. The banks extended substantial amounts of credit to the public for this purpose, regardless of the level of economic activity (see *Annual Survey of Israel’s Banking System*, 1993). The other period when such a deviation occurred was during the decline in economic activity since 1997. The following analysis focuses mainly on the reasons for the public’s exceptional demand for credit at a time when economic activity slowed.

Figure 2.8
Changes in Business-Sector Product and in Bank Credit, 1988–99

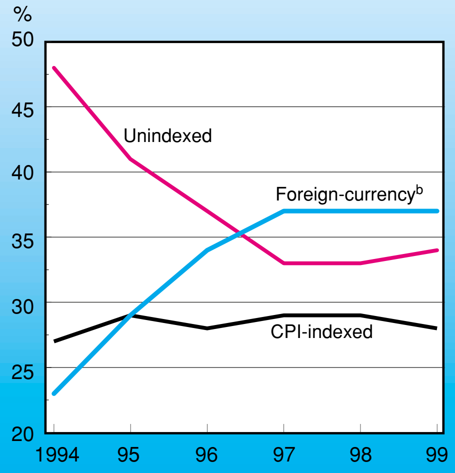


SOURCE: Based on returns to Supervisor of Banks.

b. Credit by indexation segment

A long-term examination of the composition of credit by type of intermediation segment (indexed, unindexed, and foreign currency) reveals a pattern of relative stability following the convergence to this composition in 1997, concurrent with an increase in the share of foreign-currency credit in total credit (Figure 2.9). The share of CPI-indexed credit fell slightly during the year reviewed, a development that is in line with the decline in inflation and its variability.

Figure 2.9
Composition of Credit,[a] by Type, 1994–99



[a] Excluding credit to specialized banks.
[b] Denominated in and indexed to foreign currency.
SOURCE: Returns to Supervisor of Banks.

(1) Unindexed credit

Outstanding unindexed credit rose by 17 percent in 1999 (slightly more than in 1998), and totaled NIS 112 billion. Concurrent with the marked NIS 10 billion expansion of *on-call* credit (an increase of 40 percent, similar to that in 1998) and the 16 percent increase in term credit, firms' overdrawn accounts and households' overdrafts remained stable in 1999 (outstanding on-call credit in the unindexed credit aggregate is already identical with overdrawn accounts, Table 2.8). At times of recession and slowdown in economic activity and monetary restraint, a relative decline in credit to households and in firms' overdrawn accounts at banks can be expected, while credit intended for supporting firms' working capital and the restructuring of large debts increases, particularly due to the slump in issues in alternative markets (as was the case in 1999). Consumer credit (credit to private individuals, Table 2.10) from the commercial banks (excluding the mortgage banks) actually increased in 1999, but only by 8 percent—less than the growth rate of the total credit aggregate. This incremental credit was even smaller than the interest payments on the total credit aggregate.

While the annual average real and nominal costs of unindexed credit increased in 1999, in the course of the year (in the second and third quarters) these costs fell after rising in the first quarter. The costs of overdrawn account credit and overdrafts increased slightly more than those of other types of credit.

(2) CPI-indexed local-currency credit

CPI-indexed local-currency credit is usually extended for longer periods and is used mainly for financing investments and purchasing consumer durables. The long-term development of this type of credit reflects the growth of investment in the economy. Although this credit[6] rose by 7 percent in 1999 (Table 2.8), taking into account the decrease

[6] Excluding credit granted to the public by the mortgage banks.

Table 2.10
Distribution of Credit by Principal Industry, 1998–99

	Balance-sheet value of credit balance[a] (NIS million)		Real annual change (percent)
	1998	1999	
Agriculture	8,922	9,026	1.2
Manufacturing	48,492	52,535	8.3
Construction and real estate[b]	58,192	64,660	11.1
Electricity and water[c]	3,455	4,418	26.2
Commerce	29,739	32,143	8.1
Hotels, food, catering	8,601	9,607	11.7
Transport and storage	7,345	10,865	47.9
Communications and computer services	10,467	15,903	51.9
Financial services	25,164	33,592	33.5
Other business services	10,394	11,899	14.5
Public and community services	15,624	15,796	1.1
Individuals	101,487	109,552	7.9
For borrowers' activities abroad	49,273	52,998	7.6
Total	**377,155**	**422,994**	**12.2**

[a] Including the balance of credit to the public at the banking corporations' responsibility.

[b] Data in this industry are not calculated in accordance with the industry concentration limitation.

[c] Data in this industry are biased downward as they do not include the credit extended to it by the Industrial Development Bank.

SOURCE: Published financial statements.

in CPI-indexed credit to the public and to the government from earmarked deposits, there was only a moderate increase in CPI-indexed credit, 1.8 percent, similar to the rise in 1998.

Although gross domestic investment rose by a significant 10 percent in 1999, this was the result of a moderate rise in nonresidential investment and steep rise in investment in inventories. Unlike nonresidential investment, which relates to the long run, investment in inventories may stem from purely temporary considerations and is therefore not financed by long-term credit. Since a considerable proportion of investment in manufacturing in 1999 focused on high-tech industries, which are generally export-oriented, these industries are almost certainly financed by foreign-currency credit. In addition, the decline in inflation and its variability had the effect of reducing the demand for CPI-indexed credit to the public. The real cost of the CPI-indexed credit extended in 1999 rose to 6.6 percent, compared with 5.7 percent in 1998. However, the cost of this kind of credit also fell slightly in the course of the year, after rising in the first quarter. The cost of credit is determined largely on the basis of the yield on government bonds (which are used as a substitute for activity in this segment), whose development followed a similar course.

(3) Credit indexed to and denominated in foreign currency
Foreign-currency credit continued to expand in 1999. Total foreign-currency credit to residents and nonresidents rose by NIS 4.3 billion during the year (Table 2.7), following a more moderate NIS 2 billion increase in 1998.

This development in foreign currency credit resulted from a number of factors: The significant volume expansion of Israel's foreign trade, a substantial increase in firms' activities in the high-tech industry, which sells its output abroad, special investments in capital stocks by several large companies that operate in Israel and purchase their machinery and equipment abroad (Israel Electric Corporation, Intel), and investments in software for coping with Y2K.[7] The growth in residents' investments abroad in 1999 also served to increase the public's demand for foreign-currency credit.

As a result of the half a percentage point decline in the dollar Libor interest rate during the first quarter of 1999 and its subsequent rise, the average annual cost of foreign-currency credit dipped slightly (in dollar terms) from 6.6 percent in 1998 to 6.4 percent in 1999.

c. Credit by borrower size

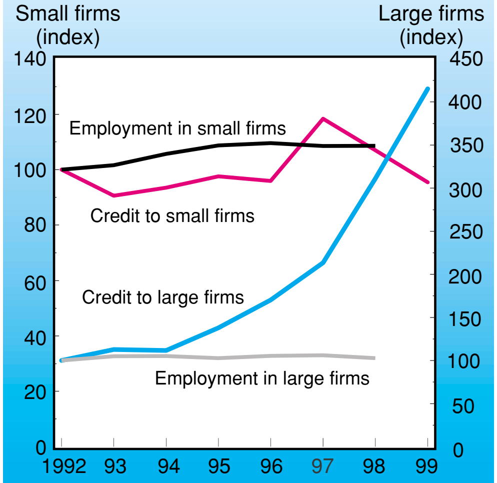
This section contains an analysis, on the basis of different indicators, of developments in the credit aggregates to large firms compared with developments in the credit aggregates to small firms in the light of studies undertaken in the US[8] focusing on the different effects of monetary policy on credit to large and small firms. According to these findings, tight monetary policy has a greater effect on small firms than on large ones. Moreover, while bank credit to small firms contracted in response to tight monetary policy, credit to large firms actually expanded. It was also found that the ratio between credit and sales among small firms remained fixed over business cycles, while among large firms it increased during periods of monetary restraint. Similar results were found with respect to Israel.

First, note the considerable increase in on-call credit in 1999, most of it in credit to large firms, which are usually financially solid. Some two-thirds of the increase in the unindexed credit aggregate in 1999 derived from the expansion of this type of credit, and may actually have been a transitory phenomenon in the banks' portfolios representing a 'flight to quality,' that is, a move to higher-quality assets. However, this explanation is less convincing in

[7] The balance of the US loan guarantees, which were used to finance investments of this type during recent years, was used up in 1998.

[8] See: M. Gertler and S. Gilchrist (1996). "The Role of Credit Market Imperfections in the Monetary Transmission Mechanism: Arguments and Evidence." In *Financial Factors in Economic Stabilization and Growth*, ed. M. Blejer, Z. Eckstein, Z. Hercowitz and L. Leiderman, pp. 11–35, Cambridge; New York and Melbourne: Cambridge University Press. N. Gertler and S. Gilchrist (1991). "Monetary Policy, Business Fluctuations, and the Behavior of Small Manufacturing Firms," mimeo, New York University.

Figure 2.10
Employment in Manufacturing and Bank Credit, by Size of Firms, 1992–99



SOURCE: Based on returns to Supervisor of Banks and *Bank of Israel Annual Report.*

view of the deterioration in the financial results of larger companies, too, as a result of the recent economic recession.

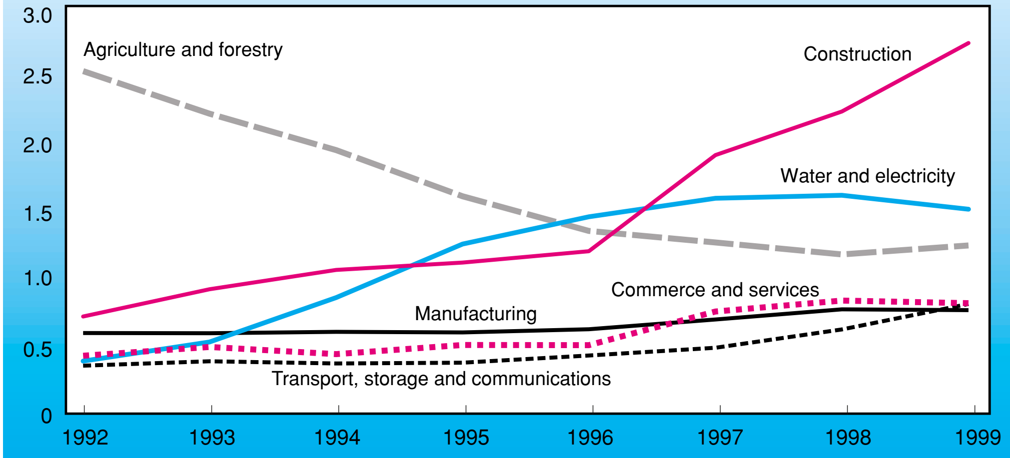
Second, data on the rates of change in credit by borrower as well as in firms' employment levels and product (by size) with respect to the period since 1993, which includes the years of monetary restraint (Figure 2.10), support the aforementioned hypothesis that while the ratio of credit to large firms' product increased, there was no clear-cut trend among small firms. A faster rate of increase in the credit aggregate to large firms was apparent during the last two years, while credit to small firms fell to a moderate extent. It should be noted that despite the liberalization process in the foreign currency market, large firms are still able to access international financial markets and other substitute forms of finance more easily than small firms. This helps large firms to negotiate for the receipt of bank credit during periods of recession.

d. By-industry credit

By-industry credit is examined mainly via the volume of credit to an industry relative to its product. The industry-specific aggregate in this section does not include guarantees and off-balance-sheet activity. Table 2.10 presents data on by-industry credit, and Figure 2.11 shows data on credit relative to the industry's product. The highly dynamic nature of by-industry credit in product terms is clearly apparent, particularly during the recession years since 1997.

The credit/product ratio has risen in most industries since 1994, and in 1999 this ratio even increased in agriculture as a result of the substantial fall in its product. Particularly large increases were recorded in construction and in the electricity and water industries: The product of the construction industry has been falling for several years now, while the stock of apartments has been growing continually (Figure 2.12). Most of the increase in credit to this industry reflects financing requirements in respect of inventories. In the electricity and water industries the upturn began earlier, in 1994, and derived from appreciable investments in capital stocks, principally in the electricity industry. The ratio of credit to product in the commerce and services industry, the transport and communications industry, and the manufacturing sector rose moderately in the last three years, after remaining stable during the first half of the 1990s.

Figure 2.11
Ratio of Credit to Product in Principal Industries, 1992–99



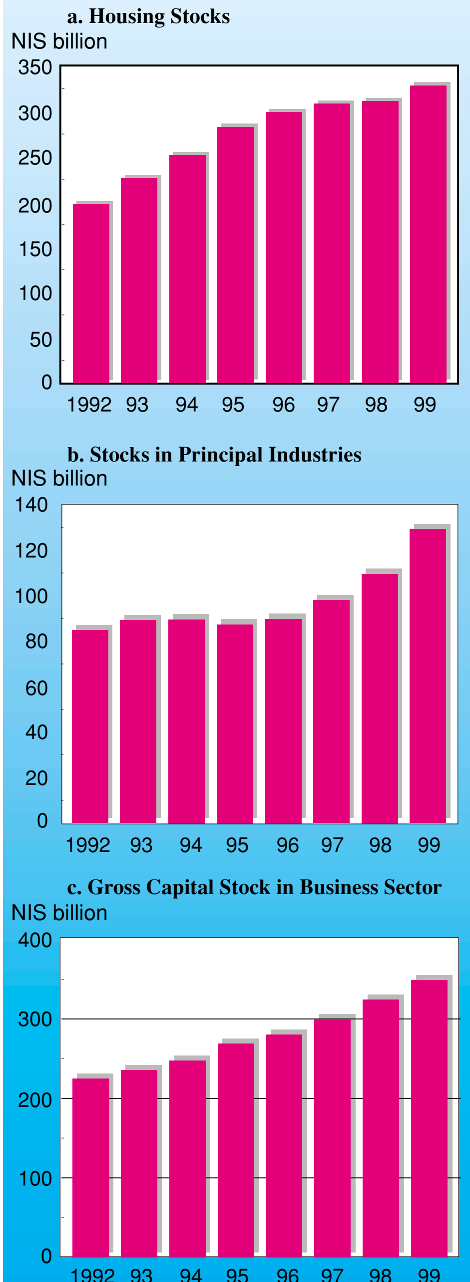
SOURCE: Returns to Supervisor of Banks and *Bank of Israel Annual Report.*

The data in Table 2.10 show that credit to the financial services industry continued to soar in 1999 (rising by 34 percent following an increase of 54 percent in 1998). This credit is granted *inter alia* for financing corporate acquisitions. Corporate acquisitions by Israeli and foreign investors rose in previous years, and in 1999 as well, as a result of the liberalization process and the privatization of government-owned enterprises. To finance these acquisitions, borrowers took credit from Israel's banking system.

Whereas at the beginning of the decade, in 1992, the credit/product ratio was higher than one only in agriculture, at the end of the decade it was greater than one in most industries. Although part of this increase may reflect the use of credit-intensive innovative production and marketing technologies, the increase in the ratio during the recession years indicates that the trend also resulted from the decline in demand for the industries' product as well as from firms' financing problems. This is evident from the rise in inventories of goods in the various industries in the last three years (Figure 2.12). Demand for credit may also have increased in 1999 due to expectations of an economic recovery in the near future, as reflected by a rise in business-sector capital stock during the year (Figure 2.12).

The Bank of Israel's *Companies Survey* data also show that the demand for credit of the commerce industry rose despite the recession. Quality data on the industry's sales (based on reports from a large sample of firms in the industry) and on the percentage of sales by credit during the 1990s indicate that in periods when sales fell, the ratio of sales on credit remained unchanged and sometimes even increased, while during periods of growing sales, this ratio actually fell (Figure 2.13). It would appear therefore that firms in the commerce sector increased their demand for credit during periods of falling sales in order to provide credit to their customers.

Figure 2.12
Key Economic Indicators,[a] 1992–99



[a] At December 1999 prices.
SOURCE: Returns to Supervisor of Banks and *Bank of Israel Annual Report*.

Thus, in the past three years, which were notable for an economic slowdown, three trends in demand for credit can be discerned: a. A rise in the demand for credit to finance corporate acquisitions within the framework of the privatization process; b. An increase in demand, principally among large firms, in order to finance working capital and investment in stocks of goods; c. An expansion of credit to large borrowers, who are usually financially solid, thereby increasing the banks' credit portfolios.

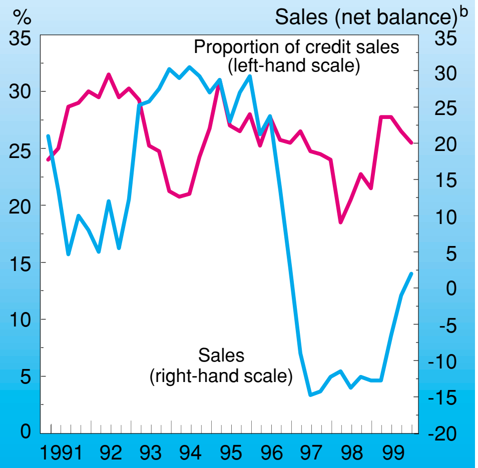
4. OTHER USES

Two major developments were evident in 1999 in banks' uses that do not directly constitute extending credit—deposits at the mortgage banks and deposits at the Bank of Israel within the framework of deposit auctions. Another notable development was the increase in the stock of liquid assets in the banks' balance sheets: an 81 percent increase in local-currency banknotes and coins (Table 2.4) and 48 percent in foreign-currency banknotes and coins (Table 2.7). This development occurred chiefly towards the end of the year, when Y2K-associated apprehensions led to an exceptional surge in the demand for money.

The banks' deposits at the mortgage banks increased by NIS 6 billion in 1999, continuing the trend of recent years whereby the provident funds' supply of deposits to the mortgage banks has declined, and the commercial banks have taken their place. Note, too, the continued rise in the commercial banks' deposits at the Bank of Israel within the framework of deposit tenders, which are used *inter alia* as a means for sterilizing the expansionary effect of capital inflow to Israel. As stated, these deposits expanded by NIS 8 billion during the year reviewed, and their balance at the end of the year totaled NIS 50 billion. The commercial banks' foreign currency deposits at the Bank of Israel also increased substantially during the year, by 36 percent, and totaled \$2.6 billion (Table 2.7).

The interest rates on local-currency deposits at these auctions ranged from 13.57 percent during the first quarter of 1999 (compared with an average cost of 11.7 percent for total unindexed sources at the banks during that quarter, Table 2.5) and 11.62 percent in the last quarter of the year (compared with an average cost of 10 percent for unindexed sources). The interest-rate spread between the cost of raising unindexed sources and the yield on deposit auctions during 1999 therefore varied between 1.6 percent and 1.8 percent—similar to the rate in 1998. These uses have a lower interest-rate spread and lower level of risk than those associated with extending credit.

Figure 2.13
Sales in Commerce, and Proportion of Credit Sales,[a] 1990–99



[a] Moving average, four quarters.
[b] Net balance: index of sales development (see Bank of Israel *Companies Survey*).
SOURCE: *Companies Survey*, Bank of Israel.

5. CHANGES IN BALANCE-SHEET BALANCES

An examination of the changes in the commercial banks' balance-sheet balances shows that during the year reviewed the banks extended incremental credit to residents and nonresidents (after deducting the decrease in credit from earmarked deposits) of NIS 31 billion, increased their investments in securities and cash-in-vaults by NIS 6 billion (in preparation for Y2K), and expanded their deposits at the mortgage banks by NIS 6 billion. Overall, traditional uses increased by NIS 43 billion. For these purposes and for other requirements, the banks raised NIS 53 billion from the public (including foreign residents) via deposits and savings schemes. The banks deposited their NIS 10 billion of surplus sources in local- and foreign-currency deposits at the Bank of Israel. In unindexed local-currency activity, a new surplus of NIS 14 billion of balance-sheet uses was created. Part of this surplus was directed into financing surplus uses (demand) in the CPI-indexed segment (NIS 7 billion), and part of it was employed for financing the surplus uses that arose in the foreign-currency segment in the course of the year (NIS 7 billion).

6. INTEREST RATES AND SPREADS

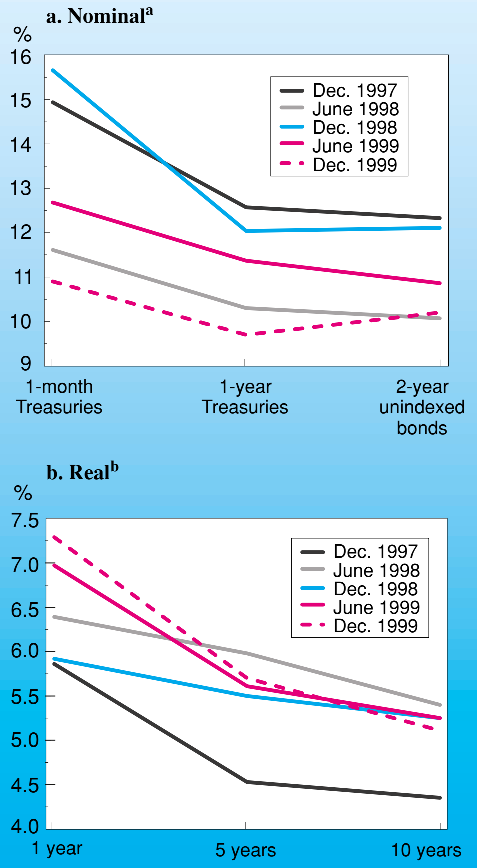
a. Interest rates

As a result of liberalization measures and price stabilization, interest rates in the different segments of activity have converged over the years (Figures 2.4 and 2.7). However, the steep depreciation at the end of 1998 (which proved to be temporary) led to a deviation in foreign-currency yields and costs in this segment, and these converged to the general trend again only in June 1999. An examination of the term structure of the nominal interest-rate curve shows that the expectations of a decline in inflation and interest rates during recent years formed a term structure that descends from left to right (Figure 2.14). The slope of the curve becomes more moderate with time and as the forecast declines materialized. As a result, in December 1999 the curve was flat. The relative location of the curve at any point in time reflects the level of interest rates prevailing then relative to their levels at other points in time. Following the rise in nominal interest rates at the end of 1998, the curve shifted upwards (Figure 2.14). Subsequently as stated, the curve gradually moved downwards during the year under review. The situation with respect to real interest rates during this period and for the medium and long terms was slightly different, with the term structure actually moving upwards relative to December 1997, especially for the medium term.

Unindexed local-currency interest rates: As in the past, the development of nominal interest rates (principally in the unindexed local-currency segment, Figure 2.15) was dictated by monetary policy during 1999. However, since monetary policy takes the public's demand for financial services into account, the development of this demand for credit affected interest rates.

In response to the rise in the Bank of Israel's key interest rate at the end of

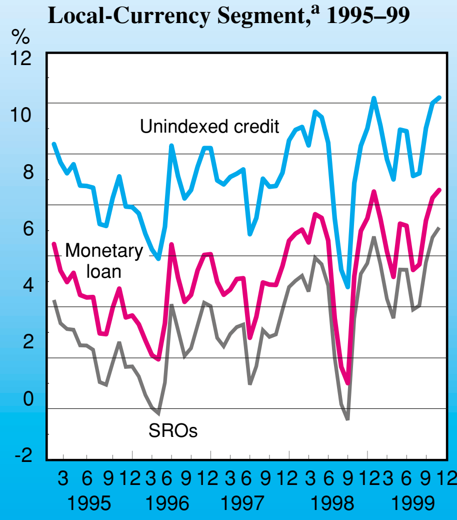
Figure 2.14
Time Structure of Yields, 1997–99



[a] Unindexed assets.
[b] Indexed assets.
SOURCE: Returns to Supervisor of Banks, and Monetary Department, Bank of Israel.

1998, both nominal and real interest rates increased and remained high throughout the first quarter of 1999. Subsequently, and in line with monetary policy, nominal interest rates fell in the course of the year. Due to the growth in the public's demand for credit in 1999, real interest rates throughout this period of downturn were higher than those that would have been obtained had this not been the case (Figure 2.15). The real interest rate on unindexed credit rose from 9.4 percent in 1998 to 10.7 percent in 1999 (Table 2.5).

Figure 2.15
Real Interest Rates in the Unindexed Local-Currency Segment,[a] 1995–99



[a] See notes to Table 2.5.
SOURCE: Returns to Supervisor of Banks.

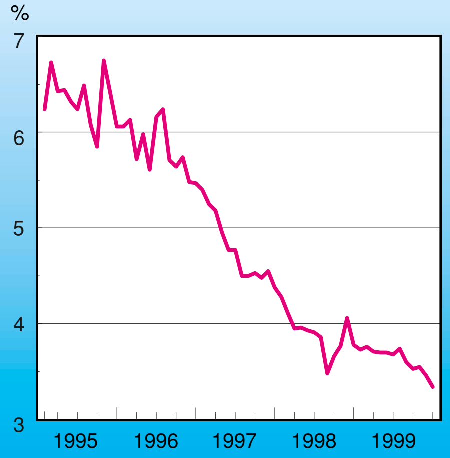
Interest rates in the CPI-indexed segment: The shortage of long-term sources and the growth in the government's borrowing requirements in 1999 led to a rise in the real yield on bonds and in the interest rates on CPI-indexed activity during 1999. Particularly large increases were recorded in short- and medium-term interest rates (up to 5 years). The higher (ex post) real interest rate on unindexed activity also served to increase interest rates on longer-term activity in the CPI-indexed segment. The average annual interest rate on CPI-indexed credit rose from 5.7 percent in 1998 to 6.6 percent in 1999.

Interest rates in the foreign-currency segment: The level of interest rates in dollar terms within this segment is usually dictated by developments in the dollar Libor interest rate. Accordingly, it was found that even though the annual average Libor interest rate remained stable at 5.3 percent, it rose gradually in the course of the year after falling by half a percentage point at the beginning of the year. Interest rates in local-currency terms in this segment are largely determined on the basis of exchange-rate developments. Average annual real interest rates in local-currency terms rose in 1999 due to the real depreciation during the first half of the year (Table 2.5). However, the reversal of the exchange-rate trend during the second half of the year, and especially in the last quarter, greatly reduced the cost of foreign-currency credit in local-currency terms thereafter.

b. Interest-rate spreads

Apart from the impact of monetary policy, interest-rate spreads are also affected by the conditions in the capital and money markets and by the commercial banks' market power. The moderate decline in the interest-rate spread in the unindexed local-currency segment persisted in 1999 (Figure 2.16). The interest-rate spread, which is calculated as the difference between the weighted interest rate on total unindexed uses and the weighted

Figure 2.16
Interest-Rate Spread in the Unindexed Local-Currency Segment,[a] 1995–99



[a] The spread between the weighted interest on total assets and that on total liabilities.
SOURCE: Returns to Supervisor of Banks.

interest on total unindexed sources, fell from an annual average of 3.9 percentage points in 1998 to 3.7 percentage points in 1999 (nominal rates, Table 2.5). This trend reflects the process of the liberalization of the money market.

The reduced supply of long-term sources and the government's increased borrowing requirements during the year raised the cost of indexed sources and led to the employment of more expensive unindexed sources for financing uses in the CPI-indexed segment. Accordingly, the banks raised their interest rates on CPI-indexed credit extended in 1999 by more than the rise in the cost of the CPI-indexed sources obtained in the course of the year. The interest-rate spread rose from an annual average of 1.6 percent in 1998 to 2.4 percent in 1999 (with reference, as stated, to new and/or renewed activity; the interest rates presented in the tables refer solely to this activity, Table 2.5). Despite the increase in exchange-rate volatility at the end of 1999 and the moderate decrease in the dollar interest-rate spread in 1999, the interest-rate spread in the foreign-currency segment remained stable and amounted to 2 percentage points (Table 2.5). Noted that activity in the foreign currency segment serves largely as a substitute for financial activity abroad. The interest-rate spread in this segment is lower in Israel than in the EU, where it stabilized at 3.3 percentage points in 1999 (Table 2.11).

7. OFF-BALANCE-SHEET ACTIVITY AND ASSET SURPLUSES IN THE BALANCE-SHEET SEGMENTS

The banks' off-balance-sheet activity includes *inter alia* guarantees for securing credit and other guarantees, as well as futures transactions and exchange-rate options. Due to the Bank of Israel's withdrawal from the foreign-exchange market and the banks' emergence as market makers in it, their need for instruments for avoiding exposure to exchange-rate risks has increased. In view of these developments, it is only natural that the public's demand for such instruments from the banks has increased.

Table 2.12 gives details of the volumes of the banks' activity as reported in their contingent accounts and with respect to futures transactions. It can be seen that this activity has expanded since 1994, e.g., the balance of guarantees and documentary credits

Table 2.11
Interest Rates and Spreads, Selected Countries, 1997–99

(percent)

	1997		1998		1999[a]		1999[a]
	Deposits	Credit	Deposits	Credit	Deposits	Credit	Interest spread
UK	5.02	7.79	5.92	8.64	3.90	6.82	2.92
Denmark	2.65	5.63	3.08	5.68	2.30	5.00	2.70
Greece	10.11	18.92	10.70	18.56	8.50	15.20	6.70
Norway	3.63	5.95	7.24	7.91	5.98	8.28	2.30
Sweden	2.09	6.35	2.10	5.81	1.02	4.64	3.62
Switzerland	1.00	4.48	0.69	4.07	0.50	3.80	3.20
Euro-11[b]	3.41	7.56	3.20	6.74	2.22	5.49	3.27
US	5.60	8.44	5.47	8.35	5.50	8.25	2.75
Japan	0.30	2.42	0.27	2.32	0.10	2.15	2.05
Israel (unindexed)[c]	12.00	18.70	10.20	16.20	10.60	16.40	5.80
Israel (indexed)[d]	3.20	4.80	4.10	5.70	4.20	6.60	2.40

[a] Data are for June 1999, except for Israel, where figures are updated to end-1999.
[b] Average weighted data for the eleven countries of the euro zone.
[c] Nominal rates in unindexed local-currency segment in Israel (see Table 2.5).
[d] Nominal rates in CPI-indexed local-currency segment in Israel (see Table 2.5).
SOURCE: Banking Supervision Department, and *Eurostat 12*, 1999.

has doubled in the past six years. However, the volume of foreign-currency futures transactions fell during 1999 in comparison with 1998, mainly due to the substantial decrease in exchange-rate volatility in the course of the year. Data on the volume of futures contracts between the public and the banks for the purpose of hedging against changes in the nominal interest rate and the real interest rate during 1999 (see Bank of Israel, *Annual Survey of the Money and Capital Markets*, 1999) shows that the public mainly purchased contracts to hedge against a decline in the nominal interest rate as well as against a rise in the real interest rate. As suppliers of these hedging instruments, the banks exposed themselves to an unexpected drop in the nominal interest rate and to an unexpected rise in the real interest rate. The banks' balance-sheet positions in the various activity segments in 1999 had the effect of reducing this exposure, however, as surplus unindexed sources served to finance foreign-currency uses, the duration of which is longer than that of unindexed sources. As a result, the composition of sources and uses in the banks' various balance-sheet segments enabled them to offer the public hedging contracts against a decline in the nominal interest rate while reducing their exposure to interest-rate risks.

Table 2.12
Contingent Accounts and Futures Transactions, 1994–99

(NIS million, Dec. 1998 prices)

	1994	1995	1996	1997	1998	1999	Rate of change (%) 1994–99	1998–99
Credit guarantees	13,160	12,956	15,957	18,318	20,199	24,953	90	24
of which In local currency	9,868	10,561	12,937	13,437	12,977	15,433	56	19
In foreign currency	3,291	2,395	3,019	4,881	7,223	9,519	189	32
Documentary credits	5,556	5,385	3,804	3,796	3,345	3,449	–38	3
of which In local currency	91	109	55	0	0	0		
In foreign currency	5,465	5,275	3,749	3,796	3,345	3,449	–37	3
Guarantees and other liabilities	24,267	33,852	39,636	43,030	57,852	57,011	135	–1
of which In local currency	21,972	30,045	35,184	35,874	49,087	48,029	119	–2
In foreign currency	2,295	3,806	4,451	7,156	8,772	8,982	291	2
Total	**42,981**	**52,192**	**59,396**	**65,144**	**81,403**	**85,413**	**99**	**5**
of which In local currency	31,930	40,715	48,177	49,312	62,064	63,463	99	2
In foreign currency	11,051	11,478	11,219	15,832	19,340	21,950	99	13
Future purchases of foreign currency	46,007	38,811	40,942	74,474	96,518	67,852	47	–30
of which From residents and nonresidents	22,052	19,491	19,451	29,649	39,922	26,299	19	–34
From banking corporations	23,956	19,319	21,490	44,826	56,596	41,553	73	–27
Future sales of foreign currency	47,006	41,189	44,986	75,106	99,706	73,945	57	–26
of which To residents and nonresidents	22,950	19,299	22,122	28,022	39,942	27,921	22	–30
To banking corporations	24,056	21,888	22,864	47,085	59,764	46,024	91	–23
Foreign currency put options	13,916	8,284	9,478	14,200	29,429	23,711	70	–19
Foreign currency call options	13,787	8,122	9,330	14,040	29,241	23,862	73	–18

SOURCE: Monthly returns to Supervisor of Banks.