Chapter 2

Financial Activity of the Commercial Banks

The commercial banks' activity continued expanding in 2000, at a rapid rate of 6 percent. This occurred against the background of accelerated economic activity in the first nine months of the year, albeit at a more moderate rate of increase than in 1998 and 1999. The most notable features evident during the year were the persistent rapid growth of credit (12 percent), expanded activity in the unindexed local-currency segment and contraction of activity in the indexed segment, mainly in the form of withdrawals of almost NIS 10 billion from indexed savings schemes, as the low-inflation environment became more firmly established.

Since 1992 commercial banks' credit has been expanding rapidly, reaching an average increase of 12 percent a year. Credit growth was reflected by a constant rise in the credit/GDP ratio and by an increase of the ratio of bank finance to companies' equity in the last few years.

The main reasons for the increase in total credit since 1997 include: the significant expansion of credit granted for the purpose of takeovers of corporations; a marked rise in the stock of gross capital in the economy resulting from the need to reestablish the capital/GDP ratio following its decline in the first half of the 1990s in the wake of the influx of immigrants; accelerated growth of high-tech industries, mainly in manufacturing and communications; and a greater need for financing companies' working capital related to the slowdown in economic activity, mainly in construction, commerce, and the traditional industries.

Lower rates of interest on the monetary loans during the year were reflected by reductions in short-term market rates of real interest on both credit and deposits, but they remained high relative to past rates and were similar to those in 1998 and 1999. In the unindexed local-currency segment the interest-rate spread continued along its downward path. Long-term interest rates continued to rise, as indexed assets became less attractive with the establishment of a low inflation environment. This development, combined

with the reduction in demand for unindexed credit, was expressed *inter alia* in a contraction of the interest-rate spread in the segment. Despite the rise in the Libor dollar interest rate, the interest-rate spread in the foreign-currency segment remained stable in dollar terms. Real interest in this segment in NIS terms did not change significantly during the year either, in spite of the uncertainty regarding the security situation and the reduction in the inflow of capital from foreign investors which resulted from it and from the worldwide financial crises. The relative stability of the real rates of interest in the segment reflect the stabilizing activity of the business sector in the foreign-currency market, which prevented more severe fluctuations in the exchange rate.

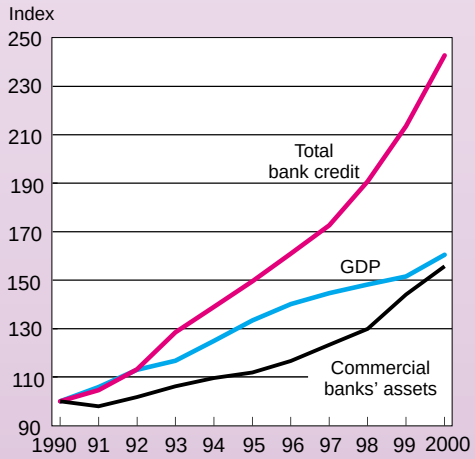
From the long-term aspect a trend of convergence of interest rates on both deposits and credit in the different segments is evident, against the background of extensive liberalization and more intense competition in the money markets.

1. INTRODUCTION [1]

The activity of the commercial banks continued expanding rapidly in 2000, although more slowly than in 1998 and 1999 (Figure 2.1). Their assets grew by 6 percent, compared with annual increases of 11 percent in 1998 and 1999, and at the end of the year stood at NIS 607 billion (Table 2.1).

Credit to the public, which increased by 12 percent in 2000 (Table 2.2), similar to its rise in 1999, continued at the forefront of banking activity, and its share of total assets went up to 58 percent, from 55 percent in 1999. On the other hand, deposits of the public increased more moderately, by 9 percent, after rising by 13.6 percent in 1999 and 12 percent in 1998. The outcome of these developments was that banks had less need to channel the public's surplus deposits into additional uses, so that the growth of the banks' other assets slowed, headed by deposits with the Bank of Israel. The deceleration in the rise of the public's deposits, which encompassed all segments, was especially marked in the indexed segment, where deposits actually declined,

Figure 2.1
The Activity of the Banking System, and GDP, 1990–2000[a]



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

[1] This chapter analyzes the banks' balance-sheet activity; off-balance-sheet activity and its inherent risks are analyzed in Chapter 5.

Table 2.1
Assets and Liabilities[a] of the Commercial Banks (Israel Offices),[b] by Segment, 1998–2000

	End-of-year balances (NIS million)[b]			Real change (%)		Annual average balance (NIS million)[b]		Real annual change (%)	Balance-sheet composition (%)	
	1998	1999	2000	1999	2000	1999	2000	2000	1999	2000
Total assets	***514,926***	***572,993***	***607,445***	***11***	***6***	***542,038***	***584,958***	***8***	***100***	***100***
Total liabilities	***514,926***	***572,993***	***607,445***	***11***	***6***	***542,038***	***584,958***	***8***	***100***	***100***
Local currency										
Unindexed										
Assets	161,132	192,497	223,509	19	16	173,576	201,808	16	32	34
Liabilities	169,548	215,042	252,322	27	17	190,187	227,668	20	35	39
Derivatives	–	17,040	24,088		41		22,021			4
Surplus (+)/Deficit(–)[d]	–8,416	–5,505	–4,725	.	.	–16,611	–3,839	.	.	.
CPI-indexed[e]										
Assets	154,428	160,936	154,350	4	–4	159,012	157,811	–1	29	27
Liabilities	146,557	147,137	135,858	0	–8	147,532	142,009	–4	27	24
Derivatives		1,695	–1,940				117			
Surplus (+)/Deficit(–)[d]	7,871	15,494	16,551	.	.	11,480	15,919	.	.	.
Foreign-currency (indexed and denominated)										
Assets	171,041	188,643	196,922	10	4	179,634	193,349	8	33	33
Liabilities	163,316	173,605	179,788	6	4	167,466	176,287	5	31	30
Derivatives		–18,725	–22,148		18		–22,127			–4
Surplus (+)/Deficit(–)[d]	7,725	–3,687	–5,014	.	.	12,168	–5,065	.	.	.
Buildings, etc.[f]	28,325	30,916	32,664	9	6	29,816	31,990	7	6	5
Equity, etc.[g]	35,505	37,208	39,477	5	6	36,852	38,994	6	7	7
Surplus (+)/Deficit(–)[h]	–7,180	–6,292	–6,813	.	.	–7,036	–7,004	.	.	.

[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. 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] At December 2000 prices.
[d] A positive number denotes a surplus of assets over liabilities; a negative number denotes an excess of liabilities over assets.
[e] Including the indexation option segment.
[f] Buildings, equipment, and nonfinancial assets; including investment in subsidiaries and affiliates.
[g] Equity and nonfinancial liabilities (deferred capital notes).
[h] A deficit in the ownership segment denotes positive financial capital.
SOURCE: Returns to Supervisor of Banks.

indicating that the public's assessments regarding the lower inflation environment had now become firmly established. The slowdown in the increase of the public's deposits was reflected in a further fall in the share of its assets held in banks, following its considerable decline in 1999 (Table 2.3).

The expansion of activity in the banking system took place against the background of accelerated economic activity in all fields in the first nine months of 2000. In this period there was rapid economic growth, led by exports, particularly of high-tech industries. Despite the reversal of the trend in the last quarter of the year, expressed by an actual reduction in output, over the year as a whole GDP grew by 5.9 percent, and business-sector gross product by 7.7 percent.

The slowdown in economic activity which was very evident in the last quarter of 2000 continued in the first quarter of 2001, with GDP growing at an annual rate of only 1.7 percent relative to the previous quarter. The security-related events, the world crisis in high-tech industries, and falling stock markets world wide are having a negative effect on the activity of companies in various industries, particularly in those related to tourism, construction and real estate, and high-tech. These developments increased banks' credit risk, especially with the industries experiencing difficulties (see Chapter 5).

Two further central factors made their mark on commercial banks' activity in 2000: the increase in the number of Israeli companies raising capital in Israel and abroad, and the deepening of the involvement of foreign non-bank financial intermediaries, mainly in venture-capital funds. These developments indicate both the greater financial openness of Israel's economy, with its improved credibility in the eyes of foreign investors, and increased competition in the banking system from nonbanking institutions, with the extension of the range of financing and investment possibilities facing Israelis. Since the last quarter of 2000, however, the inflow of foreign capital has fallen, due to the security situation, the world crisis in high-tech industries, and falling stock markets world wide.

Despite wider use of alternative financing from outside the banking system, credit continued expanding rapidly, continuing the trend evident over the last decade, particularly in the three years of economic slowdown, 1997–99. Although the marked increase in credit in 2000 may be attributed to the accelerated economic activity in the first nine months of the year, nevertheless—as the spurt was concentrated in start-ups, which enjoy the advantage of special substitutes for domestic credit—certain queries regarding the rapid growth of credit also in that period remain unanswered. The element of surprise increases as credit growth continued in the first quarter of 2001 at a similar rate to that in the first quarter of 2000, i.e., 18 percent in annual terms. A satisfactory explanation for the persistent rapid rise of credit since 1997 is still wanting.

In examining this issue, certain central macroeconomic occurrences which took place since 1997 may be identified which may also throw light on the path followed by credit in the same period. The major ones were:

1. Mergers and takeovers of companies, both in the private sector and also as part of the privatization process, which entailed taking ever larger amounts of bank credit to

Table 2.2
Distribution of Credit to the Public,[a] 1998–2000

	End-of-year balances (NIS million)[b]			Real change (%)		Annual average balance (NIS million)[b]		Real annual change (%)	Balance-sheet composition (%)	
	1998	1999	2000	1999	2000	1999	2000	2000	1999	20001999
Total credit to the public	**279,296**	**314,464**	**353,645**	**13**	**12**	**293,991**	**334,234**	**14**	**100**	**100**
Total local-currency credit	**180,990**	**201,615**	**233,388**	**11**	**16**	**189,791**	**218,467**	**15**	**65**	**65**
Unindexed	95,121	111,569	146,443	17	31	101,071	130,031	29	34	39
Overdraft acccounts and facilities[c]	36,096	37,207	42,058	3	13	36,921	40,591	10	13	12
Other short-term credit[c]	33,773	39,071	53,755	16	38	35,103	44,659	27	12	13
On-call credit	25,252	35,291	50,630	40	43	29,047	44,781	54	10	13
Indexed	85,869	90,046	86,945	5	–3	88,720	88,436	–0	30	26
To CPI	79,339	85,261	83,730	7	–2	83,164	84,500	2	28	25
To foreign currency	6,530	4,785	3,215	–27	–33	5,556	3,936	–29	2	1
Total foreign-currency credit	**98,306**	**112,849**	**120,257**	**15**	**7**	**104,200**	**115,767**	**11**	**35**	**35**
To residents	87,961	101,230	106,466	15	5	94,362	102,613	9	32	31
To nonresidents	10,345	11,619	13,791	12	19	9,838	13,154	34	3	4

[a] See note a to Table 2.1.
[b] At December 2000 prices.
[c] Includes only credit at the banks' responsibility; does not include credit to special banking corporations.
SOURCE: Returns to Supervisor of Banks.

buy control in them (leveraged buy-out). Credit repayment ability in these transactions depends mainly on the purchased corporation, sometimes even without right of recourse to borrower.[2]

2. A long and intense process of accumulating physical capital in the economy which restored the capital/GDP ratio to its level prior to the influx of immigrants, following its rapid decline in the first half of the 1990s.

Rapid accumulation of capital in the period of economic slowdown, 1997–99, encompassed most industries, with service and technology-intensive industries most notable among them, as a result of long-term structural changes which the economy is undergoing and the technological advances of the last few years. In most industries these changes were accompanied by a rise in the capital/labor ratio, as such developments by their very nature require significant investment. This process may be expected to increase demand for external sources of finance, headed by bank credit.

3. The slowdown in economic activity, which led to a contraction of working capital in companies affected, and made them turn to alternative sources, with bank credit heading the list.

In addition to the above, the incomplete data available indicate that the rise in credit partly reflects restructuring of debts of companies which ran into repayment difficulties due to the slowdown in economic activity.

The events described above were reflected by the continuation of the upward trend in the credit/GDP ratio, and apparently also in the increase in the extent of bank finance relative to equity in the activities of those corporations which availed themselves of this source of finance. An even greater rise in credit in 2000 was avoided due to the considerable increase in capital raised both in Israel and abroad. Data relating to the first quarter of 2001 indicate that the upward trend of the credit/GDP ratio continued.

The rapid rise of credit naturally made a positive contribution to the banks' profit, but at the same time increased their exposure to credit risk. Although no clear picture is available of the purposes for which credit was given, it can be seen from the possible channels through which it can be directed (described above) that part of the credit extended by the banks was into relatively risky channels, such as takeovers and financing working capital for companies in difficulty, and part into more 'solid' channels, including direct investment in industries with high growth potential such as advanced industries and communications. The crisis which these industries have been undergoing in the last few months has significantly raised the level of uncertainty regarding those borrowers' future repayment ability.

The Bank of Israel gradually reduced the rate of interest on the monetary loan during the year, by a cumulative total of three percentage points. This was reflected by reductions

[2] In other words, the bank has no right to payment from the borrower's total assets, but only from a source specified in the contract as collateral, and in this case, from the purchased corporation's sources (whether from its current cash flow, or from the sale of assets, or from some other significant actions by the purchased corporation).

Table 2.3
The Public's Asset Portfolio in Banks and not in Banks,[a] 1993–2000

	End-of-year balances (NIS billion, December 2000 prices)								Composition (%)								Real change (%)
	1993	1994	1995	1996	1997	1998	1999	2000	1993	1994	1995	1996	1997	1998	1999	2000	1999–2000
Financial assets																	
Unindexed local-currency deposits[b]	69.0	82.7	104.1	128.2	148.6	161.4	202.9	241.49	9.5	13.5	15.9	18.2	18.6	19.3	19.5	21.3	19.0
Deposits in and indexed to foreign currency[c]	52.4	52.6	52.3	54.2	54.2	84.8	89.1	89.70	7.2	8.6	8.0	7.7	6.8	10.1	8.6	7.9	0.7
Indexed and earmarked deposits[d]	63.9	58.0	75.9	72.3	77.9	70.7	69.5	71.66	8.8	9.5	11.6	10.3	9.8	8.5	6.7	6.3	3.1
Savings schemes	69.1	75.1	82.2	92.8	97.1	103.7	106.8	98.53	9.5	12.3	12.6	13.2	12.2	12.4	10.3	8.7	–7.8
Total in banks[e]	**254.4**	**268.3**	**314.5**	**347.5**	**377.7**	**420.5**	**468.3**	**501.4**	**35.2**	**43.9**	**48.1**	**49.3**	**47.3**	**50.3**	**45.0**	**44.2**	**7.1**
Cash in hands of public	7.8	7.7	8.8	9.1	9.7	10.1	11.1	11.82	1.1	1.3	1.3	1.3	1.2	1.2	1.1	1.0	6.3
Traded bonds and Treasury bills[f]	125.0	117.7	113.9	114.9	128.8	130.2	139.2	151.40	17.3	19.2	17.4	16.3	16.1	15.6	13.4	13.3	8.8
Nontraded bonds[g]	85.7	95.4	98.3	109.9	119.9	115.6	130.3	144.30	11.8	15.6	15.0	15.6	15.0	13.8	12.5	12.7	10.7
Shares[h]	236.9	116.3	111.5	115.5	142.1	132.9	221.9	241.43	32.7	19.0	17.1	16.4	17.8	15.9	21.3	21.3	8.8
Residents' investments abroad	14.0	6.7	7.2	7.5	20.4	27.0	70.5	84.43	1.9	1.1	1.1	1.1	2.6	3.2	6.8	7.4	19.8
Total not in banks	**469.4**	**343.7**	**339.7**	**357.0**	**420.8**	**415.7**	**573.0**	**633.4**	**64.9**	**56.2**	**51.9**	**50.7**	**52.7**	**49.7**	**55.0**	**55.8**	**10.5**
Total assets of the public	**723.6**	**611.9**	**654.1**	**704.4**	**798.4**	**836.2**	**1,041.3**	**1,134.8**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**9.0**
In provident institutions[i]	251.3	257.9	258.6	261.6	292.9	296.1	325.5	271.65	34.7	42.1	39.5	37.1	36.7	35.4	31.3	23.9	–16.5
In provident funds[j]	157.0	144.6	142.7	127.0	141.1	139.7	155.0	160.71	21.7	23.6	21.8	18.0	17.7	16.7	14.9	14.2	3.7
Total assets of mutual funds	51.7	26.5	20.5	15.5	21.9	22.9	35.9	43.97	7.1	4.3	3.1	2.2	2.7	2.7	3.4	3.9	22.4
Direct holdings of public[k]		143.9	155.3	155.1	206.3	203.8	330.3	371.8		23.5	23.7	22.0	25.8	24.4	31.7	32.8	12.6

[a] The public does not include the government, the Bank of Israel, the commercial banks, or mortgage banks.
[b] Including unindexed earmarked deposits.
[c] All types of residents' 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 corporate bonds.
[g] Earmarked government bonds and non-negotiable corporate bonds.
[h] Non-bank 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.
[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.

in the short-term market rates of real interest on credit and deposits, but the rate remained high relative to past levels, and was similar to that in 1998–99 (Figures 2.10 and 2.11). The downward trend of the interest-rate spread in the unindexed local-currency segment persisted. This is consistent with the continued liberalization process in the money markets and with the positive long-term correlation between interest on the monetary loan and the interest-rate spread in the unindexed local-currency segment.

Long-term interest rates continued rising in 2000, and average marginal interest on savings schemes reached a real annual rate of about 5 percent, as indexed assets became less attractive with the low inflation environment becoming entrenched. It seems that the public's tendency to hold tradable indexed assets is weakening, persisting only at a higher level of returns than in the past. This change, combined with the decline in demand for indexed credit, is reflected in, among other things, the contraction of the interest-rate spread in the segment.

Despite the rise in the Libor dollar interest rate, the interest-rate spread in the foreign-currency segment remained stable, in dollar terms. Real interest in the segment, in NIS terms, did not change significantly during the year either, in spite of the uncertainty created by the security situation and the reduced capital inflow from foreign investors resulting from that uncertainty and from the worldwide financial crises. Among other things, the relative stability of real interest in the segment reflected the stabilizing activity of the business sector in the foreign-currency market, which prevented wider fluctuations of the exchange rate.

Viewed from a long-term perspective, a trend can be seen whereby interest rates on both deposits and credit in different segments converge, except for temporary deviations at times of sharp changes in the NIS exchange rate. This trend developed against the backdrop of further liberalization and more intense competition in the money markets.

2. THE PUBLIC'S[3] ASSET PORTFOLIO AND ITS SUPPLY OF DEPOSITS TO THE BANKS

a. The public's asset portfolio

The banking system's sources increased by 6 percent in the course of 2000, after rising by 11 percent in 1999 (Table 2.1). These sources, consisting mainly of deposits from the public, constitute a significant component in the public's asset portfolio (Table 2.2). The public's financial assets grew by about 9 percent in 2000, in line with the trend evident since 1994. Most of the increase was in unindexed local-currency deposits, which rose by some NIS 37 billion, or 18 percent.

[3] The public includes households and companies (including institutional investors), but does not include the Bank of Israel, the commercial banks, or nonresidents.

The increase in unindexed local-currency assets provided the main contribution to the persistence of the trend which started at the end of the 1980s—the preference for short-term assets with relatively high liquidity over long-term assets. This trend, which derives from, among other things, the reduction in the inflation environment, together with the reduction of the risk incurred in investing in unindexed local-currency assets, was boosted by relatively high Bank of Israel rates of interest. The change in the government's policy of debt restructuring had a similar effect, as the share of unindexed government bonds in total government issues continued to grow in 2000. The share of these bonds in the total amount of government borrowing via bonds surged from 57 percent in 1999 to 88 percent in 2000.

Assets of the public held in banks reflected the preference for short-term assets, as the share of unindexed local-currency deposits rose from 43 percent of total bank deposits in 1999 to 48 percent in 2000, consistent with the reduction in the share of indexed deposits and savings schemes from 38 percent to 34 percent. This was mainly due to the negative accrual in CPI-indexed savings schemes (Table 2.3).

The change in the public's preferences over the last two years was also reflected in an increase in its activity outside the banking system in general, and specifically in the domestic capital market and in short-term financial investments abroad.

Unlike in 1999, when the proportion of shares in the financial portfolio rose considerably, in 2000 this component of the portfolio was relatively stable. This occurred despite the sharp changes in share prices—an upward trend until September and steep falls thereafter—with the result that over the year as a whole share prices showed hardly any change (a rise of 0.3 percent).

Israelis' investments abroad continued rising in 2000, following the trend which started in the second half of 1997. The rise in 2000 resulted mainly from a) the steep increase in investments in deposits abroad, the source of which was the large amount of capital raised abroad by Israeli companies, some of which was deposited for short periods, and b) transfers from Israel into these deposits, made possible by the removal of foreign-currency control restrictions on transfers abroad of deposits by corporations and individuals.

Taking a long-term perspective, two major changes in the composition of the public's assets portfolio stand out: one is the marked rise in the share of assets held within the banking system from 1994 to 1998, and the decline in 1999–2000, back to the 1994 level. The second is the continuous reduction since 1994 in the public's assets held in provident funds, concomitant with the constant rise in its assets held directly.[4]

[4] See definitions in Table 2.2.

b. Unindexed local-currency deposits

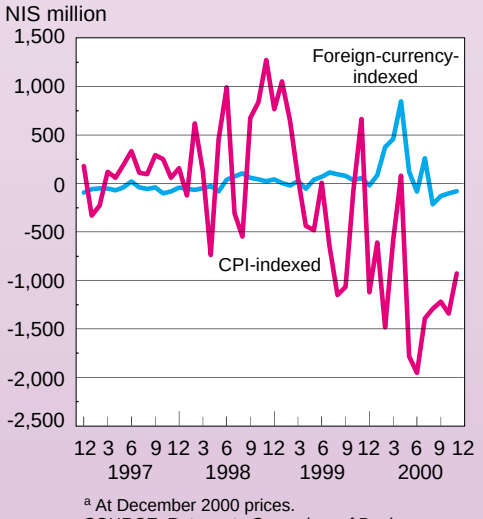
The unindexed local-currency deposits aggregate grew rapidly in 2000, by 18 percent, following the 26 percent rise in 1999, which was in part affected by the preparations to deal with the Bug 2000 issue (Table 2.4). In contrast to the trend towards short-term assets, in 2000 the public's less liquid unindexed deposits (PAZAK—unindexed resident time deposits) increased more rapidly than did the more liquid ones (PAHAK—self-renewing overnight deposits (SROs)), as had occurred in 1999 too. These developments can be explained by the dispelling of some of the uncertainty regarding inflation, together with the higher rates of interest on PAZAK deposits, higher than other unindexed local-currency alternatives and higher than the rates of interest on indexed deposits for periods longer than a year (Table 2.5).

In the first quarter of 2001 the public's deposits in the unindexed local-currency segment continued expanding at an annual rate similar to that in the first quarter of 2000, with a small rise in the share of PAZAK at the expense of the more liquid PAHAK.

c. CPI-indexed deposits of the public

In 2000, for the first time, there was a significant (6 percent) decline in the public's CPI-indexed deposits, following two years of relatively modest increases (Table 2.6). The reduction, which in 2000 reached an unprecedented NIS 10 billion (Figure 2.2), reflects the negative accrual in the commercial banks' approved savings schemes. From 1994 to 1996 deposits in savings schemes increased, with the huge withdrawals from provident funds resulting from the structural changes introduced in that field,[5] as the funds which became available were channeled into the banks. Since then this element has reduced in scale, a natural occurrence as the process of adjusting to the structural changes came to an end. At the same time there has been a clear move of the public's savings into short-term unindexed local-currency channels, in the light of the rise in real returns on such short-term deposits and the lowering of inflation and its volatility. The fact that most deposits in

Figure 2.2
Net Accumulation in CPI-Indexed and Foreign-Currency-Indexed Savings Schemes,[a] 1997–2000



[a] At December 2000 prices.
SOURCE: Returns to Supervisor of Banks.

[5] For details see the 1999 issue of this publication.

Table 2.4
Unindexed Local-Currency Assets[a] and Liabilities,[b] 1998–2000

	End-of-year balances (NIS million)[c]			Real end-of-year change (%)		Annual average balance (NIS million)[c]		Real annual change (%)	Balance-sheet composition (%)	
	1998	1999	2000	1999	2000	1999	2000	2000	1999	2000
Assets										
Notes and coins	1,909	3,452	2,312	81	–33	2,308	2,433	5	1	1
Deposits in Bank of Israel	45,393	53,893	56,547	19	5	49,689	51,254	3	29	25
Deposits in banks	3,907	6,018	5,845	54	–3	4,882	6,478	33	3	3
Credit to the public	95,122	111,569	146,444	17	31	100,966	130,031	29	58	64
Treasury bills and unindexed government bonds	11,746	13,972	8,626	19	–38	12,551	7,782	–38	7	4
of which Treasury bills	6,747	7,900	4,441	17	–44	7,478	4,258	–43	4	2
Other assets	3,055	3,593	3,735	18	4	3,180	3,830	20	2	2
Total assets	**161,132**	**192,497**	**223,509**	**19**	**16**	**173,576**	**201,808**	**16**	**100**	**100**
Liabilities										
Monetary loan from Bank of Israel	741	715	711	–4	–1	820	740	–10	0	0
Deposits from banks	2,654	5,098	4,711	92	–8	3,744	5,015	34	2	2
Deposits of the government	345	306	671	–11	119	323	406	26	0	0
Total deposits of the public	160,849	202,109	239,420	26	18	180,189	214,841	19	95	94
Demand deposits	15,137	17,933	18,536	18	3	14,206	16,201	14	7	7
SRO deposits	19,793	23,446	26,406	18	13	19,616	24,672	26	10	11
Resident time and short-term deposits	124,438	158,697	191,294	28	21	144,774	171,455	18	76	75
Other deposits	1,481	2,034	3,184	37	57	1,593	2,512	58	1	1
Other liabilities	4,959	6,814	6,809	37	–0	5,111	6,666	30	3	3
Total liabilities	**169,548**	**215,042**	**252,322**	**27**	**17**	**190,187**	**227,668**	**20**	**100**	**100**
Derivatives		17,040	24,088				22,021			
Surplus of assets over liabilities	**–8,416**	**–5,505**	**–4,725**			**–16,611**	**–3,839**			

[a] Assets at the banks' responsibility.
[b] See note a to Table 2.1.
[c] At December 2000 prices.
SOURCE: Monthly returns to Supervisor of Banks.

Table 2.5
Average Annual Yields on Selected Assets and Liabilities, 1999–2000

(percent)

	Nominal yields						Real yields[i]					
	Annual average		2000				Annual average		2000			
	1999	2000	I	II	III	IV	1999	2000	I	II	III	IV
Unindexed local-currency segment												
Demand deposits[a]	2.2	2.1	2.8	2.1	1.8	1.7	–2.7	–0.3	0.2	–1.3	–0.5	0.3
SRO deposits[a]	10.7	8.0	9.0	8.1	7.7	7.0	5.4	5.4	6.2	4.5	5.3	5.6
Resident time deposits[a]	11.3	8.6	9.6	8.7	8.4	7.8	6.0	6.1	6.8	5.1	6.0	6.3
Monetary loan	12.5	9.3	10.4	9.5	9.1	8.4	7.1	6.7	7.5	5.9	6.7	6.9
Total unindexed sources	**10.6**	**8.1**	**9.1**	**8.2**	**7.9**	**7.3**	**5.3**	**5.5**	**6.2**	**4.6**	**5.5**	**5.8**
Term credit[a]	14.9	11.6	12.8	11.7	11.3	10.6	9.3	8.9	9.8	8.0	8.9	9.1
Overdraft accounts and facilities[a]	19.1	15.8	16.9	15.9	15.5	14.9	13.3	13.1	13.9	12.1	13.0	13.3
Total unindexed credit	**16.4**	**12.8**	**14.1**	**13.0**	**12.6**	**11.8**	**10.7**	**10.2**	**11.1**	**9.2**	**10.1**	**10.3**
Treasury bills[b]	12.3	10.0	11.7	8.2	9.8	10.2	6.9	7.4	8.8	4.6	7.4	8.8
Banks' deposits in the Bank of Israel[c]	10.8	8.0	9.0	8.1	7.8	7.3	5.5	5.5	6.2	4.5	5.4	5.8
Total	14.3	11.4	12.4	11.5	11.1	10.4	8.7	8.7	9.4	7.8	8.7	9.0
CPI-indexed local-currency segment												
Savings schemes[d]							4.2	4.9	4.7	4.0	5.4	5.4
Indexed bonds[e]							5.2	5.5	5.3	5.2	5.7	5.7
Credit[f]							6.6	6.9	7.0	6.4	7.3	6.9
Mortgages[g]							6.3	6.8	6.7	6.6	6.9	7.0

Table 2.5 (continued)

(percent)

	Nominal yields (US $)[h]						Real yields[i]					
	Annual average		1999				Annual average		1999			
	1998	1999	I	II	III	IV	1998	1999	I	II	III	IV
Foreign-currency denominated and indexed segment												
Time deposits	1.4	1.6	1.7	1.5	1.7	1.7	5.4	–2.8	–1.3	–2.4	–5.0	–2.5
Foreign-currency-denominated deposits[j]	4.5	5.7	5.2	5.8	5.9	5.9	8.7	1.1	2.1	1.7	–1.0	1.5
Foreign-currency-indexed credit	7.0	8.0	7.6	8.1	8.3	8.2	11.2	3.3	4.4	3.9	1.2	3.7
Foreign-currency credit to residents	6.4	7.5	7.1	7.6	7.7	7.6	10.6	2.8	3.9	3.5	0.6	3.2
Deposits abroad[k]	5.3	6.4	6.0	6.5	6.6	6.6	9.5	1.8	2.9	2.4	–0.4	2.1
Annual rates of change												
CPI	1.3	0.0	–4.8	6.6	–3.3	1.9						
NIS/$ exchange rate	–0.2	–2.7	–11.7	5.9	–5.7	1.7						

[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 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.

savings schemes in the last few years were for relatively short periods, about two years, also served to boost the negative accrual trend, as the extent of planned withdrawals was relatively high.

Another factor which in 2000 affected the diversion of demand described above were the recommendations of the tax reform committee (the Ben-Bassat Committee) regarding tax on deposits; although the recommendations have not been implemented, their publication spurred the public to direct its investments into short-term channels in the unindexed local-currency segment.

d. The public's deposits denominated in foreign currency or indexed to the exchange rate

The public's supply of foreign-currency deposits consists of two fairly equal parts, deposits of residents, and those of nonresidents.

In reaction to the process of liberalization, the expansion of commerce, and a considerable increase in the capital raised abroad by Israeli companies, there has been a marked and continuous rise in the balance of foreign-currency deposits held by Israelis, both in Israel and overseas (despite the fact that the natural reduction in the number of recipients of restitution payments offsets a little of the rise in deposits in the domestic banking system, see Table 2.7). This rise continued in 2000, and the balance of residents' deposits in domestic banks rose by $ 1.3 billion, after rising by $ 1.4 billion in 1999.

Nonresidents' deposits increased by $ 1.7 billion in 2000, following a rise of $ 2.2 billion in 1999. These deposits, which have increased significantly in the last few years, served as one of the sources for financing the rise in demand for foreign-currency credit in the domestic banking system. The marked increase in nonresidents' financial activity with Israel's improved financial status is one of the main reasons for the rise in nonresidents' deposits in Israel in the last few years. There was a surge in their activity in 2000, and foreign investment in Israel (both direct and via the purchase of shares in Israeli companies issued abroad) reached an unprecedented level of $ 11.1 billion, up from $ 9 billion in 1999, despite the notable slowdown in this component in the last quarter of 2000.

3. THE DEMAND FOR CREDIT

The balance of bank credit at the end of 2000 stood at NIS 354 billion, 12 percent higher than the level at the end of 1999 (Table 2.2); this rate of increase is similar to the 13 percent rise in 1998 and 1999, and is much higher than the rise in business-sector product, which accelerated from a 2 percent increase in 1999 to 7.7 percent in 2000.

Since 1992 credit granted by the commercial banks has expanded very rapidly, with average annual rates of increase reaching 12 percent. This growth, which greatly outstripped that of the banks' other assets, was reflected directly by a constant rise in the

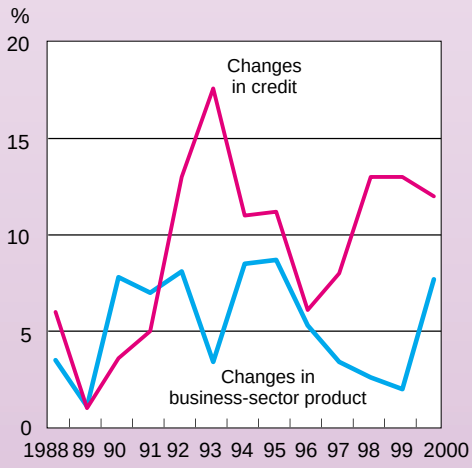
Table 2.6
CPI-Indexed Local-Currency Assets and Liabilities,[a] 1998–2000

	End-of-year balances (NIS million)[b]			Real change (%)		Annual average balance (NIS million)[b]		Real annual change (%)	Balance-sheet composition (%)	
	1998	1999	2000	1999	2000	1999	2000	2000	1999	2000
Assets										
Indexed segment, excluding credit from earmarked deposits:										
Credit to the public[c]	78,816	84,843	83,025	8	-2	82,646	84,100	2	52	53
Deposits in banks	29,527	36,054	41,396	22	15	32,719	39,165	20	21	25
Credit to the government	2,429	2,283	1,486	-6	-35	2,289	2,023	-12	1	1
Bonds	25,547	24,443	18,335	-4	-25	25,728	21,055	-18	16	13
Other assets	696	143	164	-79	15	346	171	-51	0	0
Total	**137,014**	**147,766**	**144,406**	**8**	**-2**	**143,728**	**146,514**	**2**	**90**	**93**
Credit from earmarked deposits	17,414	13,170	9,944	-24	-24	15,284	11,297	-26	10	7
of which Credit to the government	16,690	12,740	9,233	-24	-28	14,647	10,889	-26	9	7
Total assets	**154,428**	**160,936**	**154,350**	**4**	**-4**	**159,012**	**157,811**	**-1**	**100**	**100**
Liabilities										
Deposits of the public:										
Approved savings schemes	89,538	91,382	81,467	2	-11	91,373	86,326	-6	62	61
Other deposits	19,840	20,576	23,316	4	13	19,820	22,174	12	13	16
of which CPI-indexed deposits	19,711	20,481	23,219	4	13	19,708	22,067	12	13	16
Total deposits of the public	**109,378**	**111,958**	**104,783**	**2**	**-6**	**111,193**	**108,500**	**-2**	**75**	**76**
Deposits from banks	3,141	3,403	2,834	8	-17	3,210	3,058	-5	2	2
Deposits of the government	10,916	10,366	6,921	-5	-33	10,630	9,254	-13	7	7
Total	**123,435**	**125,727**	**114,538**	**2**	**-9**	**125,033**	**120,812**	**-3**	**85**	**85**
Total earmarked deposits	17,588	13,529	10,264	-23	-24	15,561	11,673	-25	11	8
of which Of the public	15,799	12,195	9,093	-23	-25	13,966	10,617	-24	9	7
Other liabilities	5,534	7,881	11,056	42	40	6,938	9,524	37	5	7
Total liabilities	**146,557**	**147,137**	**135,858**	**0**	**-8**	**147,532**	**142,009**	**-4**	**100**	**100**
Derivatives		1,695	-1,940				117			
Surplus of assets over liabilities	**7,871**	**15,494**	**16,552**			**11,480**	**15,919**			

[a] See note a to Table 2.1.
[b] At December 2000 prices.
[c] The credit balance given here excludes credit to the public from earmarked deposits.
SOURCE: Monthly returns to Supervisor of Banks.

ratio of the banks' risk-weighted assets to their total assets (see Chapter 1 for a more detailed description). Bank credit expanded faster than did GDP, both in periods of boom, and when business activity was in a depression (Figure 2.3), although there was no indication of a clear reduction in its cost, so that the credit/GDP ratio has risen constantly. Nevertheless, this ratio in Israel is not exceptional compared with that in other advanced economies.[6]

Figure 2.3
Changes in Business-Sector Product and in Bank Credit, 1988–2000



SOURCE: Based on returns to Supervisor of Banks.

Although much of the rise of credit in 2000 can be attributed to the rapid increase of business-sector GDP, this does not take into account the significant contribution (3.1 percentage points) to this growth made by start-ups, financed mainly by nonbanking sources. This distinction assumes even greater importance in the light of the increase in credit in the first quarter of 2001, when there was a slowdown in economic activity.

As the credit/GDP ratio rose, so did the ratio of bank credit to firms' equity, which is a further indication of the relatively rapid expansion of credit. However, in the absence of regular reports to the Supervisor of Banks on average financing ratios in the banking system and on how they have changed over time, no comprehensive, ordered information is available on the financing ratio. Partial data on the commercial banks and mortgage banks show a clear upward trend in these rates in the last few years. Another indication of the rise in the extent of bank financing in most industries, especially in periods of economic slowdown, can be obtained from the financial statements of companies traded on the stock exchange. Although the data in the reports do not necessarily relate to credit taken from the banking industry, they do show a reduction in the ratio of equity to the balance sheet in years of slowdown, especially in the traditional industries, most of whose output is directed to the domestic market (Table 2.8). On the other hand, in some of the traditional industries there was some evidence of a turnaround in the ratio in 2000, as economic activity expanded, followed by a return to the downward trend in the first quarter of 2001, with the renewed slowdown evident since the end of 2000.

The following analysis attempts to clarify the causes of the relatively rapid growth of credit, mainly in the years prior to the expansion of economic activity in 2000.[7]

[6] See Table 2.9 on p. 50 of the 1999 issue of this publication.
[7] The analysis which follows is a summary of research carried out by Riki Elias and Idit Ben-Bassat into demand for credit in the last ten years.

a. The reasons for the expansion of credit since 1997

Factors which led to changes in the demand for credit may be divided into two distinct groups: 1) income (activity) variables, i.e., those which express the need of different economic entities (individuals and industries) to finance their activity by means of bank credit, and 2) substitution variables, which express the availability and prices of factors in or outside the economy which can provide substitutes for bank credit to satisfy private companies' and individuals' financing requirements.

1) Income variables

i) Credit for the purchase of corporations

Takeovers of corporations have become more common economic occurrences in the last few years, both internationally and in Israel. In Israel, such takeovers have been financed by bank credit to an ever increasing extent, and with high financing ratios.

In these transactions the original owners of the corporation sell their share to others, who finance the purchase by means of bank credit. Sometimes bank credit finances the purchase of means of control in another banking corporation. The ability to repay such credit is generally based mainly on the purchased corporation, and occasionally there is no recourse to the borrower.

Since 1997 credit taken for the purpose of purchasing means of control has shown a marked upward trend. The balance of such credit in the five major banks, including instances of privatization of government corporations as well as takeovers in the business sector, rose to an estimated NIS 23 billion at the end of 2000 from negligible amounts in 1997, while the total rise of credit to the public in the commercial banks in that period was NIS 104 billion. Hence, more than one fifth of the increase of credit since 1997 was used to finance takeovers of nonfinancial corporations.

One feature of such credit is the high rate of finance, which in some cases has even reached more than 100 percent. In these cases it occurred mainly due to a fall in the value of the asset after the loan had been granted, although it could also be the result of extra credit being made available against the shares purchased, taking into account their increased value.

When buyers of the means of control finance most of the cost via bank loans, sometimes even without recourse to the borrower, and the share of self-financing is very small, they are likely to be tempted to channel the activity of the purchased corporation into projects with particularly high risk and high profitability potential. If the project succeeds, they will earn handsomely, and if it fails, the bank will absorb most of the loss.

The special risks associated with such activity made it necessary to regularize it, and the Supervisor of Banks issued a special directive imposing quantitative restrictions regarding the exposure deriving from such activity, and requiring banks to manage it prudently.

Table 2.7
Assets and Liabilities Denominated in and Indexed to Foreign Currency, 1998–2000

	End-of-year balances (NIS million)[b]			Real change (%)		Annual average balance (NIS million)[b]		Real annual change (%)	Balance-sheet composition (%)	
	1998	1999	2000	1999	2000	1999	2000	2000	1999	2000
Assets										
Notes and coins	242	359	249	48	–31	291	277	–5	1	1
Deposits in banks abroad	7,083	7,145	7,640	1	7	7,348	8,088	10	17	17
Deposits in banks in Israel	924	870	824	–6	–5	876	770	–12	2	2
Deposits in Bank of Israel	1,900	2,578	2,233	36	–13	2,010	2,200	9	5	5
Nondirected credit to residents	20,895	23,989	25,544	15	6	22,187	24,596	11	52	52
Nondirected credit to nonresidents	2,453	2,798	3,413	14	22	2,336	3,228	38	5	7
Credit from earmarked deposits[a]	1,528	1,545	1,604	1	4	1,550	1,553	0	4	3
Credit to the government	495	506	545	2	8	530	561	6	1	1
Securities[b]	4,298	4,994	5,498	16	10	4,930	5,311	8	12	11
Other assets	752	639	1,183	–15	85	617	856	39	1	2
Total assets	**40,570**	**45,423**	**48,733**	**12**	**7**	**42,675**	**47,440**	**11**	**100**	**100**
of which Denominated in foreign currency	36,758	41,961	45,747	14	9	39,010	44,154	13	91	93

Table 2.7 (continued)

	End-of-year balances (NIS million)[b]			Real change (%)		Annual average balance (NIS million)[b]		Real annual change (%)	Balance-sheet composition (%)	
	1998	1999	2000	1999	2000	1999	2000	2000	1999	2000
Liabilities										
Deposits from banks abroad	1,570	1,446	1,195	–8	–17	1,481	1,358	–8	4	3
Deposits from banks in Israel	452	351	312	–22	–11	426	267	–37	1	1
Loans from Bank of Israel	8	7	1	–13	–86	8	4	–50	0	0
Deposits of the government	335	297	133	–11	–55	392	233	–41	1	1
Earmarked deposits[c]	1,528	1,545	1,604	1	4	1,550	1,553	0	4	4
Nonresidents' deposits	16,520	18,726	20,397	13	9	17,432	19,525	12	44	45
Residents' and restitutions deposits	4,472	4,046	3,831	–10	–5	4,185	3,824	–9	11	9
Residents' other deposits	12,916	14,661	16,126	14	10	13,540	15,637	15	34	36
Other liabilities[d]	937	723	892	–23	23	772	853	10	2	2
Total liabilities	**38,738**	**41,802**	**44,491**	**8**	**6**	**39,786**	**43,254**	**9**	**100**	**100**
of which Denominated in foreign currency	35,087	38,345	41,093	9	7	36,260	39,699	9	91	92
Derivatives		–4,509	–5,481			0	–5,429			
Surplus of assets over liabilities	**1,832**	**–888**	**–1,239**			**2,889**	**–1,243**			

[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.

Table 2.8
Capital/Balance-Sheet Ratio, by Industry, 1996–2001

(percent)

	1996	1999	2000	March 2001
Construction	32	23	20	19
Commerce and services	40	37	36	35
of which Commerce	42	36	38	37
Manufacturing	43	40	43	41
of which Selected traditional industries				
Food and tobacco	49	46	45	43
Textiles and clothing	46	41	52	48
Metals	51	29	34	33
Construction materials/products	58	56	52	52
Wood and paper	46	35	42	38
Selected high-tech industries				
Electricity and electronics	55	52	58	56
Chemicals	38	38	38	38

SOURCE: Financial statements of the Tel Aviv Stock Exchange.

Directing credit into such activity, which is not translated directly into business-sector product, raises the credit/GDP ratio at the same time. It is also likely to be reflected by a rise in the financing ratio in those industries in which credit has risen.

One of the special ways of buying control of a corporation is via the privatization process which is part of the overall policy of reducing the government's involvement in economic activity. In the last ten years banks and government corporations have been privatized by means of share issues to the public on the stock exchange and by sales to parties at interest outside the stock exchange. Government proceeds from privatization peaked in 1997 and 1998, when they reached $ 2.4 billion and $ 1.7 billion respectively (Table 2.9). In 2000 privatization yielded the government $ 0.7 billion, mainly from the sale of shares in Bank Hapoalim.

Privatization pushes up demand for bank credit, to finance the purchase of shares on offer. As the sums involved are very large, and the years when there was large-scale privatization were those when the economy was slowing down, a large part of the rise in bank credit can be associated with a rise in activity which does not translate directly into business-sector product, and hence, which may cause a rise in the credit/GDP ratio.

Table 2.9
Proceeds of Privatization of Government Corporations and Banks, 1991–2000

($ million)

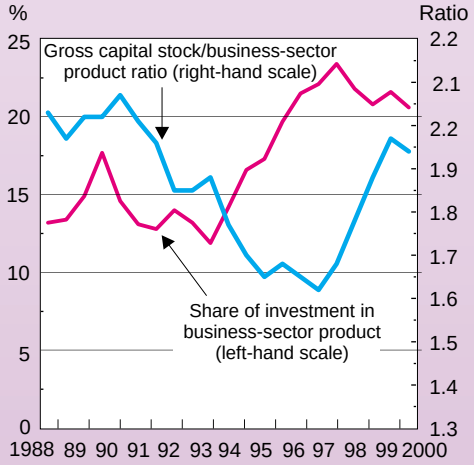
1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
393.1	632.6	1,201	207.5	536	121	2,396.6	1,714.6	382	696

SOURCE: *Report of Government Corporations*, 1999 (39), and estimates by the Banking Supervision Department for 2000.

ii) The demand for investment and the capital/GDP ratio

The influx of immigrants at the beginning of the 1990s led to a sharp rise in domestic demand, with an accelerated rise in capital stock due to the surge in investment. Although capital stock increased, it did so more slowly than the rapid growth rates of GDP, so that during the first half of the decade the capital/GDP ratio declined, while the share of investment in GDP rose continuously (Figure 2.4).

Figure 2.4
Gross Capital Stock/Business-Sector Ratio and Share of Investment in Business-Sector Product, 1988–2000



SOURCE: Bank of Israel *Annual Report.*

The expansionary effect of the influx of immigrants came to an end in 1996, as can be seen from the slowdown in investments. This trend became more pronounced in the years of deceleration of economic activity, when investments actually went down. Their decline was in the main an expression of the convergence towards the end of the process of rehabilitating the capital/GDP ratio following its reduction in the early 1990s.

Despite its decline, investment remained high even in the years of the economic slowdown, as is clear from the rapid increase in capital stock: from 1997 to 1999 the average increase in business-sector gross capital stock rose to 8.6 percent, compared with 6.3 percent from 1991 to 1996, despite the fact that the level of gross investment was not significantly higher on average than that in 1996.

With the slowdown in economic activity and the continued rapid rise in capital stock, a turnaround in the capital/GDP ratio was evident, and it rose throughout the second half of the 1990s, reaching a level higher than the one prior to the large-scale immigration, with a reduction in the average age of capital.[8]

The relatively high level of investment in the years of slowdown is consistent with the rise in demand for bank credit in that period, as the latter is directly connected with the financing of those investments. Nevertheless, the upward trend of the capital/GDP ratio reversed in 2000, and for the first time in five years it fell a little.

The high rate of gross capital growth in the years of the slowdown encompassed all the principal industries (except for agriculture), but reflected in particular the increased investment in high-tech industries, infrastructure (transport, communications, electricity and water), commerce, and service industries. The fastest growth of capital stock of machinery and equipment occurred in the construction industry, but due to the fact that

[8] The average age of equipment in the business sector declined from 5.8 years to 5.0 year (see the Bank of Israel Annual Report 1999, Table 2.A.9 on p. 233).

Table 2.10
Distribution of Balance-Sheet Credit to Business Sector, by Industry, 1991–2000

	NIS billion, December 2000 prices	Percent of total credit			
		1991	1998	1999	2000
Total of all goods	**158.4**	**60**	**50**	**49**	**48**
Agriculture	8.8	16	4	3	3
Manufacturing	73.6	31	23	23	22
Construction	76.0	14	23	22	23
Total of all services	**169.8**	**40**	**50**	**51**	**52**
Electricity and water	13.3	2	4	4	4
Transport and storage	13.4	5	4	4	4
Communications and computer services	25.7	1	4	6	8
Commerce and business services	117.5	31	38	37	36
Total bank credit to business sector	328.2	100	100	100	100
Share of business-sector credit in total bank credit (*percent*)		72	82	84	85

SOURCE: Returns to Supervisor of Banks.

construction is not a capital-intensive industry, its contribution to the total rise in capital stock in the economy was only marginal. It is of interest to note that in most industries capital stock rose despite the decline in investment (Table 2.11). Capital stock continued rising rapidly (by 7.3 percent) in 2000.

Investment in physical capital stock in the years of economic slowdown, as well as rehabilitating the capital stock/GDP ratio as described above, also provide an indication of expectations regarding a recovery of economic activity, and this was evident in 2000 until the last quarter. Uncertainty about future developments in the light of the crisis the economy has been experiencing since then, especially in high-tech industries, communications, construction, and tourism, raise doubts as to the repayment ability of borrowers who availed themselves of bank credit to finance the increase in capital stock.

iii) The distribution of credit by principal industry

Along with the rapid rise of total credit, the share of business credit[9] in the total credit extended by banking corporations rose constantly, from about 70 percent at the beginning of the 1990s to 84 percent in 1999–2000 (Table 2.10).[10] Credit did not grow uniformly across different industries, but was affected mainly by the specific industrial developments in the last ten years.[11] Hence, analyzing credit by industry helps to identify the factors affecting its expansion.

[9] Total credit *minus* credit to individuals and credit to public and community services, most of which is to local authorities.

[10] Table 5.10 gives a full picture of credit by industry.

[11] The following analysis is based on Chapter 2 in the Bank of Israel Annual Reports for the years 1997 to 1999, dealing with the various industries.

Table 2.11
Indicators of Credit and Business Activity in the Principal Industries, 1997–2000

(percent)

	Agriculture	Manu-facturing	Electricity and water	Construction	Trade and business services	Transport, storage, and communi-cations	Total
Cumulative change, 1997–99							
Capital/product ratio	1.2	18.3	17.7	64.0	11.6	–0.7	16.6
Capital per employee	–8.4	27.5	21.0	54.9	18.5	13.1	20.0
Product	–1.5	6.1	8.7	–16.5	18.4	23.4	7.1
Capital	–0.3	25.6	27.9	36.9	32.2	22.5	24.9
Investment	1.6	2.5	–3.8	–18.6	–0.6	–3.4	0.1
Credit	–6.5	45.8	28.7	95.2	117.1	140.2	59.4
Change from 1999 to 2000							
Product	7.4	10.0	8.8	–4.7	15.3	6.0	8.5
Capital	0.7	6.9	4.2	7.3	9.7	7.0	7.3
Investment	–4.7	5.3	–21.7	39.7	–4.1	8.7	3.7
Credit	–6.1	12.5	11.7	18.1	10.1	36.9	14.7

SOURCE: Based on Bank of Israel Annual Reports and Banking Supervision data.

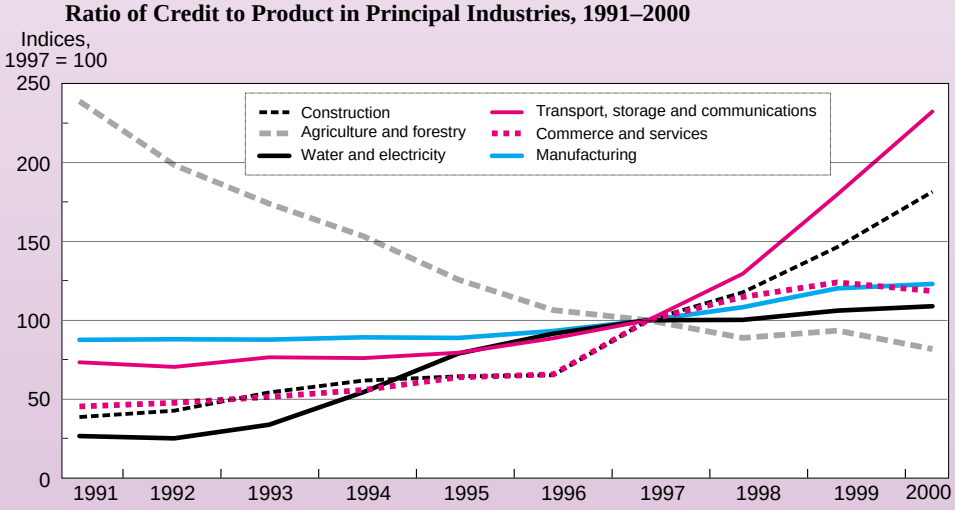
The current industry structure of Israel's economy is essentially the outcome of significant structural changes, some of which have stretched over a long period, and others which have taken place in the last few years.

In the first half of the 1990s the construction industries increased their share of total GDP due to the huge influx of immigrants, while high-tech industries and the other traditional industries maintained their share. In 1996 structural change changed direction, and reverted to the trend it had shown prior to the immigration: the share of high-tech industries in total manufacturing output rose steeply, based mainly on the rapid rise of their exports. The increase in the share of construction halted in 1997, since when its share of GDP has been falling.

Alongside these changes, other long-term trends characteristic of economies with similar levels of per capita income to Israel's continued throughout the decade: the share of manufacturing and agriculture contracted, while those of commerce, services, transport and communications rose.[12] This trend was reinforced by structural changes taking place world wide—the growing tendency among firms towards outsourcing and the accelerated growth of service industries greatly affected by the revolutionary changes in technology in the last few years, led by communications and computer services. A structural change of this sort by its very nature requires significant investment in those industries which

[12] The 'goods' industries, i.e., manufacturing, agriculture, and construction, constituted 36 percent of business-sector product in 1999, down from 41 percent in 1990, while commerce and services and the infrastructure industries, i.e., transport, communications, electricity and water increased their share to 64 percent, from 59 percent in 1990.

Figure 2.5
Ratio of Credit to Product in Principal Industries, 1991–2000



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

are expanding more rapidly than others, and is therefore likely to be accompanied by a rise in demand for credit.

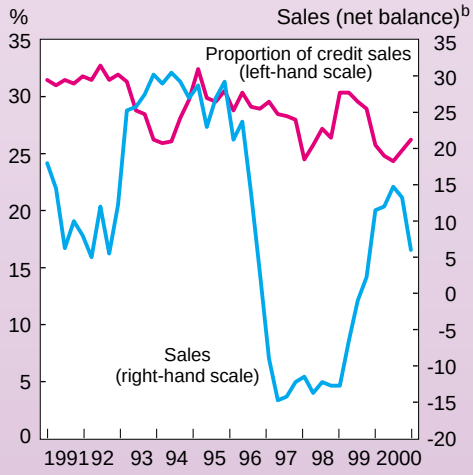
Structural changes such as those described above require consideral investment in capital stock, at least in the short term, even if this does not lead to changes in production methods. Such changes in production methods did in fact take place in the last few years on top of the structural ones, in the high-tech industries for example, which were affected by the revolutionary technological progress made in the last few years, and in construction and commerce. These changes made the relevant industries much more capital intensive (measured by the capital per employee ratio), and required a further rise in investment in machinery and equipment, apparently financed by bank credit (Table 2.11).

These general economic developments were to a great extent reflected by the change in business credit, as can be seen from Table 2.10: the share of credit to the goods industries (see note 12) fell continuously from about 60 percent in 1991 to 48 percent in 2000, with the share of agriculture and manufacturing declining and that of construction rising in 1998-2000, to settle at between 22 and 23 percent.[13] Service industries increased their share from 40 percent in 1991 to 52 percent in 2000, most of the rise taking place in infrastructure industries, headed by communications and computer services.

Throughout the last decade, the ratio of credit to output has risen in all industries[14] except for agriculture (Figure 2.5). In the years of the economic slowdown, the ratio rose fastest in transport and communications and in construction. It rose more moderately in

[13] The results quoted herein must be treated with caution due to changes introduced to the industry classification of credit in 1997. The main ones were that credit to the public is now classified according to the borrower's main field of activity, and not the target of the credit; the definition of the construction and real estate industry was changed; and computer services were moved from financial and business services to communications.

Figure 2.6
Sales in Commerce, and Proportion of Credit Sales,[a] 1990–2000



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

commerce, services, and manufacturing.

Throughout the decade, transport and communications generally grew more rapidly than did business-sector product, including the years of slowdown in economic activity. Communications made the major contribution to growth, while transport grew more slowly partly due to the decline in investment in roads and the railway.

Similarly to the by-industry increase in product, credit to the communications and computer industries in the 1990s rose faster on an annual basis than did credit to transport, and a significant part of this total credit was given to large borrowers in communications and haulage fields.

The recession in the construction industry continued in 2000 for the fourth successive year, with a 4.7 percent fall in its output. The rise in the balance-sheet credit/output ratio in the industry since 1997 reflects the stability of its share of total credit as its output fell. Stock-exchange data indicate that the financing ratio rose in the construction industry in the last few years at the expense of equity (Table 2.8): the equity/balance-sheet ratio went down from 32 percent in 1996 to 23 percent in 1999, and to 19 percent in the first quarter of 2001.

Two main reasons for the above developments were: the first is that in a recession companies tend to turn to increase their dependence on outside sources to finance stocks and current activity. The second is that the technological improvements introduced in construction in the last few years, continuing the long-term trend, led to a fast rise of the capital/employee ratio (Table 2.11), although part of the rise is due to a decline in labor input in that period. Technological progress of this sort is naturally credit-intensive, and may be expected to push up the credit/output ratio and even the financing ratio.

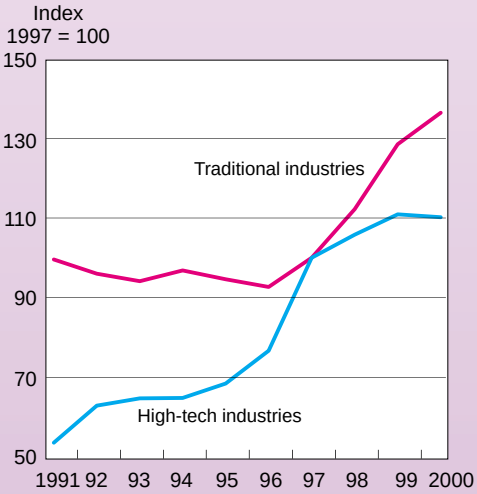
The credit/output ratio in commerce and services has risen in the last few years despite the relatively fast rise of output, which constitutes about half of total business-sector product. The main reasons for the rapid expansion of credit in this industry were: increased activity in them, despite the general economic slowdown; a significant rise in their capital stock; an increase in credit to large borrowers in the industry, for the purpose of takeovers, as described above; and in commerce, a rise in the share of sales by credit during the slowdown, as can be seen from the Bank of Israel Companies Survey (nFigure 2.6). In 2000 there were signs of a slight easing of the credit/output ratio, due mainly to the steep increase in output.

[14] The division of output by industry is less detailed than that of credit, so the credit/output ratio by industry is analyzed using the division according to output.

Manufacturing industry is notably heterogeneous, and this is also reflected in the demand for credit. Dividing the industry into traditional, mixed, and advanced industries[15] makes it possible to identify the main structural changes which took place in manufacturing in the last few years, and to relate them to the demand for credit.

In the years of the slowdown, 1997–99, the credit/output ratio in the advanced industries continued to rise, albeit more slowly than before (Figure 2.7). The increase of credit accelerated, against the background of relatively rapid increases in the output and capital stocks of these industries (Table 2.12). It may be assumed that credit to the advanced industries would have expanded even faster were it not for the significant alternatives available to this group (see below).

Figure 2.7
Ratio of Credit to Product in High-Tech and Traditional Industries, 1991–2000



SOURCE: Bank of Israel.

Table 2.12
Changes in High-Tech and Traditional Industries, 1991–2000

(average annual change, percent)

	Product	Capital stock	Credit
1991–96			
High-tech	6.7	8.8	15.3
Traditional	6.6	5.3	5.1
1997–99			
High-tech	4.9	9.1	18.8
Traditional	–1.0	8.8	10.6
2000			
High-tech	18.4	8.1	9.3
Traditional	0.9	5.4	15.8

SOURCE: Based on *Bank of Israel Annual Report*, 1998 and 1999, and Banking Supervision data.

At the same time the rate of increase of credit to the traditional industries—which were more seriously affected by the fall in demand—accelerated too, with a rise in their credit/output ratio. This may well indicate that companies in these industries ran into difficulties as among other things they had to finance the considerable increase in the

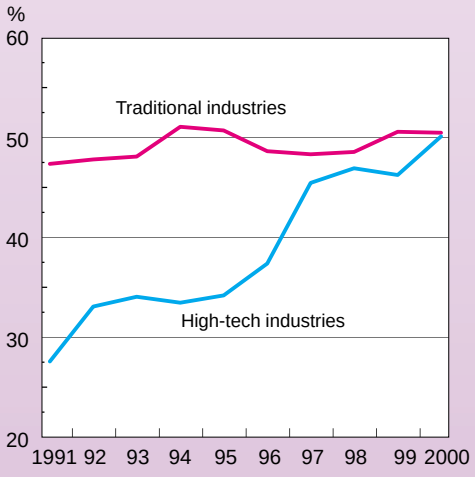
[15] According to the classification used in the Bank of Israel Annual Report, 1999, p.53.

capital stock they accumulated at that time. It should be noted that capital accumulation is a long, relatively inflexible process requiring planning and business alliances in advance, and is therefore difficult to change according to varying market conditions.

Stock-exchange data on the ratio of (financial) capital to the balance sheet can be used to obtain an indication of the rise of the bank financing ratio. In the traditional industries this ratio showed a significant decline in the years of the slowdown in most of the traditional industries compared with that in the advanced industries (Table 2.8).

The above developments in the years when economic activity slowed down resulted in relative stability of the credit/capital stock ratio in the traditional industries, and in a more rapid rise of the ratio in the advance industries (Figure 2.8).

Figure 2.8
Credit/Capital Ratio in High-Tech and Traditional Industries, 1991–2000



SOURCE: Bank of Israel.

2) Substitution variables

Competition from nonbanking bodies, mainly from abroad, in providing the public with financial services increased in 2000. There were two main reasons for the decline in the share of the domestic banking system in the supply of sources of finance to the business sector.

The first was the greater tendency for Israeli firms to turn to the capital markets—both domestic and in the US and Europe—to raise capital. Capital raised and debt in foreign stock exchanges totaled NIS 16.9 billion in 2000, up from NIS 13.3 billion in 1999, while issues to the public in Israel rose to NIS 5.7 billion from NIS 1.6 billion. Total capital raised in 2000 (from the public and from private allocations) amounted to NIS 13.2 billion.

The Bank of Israel Foreign Exchange Control Department assesses that the rise in the extent of issues abroad in the last few years was due to two factors: one was the exposure of issuing companies to customers in foreign markets, which yields those companies a long-term advantage in raising capital in the future. The other was better pricing, because the pre-issue assessment of the company's value was higher in the US than on the Tel Aviv Stock Exchange. Capital raised abroad by Israeli companies by the issue of long-term bonds totaled $ 1.5 billion in 2000, compared with $ 1.2 billion in 1999 and $ 0.6 billion in 1998. According to reports of the Foreign Exchange Control Department, these issues are made by a small number of large Israel corporations in the electricity, chemicals,

and communications industries which direct the proceeds into infrastructure investment and long-term projects.

The second reason for the fall in the share of the domestic banking system in the supply of finance to the business sector was the deeper involvement in Israel of foreign nonbanking financial intermediaries together with expanded activity by domestic entities: start-ups raised some NIS 12.5 billion from Israeli and foreign venture capital funds and foreign investment companies, of which NIS 7.4 billion was from foreign sources and the rest, NIS 5.1 billion, from domestic funds. In 1999 the figures were NIS 4.2 billion total, NIS 2.4 billion from foreign sources, and NIS 1.8 billion from domestic funds.[16]

In addition to these sources, whose utilization increased in 2000, the business sector also has available other sources which act as substitutes for bank credit, mainly in the advanced manufacturing industries. Heading the list are government support for research and development (R&D) and benefits provided under the Encouragement of Capital Investments Law.

Support for R&D: about 15 percent of R&D in the business sector is financed by the government, far higher than the 5 percent average in the OECD countries. Admittedly, part of the government support is a solution to the failure of the market to finance risky projects, and therefore cannot be seen as a true substitute for bank credit which may not have been granted without the government support. Nevertheless, most R&D support in manufacturing industries is channeled to large companies most of which have access to capital markets, with only 15 percent going to start-ups, which carry a higher credit risk, and which are financed by other sources such as venture-capital funds and share issues.

Benefits provided under the Encouragement of Capital Investments Law provide another substitute for bank credit and are a major source of finance. Capital grants received by manufacturing companies under this law accounted for 34 percent of total investment in manufacturing in buildings and equipment from 1994 to 1998. About 82 percent of the cost of approved investments was financed in the form of grants, and the balance was in the form of tax benefits, estimated by the State Revenue Administration to total about a quarter of a percent of GDP. Approved investments are generally in advanced industries—electricity and electronics, chemicals, and software.

To summarize—the main reasons for the swift increase of credit since 1997 which can be seen from the rise in the credit/GDP ratio and from indicators of the rise in the financing ratio were:

1. The significant increase in credit granted for activities which are not reflected directly in GDP, headed by credit extended for takeovers.

2. A marked increase in gross capital stock, to redress the capital/GDP ratio after its decline in the first half of the 1990s following the large-scale influx of immigrants.

3. Structural changes, reflected by economic activity becoming more capital intensive, which caused an appropriate change in demand for credit.

[16] Data from 'Zinuk' Co.

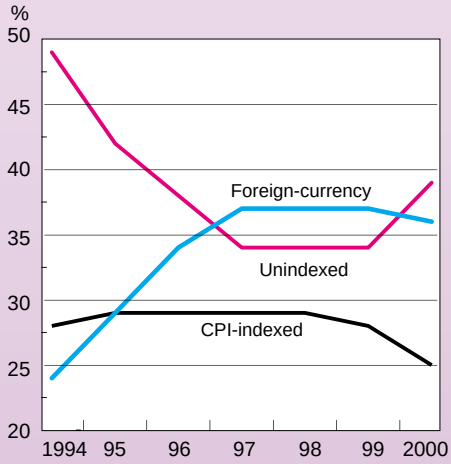
4. An increase in companies' need for working capital against the background of the slowdown in economic activity, especially in the fields of construction, commerce, and the traditional industries.

On the other hand, the expansion of substitutes for domestic bank credit, particularly for advanced and infrastructure industries, acted to hold back the increase in bank credit, mainly in 1999 and 2000. The relatively high rates of interest on credit in the unindexed local-currency segment and in the CPI-indexed segment also had a similar moderating effect (see Section 5 below).

b. Credit by indexation base

From 1997 to 1999 the composition of credit by indexation base was relatively stable. This stability reflected the end of the process of adjusting the composition to falling inflation, the tight monetary policy pursued throughout the period, and the liberalization of the capital market. The adjustment process, most of which took place in 1994–97, was expressed by a rise in the share of foreign-currency credit at the expense of unindexed credit (Figure 2.9). Two main changes took place in the public's credit portfolio in 2000: a considerable increase, from 34 percent to 39 percent, in the share of unindexed local-currency credit from its level in the last few years, and a decline from 28 percent to 25 percent in the share of indexed credit.

Figure 2.9
Shares of Different Types of Credit,[a] 1994–2000



[a] Calculated from average balance each year, as in Table 2.2
SOURCE: Returns to Supervisor of Banks.

1) Unindexed credit

The balance of unindexed credit rose by NIS 35 billion during 2000, a rise of 31 percent, compared with a rise of 17 percent a year in 1999 and 1998 (Table 2.2). All the components of credit shared in its swift increase in this segment, the most notable being on-call credit, which continued its remarkable expansion, increasing by 43 percent in 2000 following its 40 percent rise in 1999, and term credit, the rise in which jumped from 16 percent in 1999 to 38 percent in 2000. There was also a marked rise of 13 percent in companies' overdraft facilities and in households' overdrafts in 2000, after a relatively modest 3 percent increase in 1999.

The reasons for the rapid rise of credit in the unindexed local-currency segment, mainly in on-call credit, which is given for short periods, were the decline in its expected

average real cost, the greater flexibility it afforded companies' to adjust their cash flows, and expectations that the nominal cost of credit in the segment would continue to fall, and the reduction in the volatility of inflation, which led to credit being switched from the indexed segment to the unindexed (Table 2.2 and Figure 2.9). Borrowers prefer sitting on the fence and taking short-term credit when its cost is expected to fall—mainly on-call credit, which is relatively cheap—rather than taking on long-term liabilities at relatively high fixed costs. In this regard the banks' policy of generally allowing customers for whom long-term indexed credit has been approved to convert it into unindexed local-currency credit also helped the process.

2) Local-currency CPI-indexed credit

CPI-indexed credit, which is usually long term and which in most cases finances investment and consumption of durables, declined by 3 percent in 2000, after rising by a modest 5 percent in 1999. Among the reasons for the easing of demand for credit in this segment are: a) a reduction in inflation and its volatility, as described above; b) large-scale issues abroad by Israeli corporations in 2000; c) large-scale capital raising by capital funds, which serve as an alternative to domestic long-term credit.

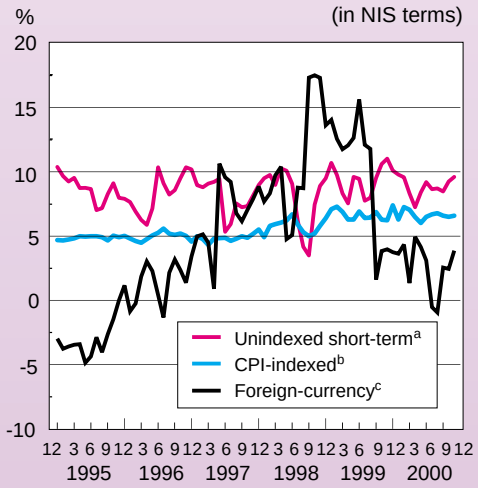
The average real annual cost of CPI-indexed credit rose from 6.6 percent in 1999 to 6.9 percent in 2000, and was higher in the second half of the year than in the first, similar to the yield on government bonds, which provide an alternative for activity in this segment.

3) Credit in or indexed to foreign currency

The rate of increase of foreign-currency credit to residents and nonresidents slowed in 2000; it rose by $ 2.2 billion, after rising by $ 3.4 billion in 1999, despite the considerable increase in Israel's volume of international trade, and the surge in activity of domestic high-tech companies which market their products abroad, and for whom the foreign-currency segment is a natural source of credit. These developments can be explained by the existence of alternatives to credit, headed by heavy investment in Israel by nonresidents and capital raising abroad (see Section 3 above). In addition, the contraction of the differential between nominal rates of interest as rates went up abroad while in Israel they came down, resulted in local-currency unindexed credit becoming preferable to foreign-currency credit. This occurred against the background of a 5.5 percent appreciation of the NIS against the currency basket in 2000, which was counter to the Bank of Israel and private forecasters' predictions at the beginning of the year of depreciation of between 1.5 percent and 3.2 percent.[17] The share of credit in or indexed to foreign currency in total credit has remained almost unchanged since 1997 (between 36 percent and 38 percent), but in 2000 its composition changed, with credit in Japanese yen being substituted for that in dollars.

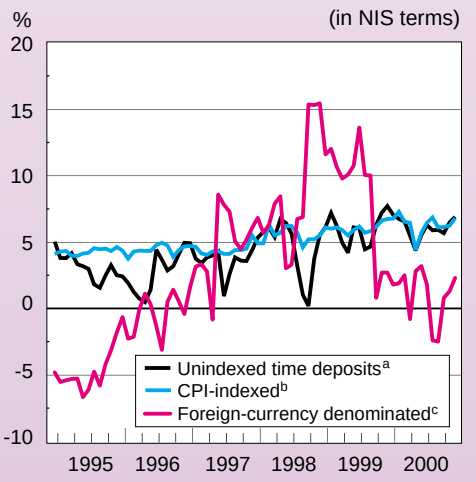
[17] See the Bank of Israel *Inflation Report* for the second half of 2000.

Figure 2.10
Real Interest on Credit, 1995–2000



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

Figure 2.11
Real Interest on Deposits, 1995–2000



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

4. OTHER USES AND CHANGES IN BALANCE-SHEET BALANCES

Banks deposit money in the Bank of Israel as part of the system of deposit auctions; these deposits act as substitutes for unindexed local-currency credit and Treasury bills. At the end of 2000 the balance of these deposits was about NIS 57 billion, about a quarter of the banks' assets, down from 29 percent at the end of 1999. This represented a reversal of the upward trend in the share of these deposits in the banks' assets evident since the auctions were introduced in the middle of 1996.

The deposits, which were intended, among other things, to sterilize the expansionary effect of the inflow of capital, rose steeply in the last few years due to surplus sources created in the unindexed local-currency segment against the background of the relatively high rates of interest on deposits in the segment, and in 2000 their rate of increase moderated. The commercial banks' balance-sheet balances show that in 2000 credit expanded by about NIS 40 million, deposits in mortgage banks rose by about NIS 5 billion, and the banks' investments in securities and cash in tills declined by NIS 6 billion (once the concern regarding the 'millennium bug' had receded). In total the banks' traditional uses rose by NIS 39 billion. The public's deposits—the source of these investments—increased by NIS 42 billion, with a rise in the share of unindexed local-currency deposits and foreign-currency deposits, and a significant fall in indexed deposits.

5. INTEREST RATES AND INTEREST-RATE DIFFERENTIALS

The tendency of interest rates in the different segments to converge under the effect of the liberalization and price stabilization, continued in 2000, albeit with some deviation in the second quarter resulting from the appreciation of the NIS at that time. The activity of the business sector acted as a stabilizer and prevented more severe fluctuations in returns and real costs in NIS terms, thereby contributing to the process of convergence of the rates of interest (Figures 2.10 and 2.11). The slopes of the yield curves (of indexed and unindexed assets) were negative for most of the year, indicating expectations that nominal and real interest rates would come down.

a. The unindexed local-currency segment

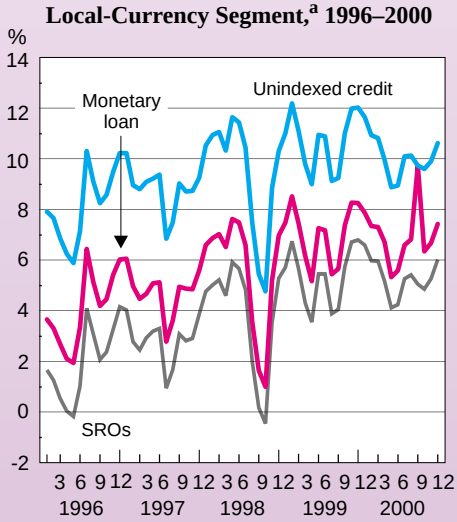
Short-term nominal rates of interest continue to be largely determined by the monetary interest rate set by the Bank of Israel; in the course of the year the Bank reduced this rate of interest by a cumulative 3 percentage points. This reduction was also reflected by the changes in expected market rates of short-term real interest, on both the credit and deposits side, but their rates remain higher than their past levels and similar to the level of the last two years (Table 2.5 and Figure 2.12).[18] For example, expected real interest on term credit in the last quarter of 2000 stood at 9.1 percent in the last quarter, down from 9.8 percent in the first. Real interest on the various components of unindexed sources declined more moderately.

Ex post real rates of interest also remained very high, in part because the rate of inflation in 2000 was 0 percent. The process of the convergence of inflation over the years entailed an upward trend in real interest rates in the unindexed local-currency segment, which acts to reduce credit and increase deposits in the segment.

*The interest-rate spread in the unindexed local-currency segment, ca*lculated as the difference between the weighted interest on all assets in the segment and the interest on all the liabilities in it, continued to decline in 2000, and reached 3.2 percentage points, compared with 3.4 and 3.7 percentage points in 1999 and 1998 respectively (nFigure 2.13). This trend reflects ongoing liberalization of the money market and is consistent with the long-term positive connection between the rate of interest on the monetary loan and the interest-rate spread in the unindexed local-currency segment. [19]

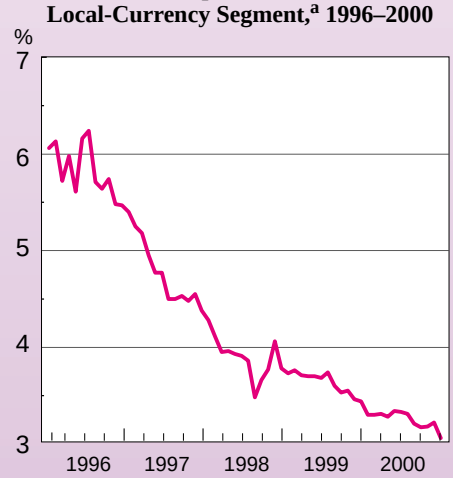
[18] During the last quarter of 2000, the business sector, despite the security-related events and increased political uncertainty, started bucking the trend and sold foreign currency. For further detail, see the Bank of Israel Inflation Report for the second half of 2000.

Figure 2.12
Real Interest Rates in the Unindexed Local-Currency Segment,[a] 1996–2000



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

Figure 2.13
Interest-Rate Spread in the Unindexed Local-Currency Segment,[a] 1996–2000



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

b. The CPI-indexed segment

Rates of interest in this segment are derived from the public's demand for indexed credit and from the yields on CPI-indexed bonds. Interest rates in the segment continued rising in 2000, mainly in the second half (Table 2.5), and the returns on CPI-indexed bonds did not fall, despite their low level of issues. This is explained by the fact that the contraction of the supply was met by an even more severe drop in demand, due to the negative accumulation in savings schemes as indexed assets became less attractive as the low inflation environment became more firmly established. It would seem that the effect of the decline in the government's need to raise capital, which acted to lower the real rates of return on bonds in 2000, was less pronounced than that of the fall in demand, so that

[19] It can be seen from the first-order conditions for maximizing the financial profit of a commercial bank that in equilibrium the desired (planned) interest-rate spread (M^*), i.e., the difference between interest on credit (R_l^*) and that on deposits (R_d^*) is affected by the interest on the monetary loan (s), the elasticity of the credit demand curve (η) and the supply of deposits (θ) and the rate of the reserve requirement (ρ). This can be seen from the following equation:

$$M^* = R_l^* - R_d^* = \left[\frac{1}{1+\frac{1}{\eta}} - \frac{(1-\rho)}{1+\frac{1}{\theta}}\right] \bullet s$$

assuming that in the M^* range of differentiation of according to s the elasticities of the credit demand curve and the deposit supply curve are constant, and that the bank operates in the range of $|\eta| > 1$, i.e. $\eta < -1$, a rise in the interest on the monetary loan increases the interest-rate spread.

For a more detailed discussion see D. Gheva. Z. Samet, and D. Ruthenberg, The Determinants of Interest Rate Spread—The Israeli Experience, Banking Review 3, December 1992, Bank of Israel.

prices of bonds with long periods to redemption fell and yields to redemption rose. Moreover, the fact that, similar to the Bank of Israel's real rate of interest, expected short-term real rates of interest in the last few years stabilized at a higher level than in the past, gradually contributed to the rise in long-term real rates of interest on indexed components as indexed real interest rates adjusted to short-term real interest. These supply- and demand-side developments were reflected by a rise in average yields to maturity on government bonds, from 5.2 percent in 1999 to 5.5 percent in 2000.

The easing of the rate of increase of the demand for indexed credit served to moderate the increase in its interest; the average annual rate of interest on CPI-indexed credit rose from 6.6 percent in 1999 to 6.9 percent in 2000. At the same time, interest on savings schemes went up from 4.2 percent to 4.9 percent, with most of the rise taking place in the second half of the year. As a result of these changes, the interest-rate spread contracted from 2.4 percent on average in 1999 to 2 percent in 2000.

c. The foreign-currency segment

To a great extent, activity in the foreign-currency segment offers an alternative to financial activity abroad, so that Libor dollar interest rates generally dictate the rates (in dollar terms) in the segment; and indeed, the rise of one percentage point in the Libor rate during 2000 was reflected by a rise in the dollar interest rates in the segment. Thus, as in past years, there was hardly any change in the marginal dollar interest-rate spread, which remained at 1.8 percentage points (Table 2.5).

Real local-currency interest rates in the segment are greatly affected by changes in the exchange rate. Despite the fall in the inflow of capital into Israel from foreign investors, and the deterioration in the security situation in the last quarter of the year, there was only modest depreciation, as mentioned above, thereby preventing a steeper rise in the cost of foreign-currency credit. The NIS appreciated against the dollar by 2.7 percent, annual basis. Average real rates of interest (annual, in NIS terms) declined significantly from their level in 1999, partly due to the real depreciation which occurred in mid-1999.