Chapter 1

Israel's Banking System: A Long-Term View

In 1999 the return on equity of the five major banking groups (Leumi, Hapoalim, Discount, Mizrahi, and First International) was 11.2 percent, higher than in 1998 (9.9 percent), and also higher than the average of the eight years from 1992 to 1999 (9.5 percent). Most of the increase may be attributed to the rise of 11 percent in the level of the banking groups' activity, the continuation of the downward trend of the loan-loss provision which started at the end of the 1980s, and the increase in non-interest income—mainly from fees and commissions—which also derived from the expansion of activity. The return on equity (ROE) of Israel's banking system since 1992 has ranged from 7.9 percent to 12 percent, and this stability has been one of the banking system's outstanding features.

The stability of the ROE in Israel's banking system in the last decade is also notable in the context of an international comparison encompassing many other western countries, some of which experienced crises which harmed the stability of their banking systems. The stability of the banking system's ROE is also unusual when compared with that in other principal industries in Israel, most of which show a positive correlation with the business cycle.

The general economic environment in which Israel's banking system operates underwent many changes in the 1990s: years of economic growth were followed by periods of slowdown; slumps in the money and capital markets succeeded booms; the process of liberalization (including the government's reduced involvement in financial intermediation) accelerated, resulting in increased competition and greater customer welfare on the one hand, but higher risks to the banking system on the other; there were periods when the exchange rate and the various rates of interest fluctuated widely; there was a persistent decline in the rate of inflation in the wake of the Bank of Israel's tight monetary policy; the process of globalization boosted capital flows between countries, on the

one hand, thereby making markets more efficient, but on the other hand increased exposure to risks related to international crises. In the context of these developments, the stability achieved in the return on equity of the banking groups in recent years is even more noteworthy.

The stability of the ROE was achieved mainly by virtue of the universal nature of the activity of the banking groups, expressed in their ability to spread their sources of profit by diversifying investments in subsidiaries (commercial banks, mortgage banks, overseas subsidiaries, companies active in the capital market, and nonfinancial companies). The advantage of such diversification lies in the low (sometimes even negative) correlations between such sources of profit, which serve to counteract the effect of the frequent changes in the environment in which the banking system operates.

In the 1990s banking became more competitive, and this was reflected *inter alia* in a continued reduction of the overall net interest margin, which at the end of the decade approached the level in the banking systems of the industrialized countries, about 2 percent. Increased competition led to the narrowing of the spreads between interest rates and margins of different banks, mainly relating to large customers (wholesale banking), and was also reflected in a decline in the conventional indices of concentration (e.g., the H index). Although the credit-card market has become more competitive in the last three years, retail banking (which serves households) is still uncompetitive. The introduction of the latest technological advances in banking, together with the possibility of performing a range of banking transactions via the internet will increase competition between banks in the future, thereby increasing customer welfare.

Nevertheless, since 1997 a rise in banks' total credit risks has been evident. This assessment is based on several developments: the continued rapid rise of the credit/GDP ratio, which also occurred in most of the principal industries; the increase in the share of problem loans (excluding agriculture) in most banks; the rise of the risk-weighted assets ratio and of the concentration of credit by borrower, and the stabilization of the concentration of credit by industry at a relatively high level. The assessment is also supported by the fact that in the last three years part of the credit was granted to finance working capital and involuntary inventories, as a result of the slowdown in the economy (which continued in 1999 for the third successive year). The marked increase in credit to the construction industry and in foreign currency in this period was especially notable.

A long-term analysis covering the last decade shows that risk-weighted assets and market risks rose, as did the return on equity (which jumped to new levels twice in the period, in 1992 and 1997). Since 1991 the risk-based capital

ratio (capital adequacy) has been falling, while the share of tier-2 (supplementary) capital (the characteristics of which make it less stable in the long run than tier-1 capital) has been rising, so that banks are less capable of confronting possible future realizations of bank risks. In this context, it is appropriate to note that although the Supervisor of Banks raised the minimum capital ratio from 8 percent to 9 percent at the beginning of 1999, Israel's risk-weighted capital ratio is one of the lowest among the banking systems in western countries. On the other hand, the tier-2 capital component is still relatively low, despite its rise since 1997.

The performance and the risks of Israel's banking system in the next few years will be affected by the following factors: the continued liberalization of the capital markets, including the expected expansion of activity in Israel by large foreign banks; developments in banking technology and financial innovation, also covering activity in derivatives; and reforms on the domestic front, such as of the provident funds and taxation.

Against the background of the situation described above, the target facing banks' management is to manage assets, liabilities, and risks prudently, so that the profitability and stability of the banking system will be maintained.

1. INTRODUCTION

The activities and performance of Israel's banking system underwent the following developments in 1999: (1) banks' activity, as reflected in the banking groups balance sheets, surged by 11 percent, despite the slack in the economy which continued for the third year in succession (i.e., a GDP growth rate of only 2.2 percent); (2) public demand for credit from and deposits in the banking system continued to expand rapidly, similar to the increase in the last few years; (3) banking groups' profitability was higher than in 1998, and higher than the average since 1992; (4) the operating efficiency of the commercial banks increased in 1999, and the operating expenses/value added ratio (banks' output) fell below its level at the beginning of the 1990s; (5) credit risk rose, mainly due to the increase of credit and a rise in the credit/GDP ratio.

These developments were due mainly to:

a) the continued tight monetary policy and sterilization of the government's injection and that arising from interest payments on deposits with the Bank of Israel;
b) demand arising from various parties seeking to purchase controlling interests, on the one hand, and from companies bridging the gap between their income and expenses flows deriving from the recession in economic activity, on the other;
c) expansion of the range of banking services in the era of financial and technological innovations, alongside the boom in the capital market and an increase in some of the

fee and commission schedules (which caused a real rise in the fee index) contributed to the rise in non-interest income in 1999, and thus to the banks' improved profitability.

Total after-tax profit of the five banking groups rose in 1999 to NIS 3.6 billion, from NIS 3.1 billion in 1998, and NIS 3.4 billion in 1997 (Table 1.3). The banks' financial results, and particularly the return on equity (ROE), show that banks reached a profitability of 11.2 percent, slightly exceeding the average level over the last eight years. Twice in the 1990s the banking groups' level of profitability jumped to new levels, once in 1992, following which the ROE settled at an average level of 8.3 percent until 1996, and the second time in 1997, since when the level has stabilized at about 11 percent.

Alongside these changes in profitability, there were also changes in the risks inherent in banking activity: credit risk rose as a result of the 12 percent increase in the credit aggregate (mainly unindexed local-currency credit and foreign-currency credit); the large-borrower concentration of the credit portfolio rose; concentration by industry (excluding households) and the ratio of risk-weighted assets to total assets remained stable in 1999, after rising steadily since 1992 (Tables 1.4 and 5.4). In contrast to these developments, the ratios of loan-loss provision and of problem credit to total credit declined. However, adjusting for the effect of arrangements made in the last few years in agriculture, the ratio of problem credit to total credit in most banking groups rose. There was also a rise, albeit modest, in the share of foreign-currency credit in total bank credit.

The quality of credit has many components, some of which are difficult to estimate, and overall quality may be estimated by a combination of a subjective assessment of all the available data on borrowers and various quality indices relating to the components. A combination of assessments based on macroeconomic and other developments and indices of credit risk indicates that total credit risk increased in 1999. Among these developments, the continued slowdown in general economic activity and specifically in the construction industry was particularly notable, adversely affecting companies' and households' credit repayment ability. This may result in a higher degree of realization of credit risks in commercial banks and their subsidiaries.

Banks' exposure to market risks (interest, exchange rate, and inflation), measured via the Value at Risk (VaR), also rose in most banks in 1999. Exposure rose in the area of interest-rate risks because of the increase in the average duration of the net worth and in positions, while the rise in exposure in indexation-base risks derived from the rise in positions alone.

The banking groups engage in highly varied activities, including classical financial intermediation in Israel and via subsidiaries abroad, extending mortgages, financing investments, activities related to credit cards, and holding nonfinancial companies. The range of these activities (which have low correlations between them) enables the groups to stabilize their profits. The ROE of the banking system in the last ten years was also markedly more stable than that of other principal industries in Israel (Figure 1.13). The variety of the banks' activities can be seen from the fact that in 1999 the mortgage banks made a significant contribution to the profits of the banking groups; although the mortgage banks had made the greatest contribution, on average, to the groups' profits throughout a

whole decade, in 1998 it was the banking subsidiaries abroad which were responsible for the greatest contribution to profits. The contribution of overseas banking subsidiaries to the groups' profits is the most volatile component, as it is determined mainly by real appreciation or depreciation of the NIS against foreign currencies. In 1999, as a result of real appreciation, the overseas offices' contribution to profits declined from the high level in 1998 which derived from real depreciation *inter alia*. Banks therefore pursue a policy of hedging against exchange-rate risks to stabilize the contribution of subsidiaries to their profits in the long run.

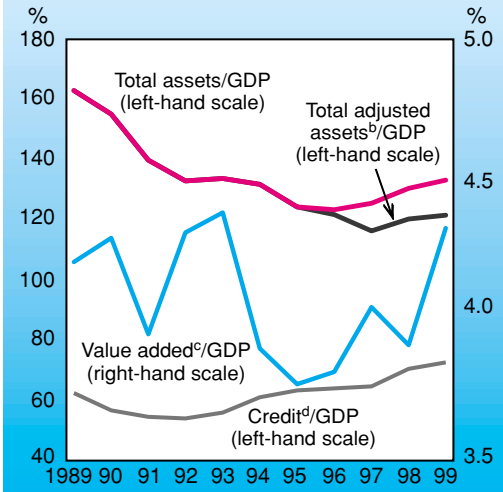
2. THE ACTIVITY AND PERFORMANCE OF ISRAEL'S BANKING SYSTEM: A LONG-TERM VIEW

The commercial banks

Financial activity of the commercial banks in Israel, as indicated by their balance sheets, continued expanding rapidly in 1999: their total balance sheet grew by 11 percent, annual average, to total NIS 542 billion at the end of the year (Table 1.1).

This rate of growth was achieved despite the continued deceleration of economic activity in Israel. Following the period 1988–96 when the balance-sheet/GDP ratio fell gradually from 1.63 to 1.23 (a 25 percent decline), the trend changed direction, and since 1997 the growth of the balance sheets of the commercial banks has outstripped that of GDP, and the balance-sheet/GDP ratio reached 1.32 in 1999 (Figure 1.1). Most of the rise in the banks' balance sheets, which occurred despite the general slack in the economy, may be ascribed to acceleration in the rate of increase of bank credit to the public since 1997. Demand for credit in that period derived from three factors: turning to parties active outside Israel, not necessarily affected by Israel's business cycle, as credit sources; an increased demand for credit to buy companies, as the process of privatization continued; and the need of firms, especially large ones, to finance the drop in sales and the rise

Figure 1.1
Measures of Banking Activity Relative to GDP,[a] 1989–99



[a] GDP and other variables at current prices.
[b] Adjusted by deposits in Bank of Israel.
[c] Value added includes gross income, salaries, and related expenses.
[d] Including credit and credit guarantees at banks' responsibility.
SOURCE: Returns to Supervisor of Banks.

Table 1.1
Activities of the Commercial Banks,[a] 1992–99

(percent)

	1999	1992	1993	1994	1995	1996	1997[a]	1998	1999
	NIS million, Dec. 1999 prices[b]								
Rate of change[b]									
Total balance sheet									
Total assets	542,110	2.7	7.4	5.1	4.8	5.9	5.8	9.0	11.0
Total credit to public	295,814	12.9	3.2	13.8	12.9	7.7	8.2	11.0	11.9
Total deposits of public	451,358	1.2	5.4	5.5	17.2	10.5	6.6	18.3	12.5
Monetary loans from Bank of Israel	820	84.1	90.7	–5.5	–67.1	–56.4	–45.7	–60.0	–1.8
Deposits in Bank of Israel[c]	49,689						472.9	12.4	13.4
Share of segment in balance sheet[d]									
Unindexed	173,415	21.6	25.0	27.1	26.0	26.8	30.0	31.8	32.0
Indexed	159,012	47.5	43.2	40.5	39.0	36.4	34.1	30.9	29.3
Foreign currency[e]	179,658	28.1	27.3	27.5	29.9	31.5	30.9	32.2	33.1
Net interest margins (N.I.M.) by segment									
Unindexed		8.0	5.0	4.5	5.5	5.1	4.2	3.3	3.2
Indexed		1.0	0.9	0.9	1.1	1.1	1.2	0.9	0.8
Foreign currency		1.7	1.7	0.9	1.3	1.3	2.0	2.9	2.2
Total N.I.M.		2.5	2.2	2.0	2.4	2.4	2.4	2.0	2.1

[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 description of assets and liabilities in the published financial statements. The tables do not include transactions at the banks' responsibility. 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] Average balances and their rates of change.

[c] Including liquid assets in the Bank of Israel arising from the reserve requirement.

[d] Not including buildings and equipment and nonfinancial assets included in the balance sheet. Hence the figures do not total 100 percent.

[e] Indexed to and denominated in foreign currency.

SOURCE: Returns to Supervisor of Banks.

in involuntary inventory. In this context the revival of activity in the second half of 1999 and the marked surge in the volume of Israel's foreign trade are relevant, as they also contributed to higher demand for credit.

For several years the banks have had surplus sources, and these they have diverted to the Bank of Israel in the framework of the deposit auctions offered by the Bank. Following the trend of the previous three years, these deposits rose again in 1999, by about NIS 8 billion, and reached some NIS 50 billion (10 percent of the banks' total balance sheet). As these deposits by the commercial banks in the Bank of Israel in effect represent the diversion of sources to uses which do not finance economic activity, it could justifiably be argued that they should be deducted from the banks' total balance sheets in the last three years in order to be able to perform a long-term analysis of the balance-sheet/GDP ratio. The picture obtained if such an adjustment is performed is that the balance-sheet/GDP ratio remained stable at 120 percent in the 1996–99 period, in contrast to the rise to 130 percent which emerges from the unadjusted data (Figure 1.1).

Another index which reflects the activity or output of the banking system is the industry's value added. A long-term analysis of the value added/GDP ratio shows that except for a temporary rise in 1992–93, which derived mainly from lively activity on the capital markets, the ratio declined throughout the period from 1989 to 1995, and that it has risen slightly since 1996, moving between 3.8 percent and 4.3 percent (Figure 1.1). This level is similar to the average in the banking systems of many industrialized countries (Figure 1.12). The fall in the share of the commercial banks' activity (i.e., the value added) in GDP in the first half of the 1990s resulted from the operational streamlining which the banking system underwent at that time, liberalization of the money and capital markets, the increased share taken by other financial institutions such as insurance companies in granting financial services, as well as developments in the money and capital markets both in Israel and abroad, which serve as alternatives for borrowers and depositors.

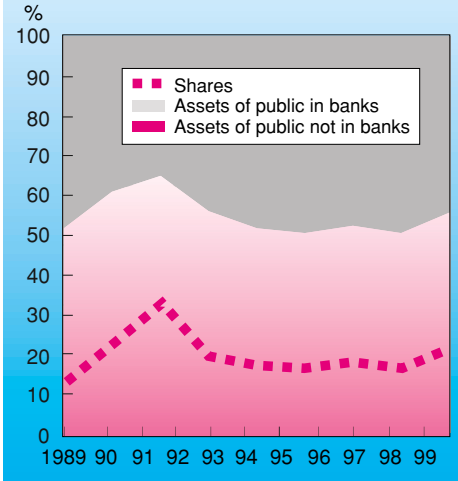
There are indications that the banking industry's share in GDP has risen since 1995. This trend may suggest an increase in demand for bank services and the banking system's ability to disperse its sources of income widely (in Israel and abroad), in the light of the universal nature of its activities. Its performance, therefore, as reflected in its value added (profit *plus* salaries and related expenses, building and equipment expenses, depreciation, and amortization), is not necessarily very sensitive to Israel's business cycle (see Chapter 4), but is positively affected by developments in the capital market.

Deposits of the public

Deposits of the public rose in 1999 by some 12.5 percent, to NIS 451 billion, a faster rate of increase than has been evident in most of the 1990s but slower than the rise of 18.3 percent in 1998. The public's total assets in banks (local-currency unindexed, CPI-indexed, and foreign-currency deposits) represented a steady 48.5 percent of the public's total assets in the years 1995 to 1988, but declined in 1999 to 44.5 percent. The share of assets held outside the banking system obviously showed the reverse, rising from 50.6 percent to 55.5 percent (Table 2.3).

The distribution of the public's assets portfolio was affected by the recovery in the stock market in 1999, which was reflected by high returns as well as by a marked rise in turnover. The decisive effect of stock market activity on the public's assets portfolio, both its size and its composition, has been noted in the past (Figure 1.2): in the stock-exchange boom of 1992–93 this effect was very evident, and encouraged the process of disintermediation, which was reflected in the decline of the share of the public's deposits in the asset portfolio to a mere 35 percent. In contrast, in the relative slump of the stock exchange in 1994–95, the reverse process, reintermediation, took place, boosting the share of the public's bank deposits in total assets to about 48 percent (Table 2.3). Some of the rise may be ascribed to the effect of revaluation of the securities traded on the stock exchange. The public's deposits grew by 13 percent in 1999, and their share in the assets portfolio was still higher than during the 1992–93 stock-exchange boom. This is consistent with the public's preference since 1994 for bank deposits over other yield-bearing investments such as provident funds and negotiable securities (although this was less marked in 1999). The public also prefer short-term unindexed local-currency yield-bearing deposits such as self-renewing overnight (SRO) deposits and time deposits.

Figure 1.2
Banking Intermediation vis-a-vis Nonbanking Intermediation, 1989–99



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

Monetary policy and the exchange-rate regime also have a significant effect on the size of the public's assets portfolio and the way it is divided between the banking system and non-bank channels. Since 1994 the Bank of Israel has pursued a tight monetary policy which has resulted in inflation being contained and stabilized at low single-digit levels, and in a reduction of uncertainty regarding inflation. Since 1997 the Bank also desisted from direct intervention in the foreign-currency market, and the exchange-rate band was actually widened on several occasions. Such policy measures motivate the public to increase demand for unindexed local-currency deposits, the real return on which becomes more certain and higher, and proportionally reduce demand for CPI-indexed deposits and deposits in or indexed to foreign currency. Thus in the period from 1994 to 1999 there was a considerable increase in the share of unindexed local-currency deposits at the expense of indexed and foreign-currency ones.

Bank credit

The trend of bank credit growing faster than GDP, which has been evident since 1992, continued in 1999 (rises of 12 percent—similar to the rise in 1998—and only 2.2 percent respectively) (Figures 1.1 and 2.1), so that the credit/GDP ratio reached 72 percent in 1999, compared with 56 percent at the beginning of the 1990s. The immediate effect of a rise in this ratio is a rise in the risks which banks are exposed to, since GDP is a major source for credit repayment. During the 1990s bank credit expanded rapidly both during boom periods and in depressions.

Changes in the composition of bank credit with regard to indexation segment, size of borrower, and the industries in which the borrowers operate, are also important.

a. *Unindexed credit and foreign-currency credit* increased relatively quickly in 1999, by 15 percent each. *CPI-indexed credit*, on the other hand, grew at the same rate as GDP, and at the same rate as investment. The latter rose by 7 percent; excluding credit granted from earmarked deposits (i.e., housing loans and loans to the government), the rise was only 1.8 percent, similar to that in 1998. Unindexed credit increased by 17 percent, its main component being on-call credit normally granted to large prime borrowers; this was a 40 percent increase, similar to that in 1998. In the last few years the amount of capital raised by firms in capital markets has risen, and in 1999 most of this was abroad (Table 1.2). The rise in foreign-currency credit derived from the significant increase in the volume of Israel's foreign trade in 1999 and in the activity of high-tech companies which market most of their production abroad.

Table 1.2
Bank Credit Extended,[a] and its Main Substitutes, 1993–99

(NIS million, December 1999 prices)

	Bank credit (net) extended[b]	Main credit substitutes[c]	*of which* Direct credit taken abroad	*of which* Capital raised by Israeli firms on foreign stock markets	Share of bank credit (net) in total credit
1993	35,868	9,978			0.787
1994	34,005	3,582	775	293	0.905
1995	25,717	3,259	3,215	1,436	0.888
1996	28,465	5,898	2,606	4,060	0.828
1997	29,672	13,980	5,895	3,900	0.680
1998	40,127	14,650	4,082	5,042	0.733
1999	44,553	19,774	3,842	13,269	0.693

[a] Credit extended calculated from changes in end-year balances.

[b] Credit from commercial banks and mortgage banks.

[c] Credit from provident funds to members, credit from insurance companies, direct credit from abroad, and capital raised in Israel and abroad by the private sector.

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

b. *The distribution of credit by size of borrower* shows that in 1998–99 total credit to large companies accelerated, while that to small firms fell slightly (Figure 2.10). This is consistent with banking policy, which at a time of tight monetary policy with higher rates of interest, tends to divert sources to companies with higher repayment ability.

c. Using the industry credit/output ratios to review *the composition of credit by industry* shows that the ratio rose in most industries, but especially so in construction, which has been in recession since 1996, reflected by increased stocks of apartments (Figure 2.11). In 1999 credit to the financial services industry again rose steeply, by 33 percent, after surging by 54 percent in 1998, due *inter alia* to the fact that credit granted for the purchase of ownership of a company is classified as being granted to this industry.

Interest rates and net interest margins (NIM)

Changes in interest on unindexed deposits and credit are affected by changes in the Bank of Israel's rate of interest, by movements of the demand curve for credit and the supply curve of deposits, and to a great extent also by changes in the elasticities of these curves.

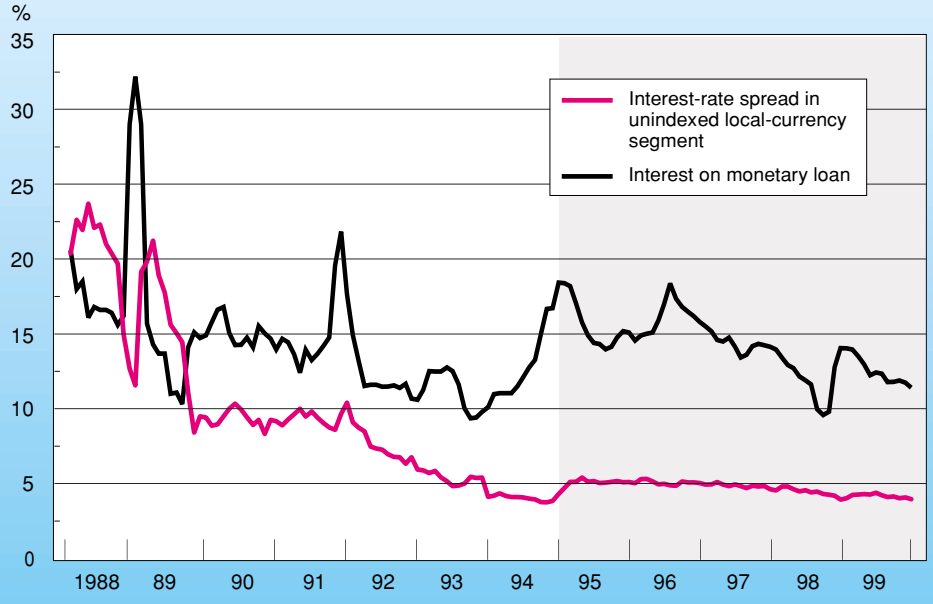
There is a positive long-term relationship between interest on the monetary loan and the interest spread in the unindexed local-currency segment. Nevertheless, in the period from 1987 to 1995, when there was a persistent and steep decline in interest on the monetary loan, there were short-term fluctuations in the interest spread (between term credit and SRO deposits) around the downward-sloping trend line. Thus, when the Bank of Israel's interest rate went down, the interest spread widened, and vice versa. This was mainly due to the average duration gaps between deposits and credit in the segment, as a result of which interest on deposits is adjusted immediately, while interest on credit is only adjusted with a lag (of up to two months).

Since 1995 the average duration of credit has shortened, mainly because the banks adopted a floating-interest policy, and at the same time, the demand function for credit has become more elastic, essentially due to liberalization, which broadened the range of alternatives facing companies. This meant that in response to changes in the Bank of Israel's interest rate, immediate and similar adjustments of interest rates on deposits and credit are made. Although the positive long-term relationship between the interest spread and the Bank of Israel's interest rate still exists, it has been much weakened in the last four years (Figure 1.3). Consistent with its monetary policy, the Bank of Israel reduced interest steadily throughout 1999. Also, the interest spread in the unindexed local-currency segment, in line with the long-term trend, continued to narrow, shrinking from 3.7 percent to 3.4 percent, and the net interest margin in that segment went down from 3.3 percent to 3.2 percent.

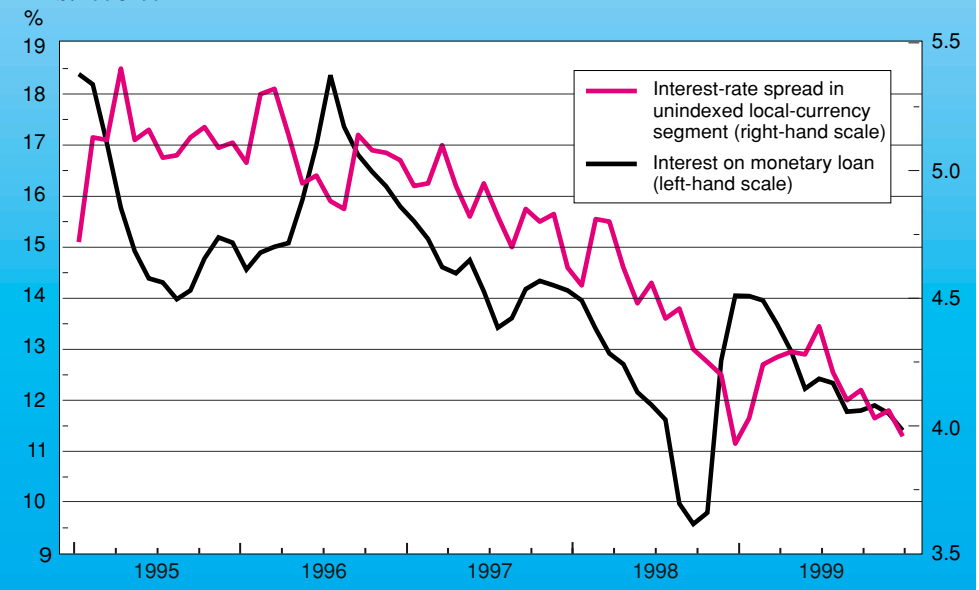
In the CPI-indexed segment, banks' marginal rate of interest rose during 1999 (Table 2.5), mainly as a result of the shortage of long-term sources and the government's greater borrowing need, which led to a rise in the interest on CPI-indexed bonds. A rise in real short-term (ex post) interest (i.e., on SRO deposits and on time deposits) also affected medium- and long-term interest rates in that segment, albeit with a lag. The net interest margin in the indexed segment also went down slightly, from 0.9 percent to 0.8 percent,

Figure 1.3
Rate of Interest on Monetary Loan and Interest-Rate Spread, the Unindexed Local-Currency Segment[a]

a. 1988–99



b. 1995–99

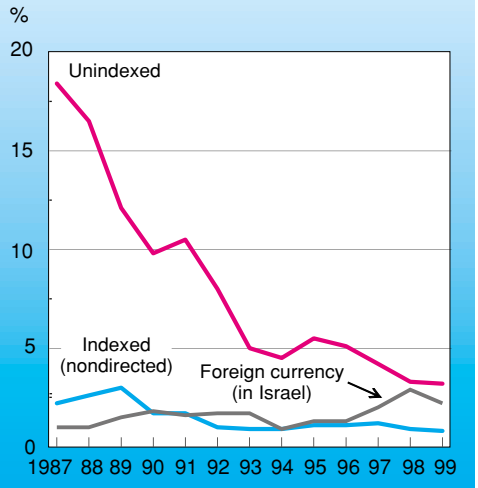


[a] Nominal data.
SOURCE: Based on Monetary Department data and returns to the Supervisor of Banks.

preserving its general stability of the last few years (Figure 1.4).

Interest rates in the foreign-currency segment are influenced mainly by changes in the Libor dollar rate. The dollar interest rate spread maintained its stability in 1999 partly due to the stability of the Libor dollar rate, which declined from 5.4 percent to 5.3 percent. Nevertheless, as the net interest margin in that segment is measured in terms of real NIS, changes in the exchange rate and in inflation during the year have a decisive effect on the margin. In NIS terms, the net interest margin in 1999 went down from 2.8 percent to 2.2 percent. The reasons for this were the surplus uses in the segment, which were financed from unindexed local-currency sources, which had a higher cost than the average cost of foreign-currency deposits, and the real appreciation of the NIS against the various foreign currencies in the second half of the year.

Figure 1.4
Net Interest Margins in the Various Segments, 1987–99



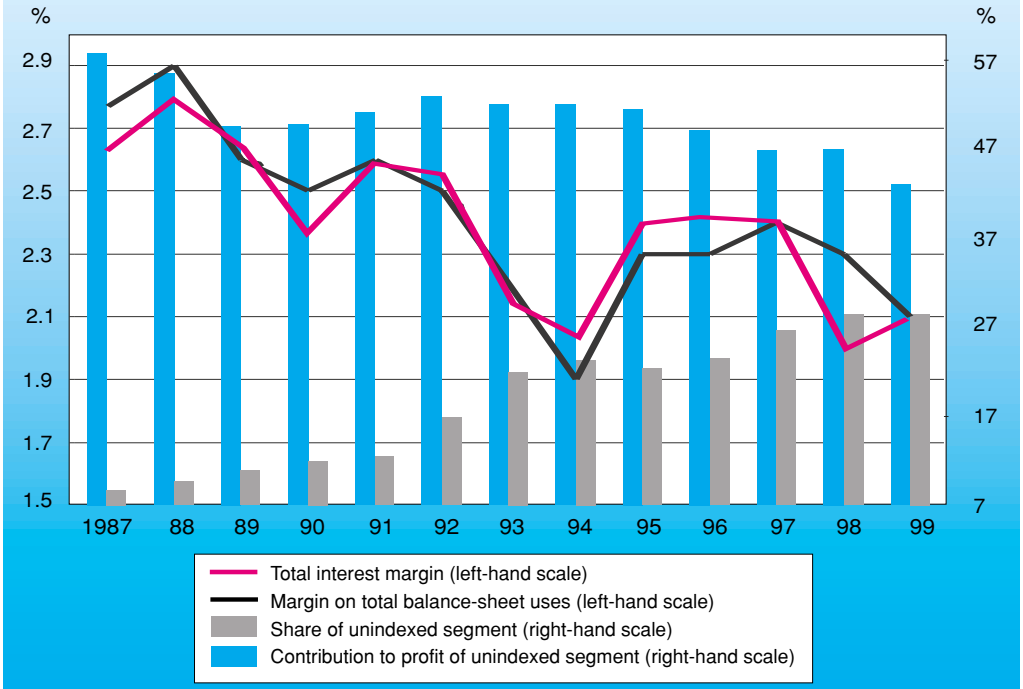
SOURCE: Returns to Supervisor of Banks.

The combination of the net interest margins in each segment and the composition of the total financial intermediation by segment resulted in a reduction in the net margin on total balance-sheet uses from 2.3 percent in 1998 to 2.1 percent in 1999. In calculating the total margin, however, banks' profit or loss from financing activities in derivative instruments, activity which in part serves to hedge against market risks—inter-currency exposure, inflation risks, and interest risks—must be taken into account. In the absence of data on income from such immunization activity in each segment, the net interest margin calculated in each segment is only partial, and to complete the analysis the total net interest margin, i.e., from balance-sheet and off-balance-sheet activities, must be calculated. In 1999, off-balance-sheet activity provided the banks with additional financing income, as a result of which the total net interest margin actually rose slightly, from 2.0 percent in 1998 to 2.1 percent in 1999.

Figures 1.4 and 1.5 show that the net interest margin in the unindexed local-currency segment has fallen constantly since 1987, a time when competition between banks became fiercer, against the background of liberalization of the money and capital markets and the reduction in the reserve requirement. The net interest margins in the other two segments remained stable.

Figure 1.5 illustrates the change in the net interest margin on all balance-sheet uses alongside the total net interest margin, which takes into account net income from other financing activities. The volatility of the total net interest margin around the long-term

Figure 1.5
Total Interest Margins, 1987–99



SOURCE: Returns to Supervisor of Banks.

average of 2.25 percent, which is close to the margin of the banking systems in most industrialized countries, is notable (Figure 1.14), and in general a downward trend in these margins has been evident since 1987.

An analysis of the components of the total margin shows that developments in the unindexed local-currency segment were almost the sole cause of the reduction in the total margin: as the rate of increase of the share of the unindexed local-currency segment is below the rate of decline of its net interest margin (which is still, as stated, the highest of the net interest margins in all segments), that segment's contribution to the total net interest margin declined from 57 percent at the end of the 1980s to about 40 percent at the end of the 1990s.

Financial results and risks in the five banking groups

Financial results

Total income of the five banking groups, including minority interests, increased from NIS 3,062 million in 1998 to NIS 3,580 million in 1999, reflecting an increase in the

Table 1.3
Financial Results,[a] the Five Major Banking Groups, 1994–99

(percent)

	1994	1995	1996	1997	1998	1999
Total after-tax income (NIS million, Dec. 1999 prices)	1,933	2,162	2,393	3,428	3,062	3,580
Total after-tax profitability (ROE)	7.9	8.4	8.8	12.0	9.9	11.2
Net interest margin on total assets	2.2	2.6	2.5	2.5	2.2	2.2
Operating costs/total assets	2.8	2.8	2.7	2.6	2.5	2.3
Non-interest income/ total operating expenses	63.7	58.0	56.2	58.0	57.2	58.8

[a] See notes to Table 3.2.

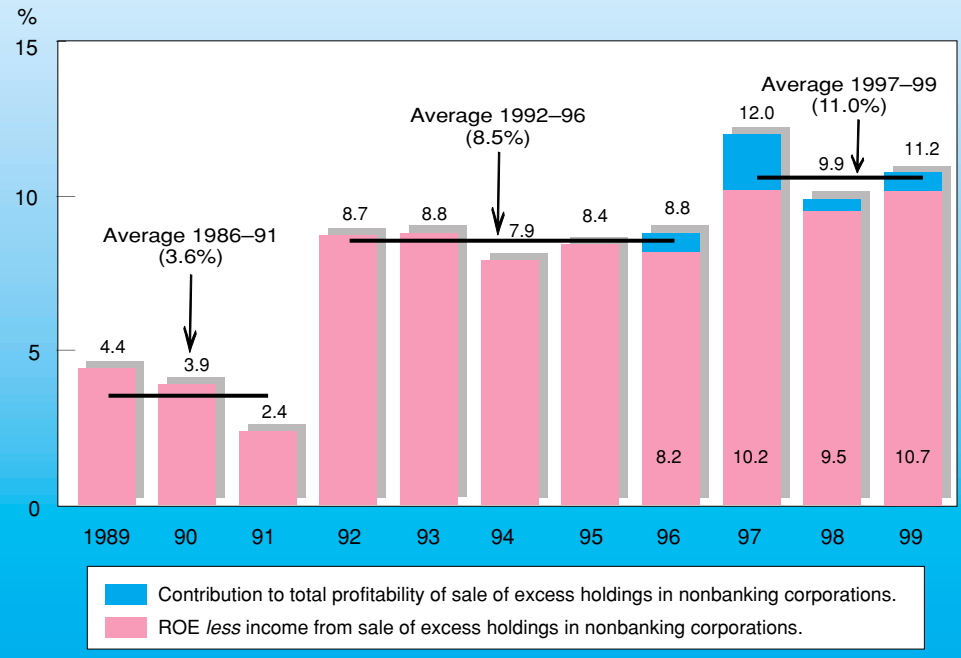
SOURCE: Published financial statements and returns to Supervisor of Banks.

average return on equity from 9.9 percent to 11.2 percent (Table 1.3), higher than the long-term average (Figure 1.6). Profitability varied from one banking group to another: in the First International group it fell considerably in 1999, to a relatively low 5.9 percent, while in all the other groups it rose, to between 6.5 percent in Discount and 13.4 percent in Hapoalim (Table 3.3). The jump to a new level of profitability in 1992 was followed by another surge in 1997; this is still the case even if the nonrecurring profit in 1996–99 from the sales of excess nonfinancial holdings is excluded.

The high ROE relative to the long-term average which most of the banking groups achieved in 1999 was the result mainly of the following factors: the 11 percent expansion in the banks' balance sheets, detailed above, whose effect on profitability was supported in 1999 by a small rise in the total net interest margin from 2.0 percent to 2.1 percent; the reduction in the groups' loan loss provisions, continuing the long-term trend evident since the end of the 1980s; the increase in non-interest income, mainly that from fees, together with a moderate rise in operating expenses. The rise in income resulted from expanded activity, and to some extent from a rise in fee tariffs.

In the 1990s the banking system operated in a dynamic economic and financial environment which obliged the banks to adopt asset, liability, and risk management policies and operating policies which enabled them to maximize profitability. The characteristics of the environment and the principles of policy can be seen from the indices shown on Figure 1.7. The high economic growth rates till 1996 provided a useful springboard for lively financial activity and high profitability. In the next few years economic activity slowed, as did the rates of growth. At the same time, and especially in the first half of the 1990s, demand for credit, particularly in the construction industry, surged, resulting in a trend to greater industry concentration in the banks' credit portfolios (as can be seen in Figure 1.7 from the change in the H-index of credit by industry). Another change related to risks at the beginning of the 1990s was the clarification and realization of credit risk related to agriculture, which meant that banks had to make large loan loss provisions (as is shown by the rise in the share of problem credit in total bank

Figure 1.6
After-Tax Return on Equity, the Five Major Banking Groups, 1989–99



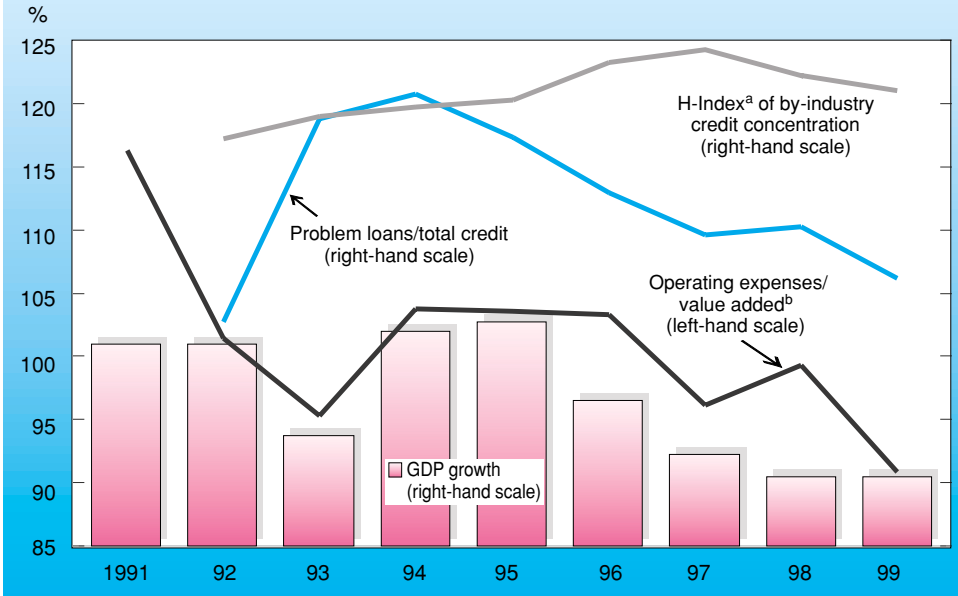
SOURCE: Published financial statements.

credit in 1992–93 (Figure 1.7). The policy regarding provision for loan losses and credit arrangements much improved the banks' credit portfolios, and this was reflected in a downward trend in the share of problem loans from 1994. The banks complemented this risk policy with a policy of operational streamlining, which resulted in a downward trend in the ratio of operating expenses to value added from the end of the 1980s to 1993. Although this ratio rose in 1994–95, it declined again in 1999 to its lowest level of the decade, 0.8 percent.

An analysis of the long-term trends of the main components of the banks' ordinary activities in their profit and loss statements (Figure 1.8) shows that pre-tax profit from these activities, which fell slightly in 1989–91, has followed a clear upward trend since then. Net interest income before loan loss provision showed a similar upward trend, but only since 1993, after declining since 1989. The upward trend in net interest income resulted from the expansion of banking activity throughout the 1990s, and particularly since 1993, and occurred despite the continuous decline in the net interest margin.

The conclusion can be drawn from this that prior to 1995 the reduction in operating expenses—one aspect of the improved efficiency of the banking system—and the decline

Figure 1.7
Risk and Efficiency Indices, the Five Major Banking Groups, and GDP Growth, 1991–99

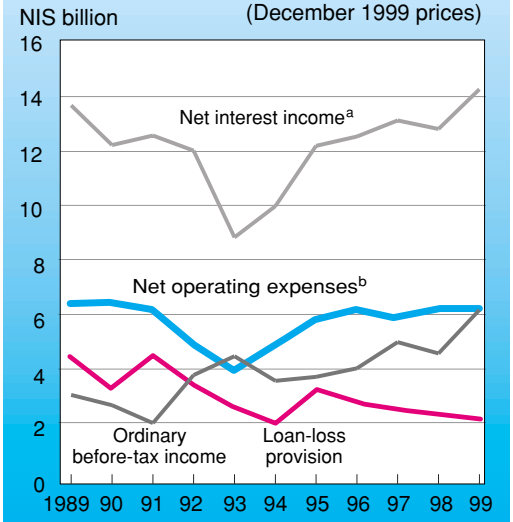


[a] H-Index x 100.
[b] Value added calculated as sum of ordinary before-tax income, salaries and related expenses, depreciation and amortization.
SOURCE: Published financial statements and *Bank of Israel Annual Report*.

in the loan loss provision were responsible for the increase in income. Since 1992, the banks have managed to achieve a continuous rise in ordinary profit, despite the fluctuations of its components, some of which moved in opposite directions.

The downward trend of the loan loss provision continued in 1999, but not in all the groups (see Chapter 3 for details). Since 1988, when loan loss provision was 3.3 percent of the credit to the public at the banks' responsibility, that figure has declined constantly, and in 1999 was 0.5 percent, lower than in the banking systems of many industrialized countries (Figure 1.14). At a time of economic slowdown, such as has persisted in Israel for several years, a rise in the realization of risks would be expected, and this would be expressed *inter alia* in the form of an increase in loan loss provisions; the slowdown in activity may therefore be reflected in the near future. The upward trend evident since 1993 in the surplus of operating expenses over income from operating fees and other income in the five banking groups leveled off in 1997, and has remained so since. The upward trend derived mainly from the banks' policy regarding salaries and related expenses, which was reflected in a significant real rise in these expenses in that period. The policy of encouraging early voluntary retirement in the context of the process of improving efficiency pursued by some banks in the last few years also contributed to the

Figure 1.8
Effect of Income Components on Before-Tax Income, the Five Major Banking Groups, 1989–99



[a] Before loan-loss provision.
[b] Operating expenses *less* non-interest income.
SOURCE: Returns to Supervisor of Banks.

rise in these expenses; the positive effect of this policy will only become evident in the future. In 1999 non-interest income rose by 7 percent, due to the widening of the range of services offered to customers, the bullish capital market, and the rise of fee tariffs, which caused a real rise in the fee index. This had the effect of moderating the rise in net operating expenses.

Banks' operating efficiency in the various spheres of their intermediation activities also affects the profitability of the banking system. Figure 1.7 shows the long-term development of the average operating expenses/value added ratio in the five banking groups, and this can be used to analyze efficiency. In this instance value added represents the bank's output, and thus expresses the link between total (balance-sheet and off-balance-sheet) banking activity and operating expenses. The downward trend in the ratio of average expenses to value added can be seen from the figure, part of which indicates the increased efficiency of the banking system at the beginning of the 1990s. Part of the jump to a higher return on equity in 1992 may be ascribed to this factor, as described above. The streamlining of the banking system is important for two reasons: it is one of two ways in which an individual bank can improve its allocation of factors of production, utilizing its economies of scale and of scope as well as its ability to improve its management in general, and management of the whole gamut of its banking risks, in particular. To the public, streamlining is important due to its potential for lowering the cost of financial services and increasing welfare.

The economic and financial environment described above and the banks' policies enabled the banks to achieve much higher rates of profitability since 1992 than in the past (Figure 1.6). The issue of the stability of banks' performance over time is discussed below, as is the interrelationship between the different components of the banking groups—the commercial bank and the subsidiaries—including other commercial banks belonging to the group, nonfinancial companies, insurance companies, mortgage banks, overseas subsidiaries, and institutions active in the capital market. These provided the opportunity for banks to compensate for the loss of income from one component by

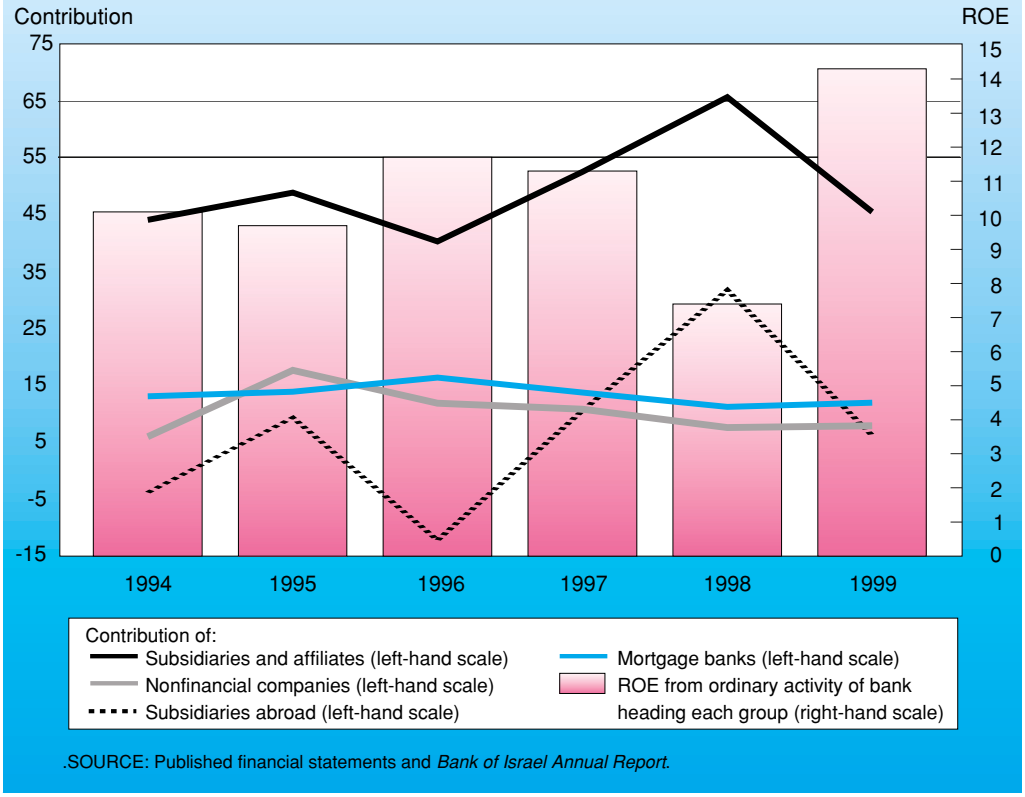
increasing income from another in the group, in other words, to spread risks efficiently. The analysis will make use of time series of the five banking groups from the beginning of the 1990s.

The components of the banking groups

The five banking groups invest some 59 percent of their equity in their subsidiaries (Table 4.2), including banking companies abroad, mortgage banks, companies active in the capital market, nonfinancial companies, and the commercial banks belonging to the group (other than that which heads the group).Investment in the subsidiaries yielded profits of NIS 1.14 billion in 1999 (Table 4.1), or an average return of 7.3 percent, down from 11.1 percent in 1998.

The book value of investment in the five groups in their (main and other) subsidiaries totaled NIS 19 billion at the end of 1999, compared with NIS 17.9 billion in 1998 (Table

Figure 1.9
Contribution of Subsidiaries and Affiliates, Mortgage Banks, Subsidiaries Abroad, and Nonfinancial Companies to Net Income, the Five Major Banking Groups, 1994–99
(percent)



.SOURCE: Published financial statements and *Bank of Israel Annual Report.*

4.2). The composition of the investment portfolio of the banking groups has changed in the last few years. The main changes are the increase in the investment in mortgage banks from 16 percent in 1995 to 19 percent in 1999, the decline in investment in overseas subsidiaries from 30 percent in 1995 to 27 percent in 1999, and a decline in investments in nonfinancial companies and insurance companies from 19 percent to 9 percent, due *inter alia* to the constraints imposed by the Banking (Licensing) Law.

Figure 1.9 shows the contributions of the main subsidiary companies of the nonfinancial companies and the mortgage banks (consolidated companies and those included on an equity basis) to the profit of the groups, and the return on equity from ordinary activities of the banks heading the groups, since 1994. A negative correlation was found between the ROE of the bank at the head of the group and that on its investment in its subsidiaries; it appears that the main reason is the volatility of the ROE of overseas banking companies, which are strongly affected by fluctuations in the exchange rate of the NIS against foreign currencies.

The ROE of the commercial banks heading the banking groups reached 14 percent in 1999, reverting to its high level of 1996–97. Since 1994 the banking groups have succeeded in stabilizing their profitability by diversifying their profit sources, using the variation in the contributions of their subsidiaries. There is a long-term upward trend evident in the contribution of the subsidiaries to the groups' total profits (Figure 1.9). In the last few years the mortgage banks, the overseas banking subsidiaries, and the nonfinancial companies have made the major contributions.

Net profit of the mortgage banks, which in the last few years have had the highest and most stable return of the different subsidiary components of the five groups, increased by 25 percent in 1999. The rise in profit and profitability is particularly noteworthy in the light of the continued slowdown in economic activity in general, and in construction in particular, and derived from the sharp rise in credit for (directed and nondirected) mortgages and other purposes in the second half of 1999. The mortgage banks have achieved good profitability in the last few years, but it is doubtful that this will continue in the light of the competition in the industry and the expected decline in income from insurance and in fees on credit from government funds (Table 1.4).

The contribution of the overseas banking companies to the groups' net profit (after translation into NIS and accounting adjustments) is very volatile, and is greatly affected by the appreciation or depreciation of the NIS against the dollar and against the European currencies. However, to obtain a more accurate picture the income derived from immunization activities by banks to protect themselves against exchange-rate risks should be included too. In addition, certain nonrecurring events in 1998, such as the sale of overseas offices and tax rebates, explain part of the decline in the contribution to profit in 1999. On the other hand, the ordinary pre-tax profit in dollars of these companies increased in 1999, due to the increase in classical banking activity and the sharp fall in loan loss provisions which was made possible by the continued prosperity in the overseas offices' host countries.

Nonfinancial companies and insurance companies (included in the main unconsolidated subsidiaries), the investment in which has fallen in the last few years as a result of the sale by Bank Leumi and Bank Hapoalim of their surplus holdings, contributed NIS 262

Table 1.4
Financial Activity and Results, Mortgage Banks and Overseas Offices, 1994–99

(NIS million)[a]

	1994	1995	1996	1997	1998	1999
Mortgage banks[b]						
Total assets	45,311	56,854	67,215	77,816	84,832	93,003
Total credit[c]	41,701	53,697	64,773	75,898	83,099	91,357
of which: Nondirected mortgages	34,148	43,026	52,512	61,203	67,273	74,761
Total deposits[d]	36,515	47,720	57,754	67,927	74,712	82,592
of which: Deposits of the public	24,008	30,857	35,461	40,438	43,006	44,957
Net income	331	370	457	523	413	517
Return on equity (ROE) (*percent*)	13.9	12.7	13.6	13.3	9.4	11.2
Risk-based capital ratio (*percent*)	12.0	11.9	12.0	12.0	10.6	10.6
Overseas offices						
Total assets[e]	46,227	50,881	52,770	58,659	76,881	88,907
Net income[f]	–61	183	–252	295	878	204
Return on equity (ROE)[g] (*percent*)	6.5	8.8	8.8	11.2	15.6	8.9

[a] End-year balances, December 1999 prices.
[b] Excluding directed credit.
[c] Including (nondirected) mortgages, and loans to building contractors and other construction and real-estate companies.
[d] Including deposits of the public and from banks.
[e] Translation of net income into NIS according to exchange rate on balance-sheet date.
[f] After accounting adjustments and translation into NIS.
[g] Return on equity in dollar terms refers to subsidiaries only.
SOURCE: Published financial statements and returns to Supervisor of Banks.

million to profit in 1999 (Table 4.2). The nonfinancial companies generally showed a significant improvement in profit which offset, and in some cases more than offset, the decline in holdings. On the other hand, some of the proceeds of the sales were used by the two large banks for the purchase of other nonfinancial companies in 1999 and at the beginning of 2000, albeit to a smaller extent than previously, which explains the rise in investment in other subsidiaries. The average rate of return from 1993 to 1999 on investment in these main subsidiaries, about 10 percent, is second only to that in the mortgage segment. The banks, even those that did not hold nonfinancial companies in the past, intend to continue investing in these companies, in different industries, in order to diversify their sources of profit.

Risks

The banking system's ROE must be viewed alongside the banks' exposure to a range of risks—credit risks, market risks, liquidity risks, etc. The following analysis examines banks' exposure to risks in the last few years, in the light of the volatility of their

profitability in certain periods and its stability in others. Various indices, relating to different components of risk, are used.

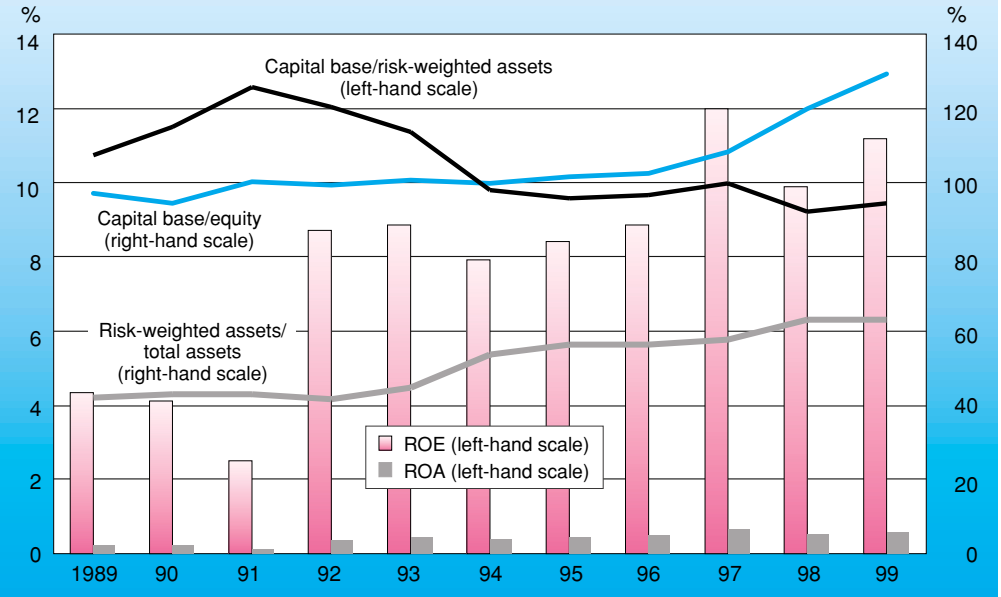
Credit risk: Credit risk is usually divided into three categories—the extent of credit (exposure), quality of credit and concentration of credit. In 1999 credit expanded, continuing the long-term trend, despite the deceleration of economic activity in the last few years. The rise in credit, and specially in the credit/GDP ratio, increases credit risk, as GDP serves as the basis for credit repayments; in other words, it reflects customers' repayment ability.

The banking system's exposure to off-balance-sheet activity increased greatly in 1999, and the share of credit-risk-equivalent due to activity in off-balance-sheet financial instruments in the balance sheet reached 15 percent (see Chapter 5).

The long-term developments of the credit quality and concentration indices are described below.

The ratio of risk-weighted assets to total assets (total risk components *divided by* total balance sheet and off-balance-sheet items) stabilized in 1999, after a clear upward trend since 1992 (Figure 1.10 and Table 1.5). That trend was the direct result of the long-term policy of liberalization which included *inter alia* a gradual reduction in the banks' reserve ratio in the 1990s. The rise in the ratio of risk-weighted assets to total assets in the last

Figure 1.10
Components of Return on Equity, the Five Major Banking Groups,[a] 1989–99



SOURCE: Returns to Supervisor of Banks.

Table 1.5
Quality of Credit and Capital Adequacy, the Five Major Banking Groups, 1993–99[a]

	1993	1994	1995	1996	1997	1998	1999
Concentration of credit							
H-Index by industry[b]	0.136	0.139	0.141	0.153	0.157	0.149	0.144
Concentration by borrower[c]					33.7	39.4	42.6
Quality of credit							
(*Percent*)							
Loan-loss provision/credit to the public	1.20	0.80	1.15	0.92	0.75	0.61	0.50
Risk-weighted assets/total assets	49.1	53.3	56.3	56.3	57.8	62.9	62.9
Problem loans[d]/capital	77.1	68.4	61.0	52.2	41.9	50.2	48.3
Capital adequacy[a]							
Capital assets (end-year)	5.3	5.4	5.5	5.9	6.0	5.6	5.3
Capital/risk-weighted assets (end-year)	10.5	9.8	9.6	9.7	10.0	9.2	9.4

[a] See notes to Tables 5.7 and 5.12.
[b] Including credit equivalents in off-balance-sheet activity.
[c] Borrowers of more than NIS 33 million as share of total.
[d] Excluding indebtedness under special supervision and mortgaged real estate that has been realized.
SOURCE: Adjusted published financial statements and returns to Supervisor of Banks.

seven years, which indicates a deterioration in the quality of bank credit, is important in the light of the slowdown in economic activity since 1997. Moreover, from 1996 to 1998 the increase in risk components derived mainly from the rise in the public's demand for foreign-currency credit, whose share of total credit reached 35 percent, a change which entails an exchange-rate risk.

On the other hand, in the last few years a clear downward trend has been evident in ratio of problem loans to total loans in the five banking groups, after this has jumped to a new level in 1993 (Figure 1.7). The reduction of this ratio reflects the process which the banks undertook of filtering out credit to problem borrowers from their credit portfolios. The ratio of problem loans to capital has also improved in the last few years (Table 1.5); if credit to agriculture, which underwent restructuring in recent years, is deducted, however, the result shows that the ratio deteriorated in most of the banking groups. Another indication of an improvement in the quality of credit is the continued reduction of the ratio of annual loan-loss provision to the balance of credit to the public at the banks' responsibility in the five groups for the fifth year in succession, from 1.2 percent in 1995 to 0.5 percent in 1999 (Table 1.5). This represents the continuation of the long-term trend which started at the end of the 1980s, when it was 4 percent. Since 1998 the level of loan-loss provision has come down to that considered normal in the banking systems of the industrialized countries (Figure 1.14). These changes in the indices of the quality of credit raise doubts about the link between economic activity, the extent of

credit, and its quality. It may well be that a deceleration of economic activity only affects the quality of the credit portfolio after a lag, so that an increase in loan loss provision may be required in the next few years in the light of the recession since 1997, due to a higher incidence of credit risk realizations.

Concentration of credit to the public by industry, measured by the H-index (Figure 1.7 and Table 1.5), has declined since 1997, having risen steadily from 1992. The decline resulted from the reduction in credit to agriculture (due to new debt arrangements) and from the slowdown in the rate of increase of credit to the construction industry in the last few years. Another index of concentration, the share of balance-sheet credit to borrowers whose outstanding debt exceeds NIS 33 million ("large borrowers"), actually points to a rise in industry concentration in the five banking groups in 1999, from 39.4 percent in 1998 to 42.6 percent in 1999 (Table 5.4).

Several developments indicate that banks' credit risk has risen in the last few years: the rise in demand for credit in the context of the economic recession (an increase in the credit/GDP ratio); the rise in foreign-currency-credit risk; the reduced payment ability in the construction industry; and the increase in the share of risk-weighted assets in total assets. Nonetheless, since 1988 the banks have entered into credit arrangements and have written off considerable sums related to problem customers (in agriculture, overseas offices, etc.), so that the quality of credit portfolios was higher at the end of the 1990s than at the beginning.

1999 was the fifth year in succession that foreign-currency credit expanded markedly, although its rate of expansion slowed somewhat this year, to 14.7 percent, from 22.8 percent in 1998. The cause of this long-term development lies in expectations that in the short term changes in the exchange rate would only be moderate ones, and that the relatively high rates of local-currency interest would continue. The wider exchange-rate fluctuations in the second half of 1998 and at the beginning of the second quarter of 1999 emphasized the risk inherent in granting foreign-currency credit to customers who do not have an income in foreign currency, obliging the banks to exercise the greatest caution in allocating foreign-currency credit. Part of the slowdown in the growth of this credit aggregate during 1999 may be ascribed to banks' managements putting into practice lessons they had learnt from experience.

Market risks—interest, exchange rate, and inflation: Exposure to interest-rate risk is measured by means of the Value at Risk (VaR) (see Chapter 5 for a detailed explanation). In 1999 most banks held positions and average duration gaps in the unindexed local-currency segment and the indexed segment such that a rise in the interest rate would have eroded their net worth to some extent. The situation in the foreign currency segment was just the opposite: due to the average duration gaps and positions, an unexpected rise in interest would have enhanced net worth. The total VaR related to interest rates in the three segments rose in all banks except for Bank Leumi. The value is calculated as the sum of the VaRs in all segments, on the assumption that the worst-case scenario would take place in all three segments simultaneously, ignoring the correlations between the

various changes in interest rates. If these correlations are taken into consideration, exposure to interest risk shows a certain decline, so that capital allocated to absorb possible future losses arising from interest risk can be reduced.

Inflation risk, calculated from estimates of VaR related to inflation in the unindexed local-currency segment, declined significantly in the two largest banking groups (due mainly to a reduction in their positions), and rose in the other groups. In the foreign-currency segment, real-exchange-rate risk showed a similar development. Although the maximum change in the real exchange rate did not change in 1999, following the increased exchange-rate volatility at the end of 1998, the VaR declined in the Leumi, Mizrahi, and First International groups, due to lower positions in that segment, while in the Discount and Hapoalim groups it rose due to increased positions.

Thus, total market risks facing the banking groups have increased in the last few years. Although the long-term lower rate of inflation serves to reduce inflation risk, the widening of the exchange-rate band and the Bank of Israel's policy of nonintervention in the foreign-exchange market raise the real-exchange-rate risk. Monetary policy, which responds to changes in inflation expectations via the rate of interest (when necessary with frequent changes), also contributes to changes in interest-rate risk.

3. THE INTERACTION BETWEEN RETURN ON EQUITY AND RISKS

In the last ten years the banking groups' return on equity (ROE) (i.e., profitability) has fluctuated. Some of the fluctuations result from changes in long-term trends, for example the jump of the average long-term rate of ROE from about 3 percent in the period from 1988 to 1991 to 9.5 percent in the years from 1992 to 1999. Some of the fluctuations were due to short-term changes, such as the rise from 8.8 percent in 1996 to 12 percent in 1997, the reduction to 9.9 percent in 1998, and the rise to 11.2 percent in 1999.

These changes in the banking system make it advisable to look into the link between ROE and the risks facing banks. It is important, for example, to assess whether the sharp rises in profitability in 1992 and in 1997 derived from greater exposure to risk, or whether the banks increased their income from risk-free activities, perhaps also taking advantage of their market power to boost their profits.

The link between ROE and risk is examined below by splitting ROE into its different components, taking into account changes in risk-weighted assets and in capital adequacy (equity *divided by* risk-weighted assets). Risk-weighted assets reflect changes in credit risk, while capital adequacy reflects the extent of the banks' cover against that risk (their revealed attitude towards risk).

ROE is split as follows:

$$\frac{\Pi}{E} = \frac{\Pi}{A} \cdot \frac{A}{A^*} \cdot \frac{A^*}{\tilde{E}} \cdot \frac{\tilde{E}}{E} ,$$

where

Π/E is return on equity (ROE);

Π/A is return on assets (ROA);

A^* are risk-weighted assets;

and so

A/A^* is the ratio assets *divided by* risk-weighted assets.

$\tilde{E}$ is the bank's capital base, i.e., the capital recognized for calculating capital adequacy (tier-1 capital *plus* tier-2 capital);

E is the bank's equity;

$A^*/\tilde{E}$ is the inverse of the risk-weighted capital ratio, i.e., the inverse of capital adequacy.

Separating the components of ROE makes it possible to identify and analyze the various elements affecting those components, and also to distinguish between those that have a long-term effect, which affect capital adequacy and which are affected by banking arrangements, and those that have a short-term effect, which affect risk.

Table 1.6 summarizes the changes in ROE and its components from 1994 to 1999. It can be seen that from 1996 to 1997 ROE jumped to a new level, so that in 1997–99 it was higher than in 1994–96 (11 percent and 8.4 percent on average respectively). Three factors caused the jump: an improvement in the capital base deriving from raising tier-2 capital (subordinated notes, etc.), i.e., a rise in the $\tilde{E}/E$ ratio; a decline in capital adequacy, due

Table 1.6
Return on Equity and its Components, the Five Major Banking Groups, 1994–99

(percent)

	1994	1995	1996	1997	1998	1999
Return on equity (ROE)	0.0793	0.0841	0.0884	0.1200	0.0988	0.1117
Return on assets (ROA)[a]	0.0042	0.0045	0.0048	0.0069	0.0057	0.0066
Risk-weighted assets ratio, A/A^*	1.86	1.78	1.78	1.73	1.59	1.59
Inverse of capital adequacy, $A^*/\tilde{E}$	10.23	10.43	10.33	10.03	10.86	10.61
Capital base/equity, $\tilde{E}/E$	0.996	1.017	1.024	1.080	1.198	1.292

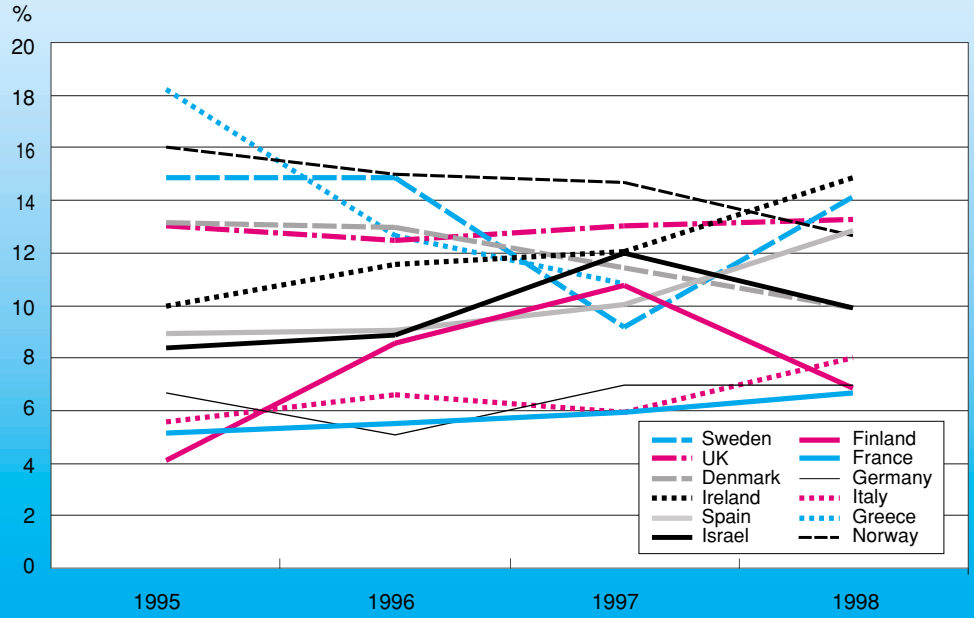
[a] Total assets in the denominator include off-balance-sheet credit equivalents.
SOURCE: Returns to Supervisor of Banks.

inter alia to dividend payments, i.e., an increase in the $A^*/\tilde{E}$ ratio in the last three years (indicating a decline in capital adequacy from 9.7 percent to 9.5 percent); and a parallel rise in credit risks as measured by the ratio of risk-weighted assets to total assets, i.e., a fall in the A/A^* ratio from an average of 1.81 in 1994-96 to 1.64 in 1997–99.

Thus, in 1997 ROE jumped to a new level, and since then it has stabilized at that higher level, constituting "compensation" for the parallel rise in risks confronting banks in that period. As mentioned, this is expressed by a rise in the ratio of risk-based assets to total assets (a decline in the A/A^* ratio) and a simultaneous reduction in the banking groups' capital adequacy.

A long-term view yields a similar result regarding the relation between return and risk: Figure 1.10 shows the development of the components of ROE since 1989. ROE rose significantly after 1992 compared to the previous few years, and in 1997 there was another jump in its level compared with the 1992–96 period. Over the period as a whole ROE remained markedly stable; the ratio of risk-weighted assets to total assets rose steadily; the banking groups' capital adequacy fell continuously (and most markedly in 1991–94, but also in 1998 and 1999); and since 1997 the tier-2 capital component in the total capital base increased. Tier-2 capital is considered less stable than tier-1 capital, as it cannot be so readily used as a cushion against losses. The significance of all these

Figure 1.11
ROE, Selected Banking Systems, 1995–98

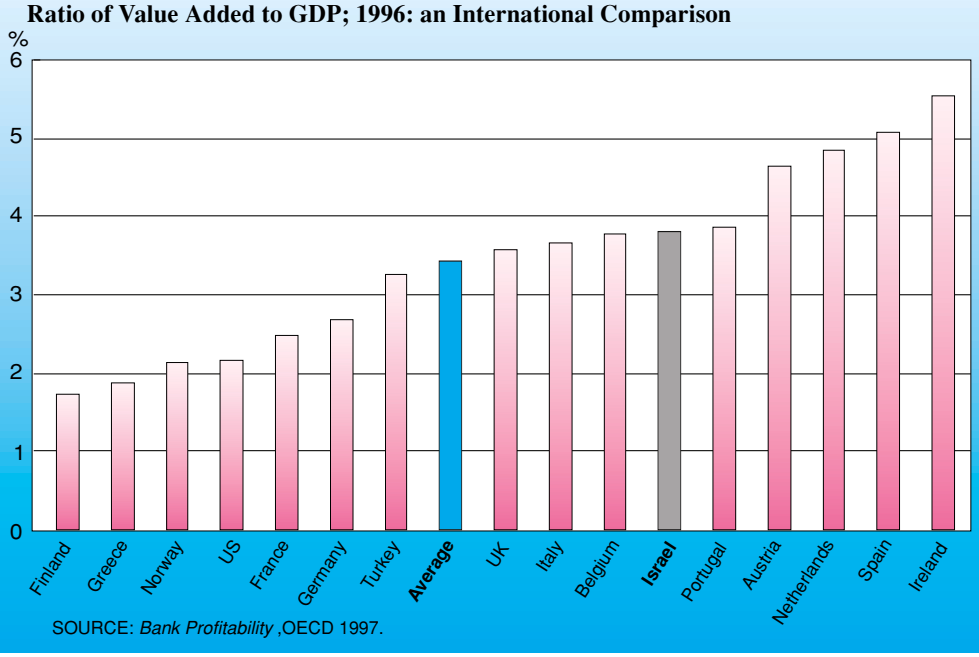


SOURCE: *The World Factbook 1999* and data supplied by Bankstat.

long-term developments is that the ROE achieved by the banking groups in the period reviewed is positively correlated with the exposure to credit risk.

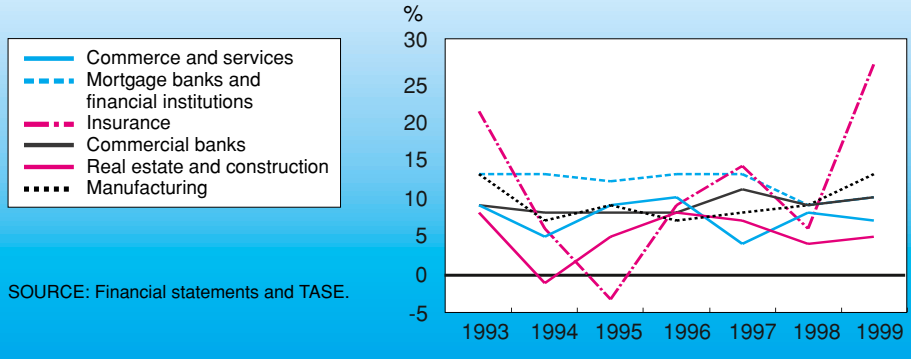
The decline in capital adequacy at a time when the ratio of risk-weighted assets to total assets has risen is inconsistent with prudent risk-management. It must be emphasized that the risk-based capital ratio in Israel's banking system is lower than the norm in industrialized countries, as is the share of tier-2 capital in the capital base (Figure 1.14).

Figure 1.12
Ratio of Value Added to GDP; 1996: an International Comparison



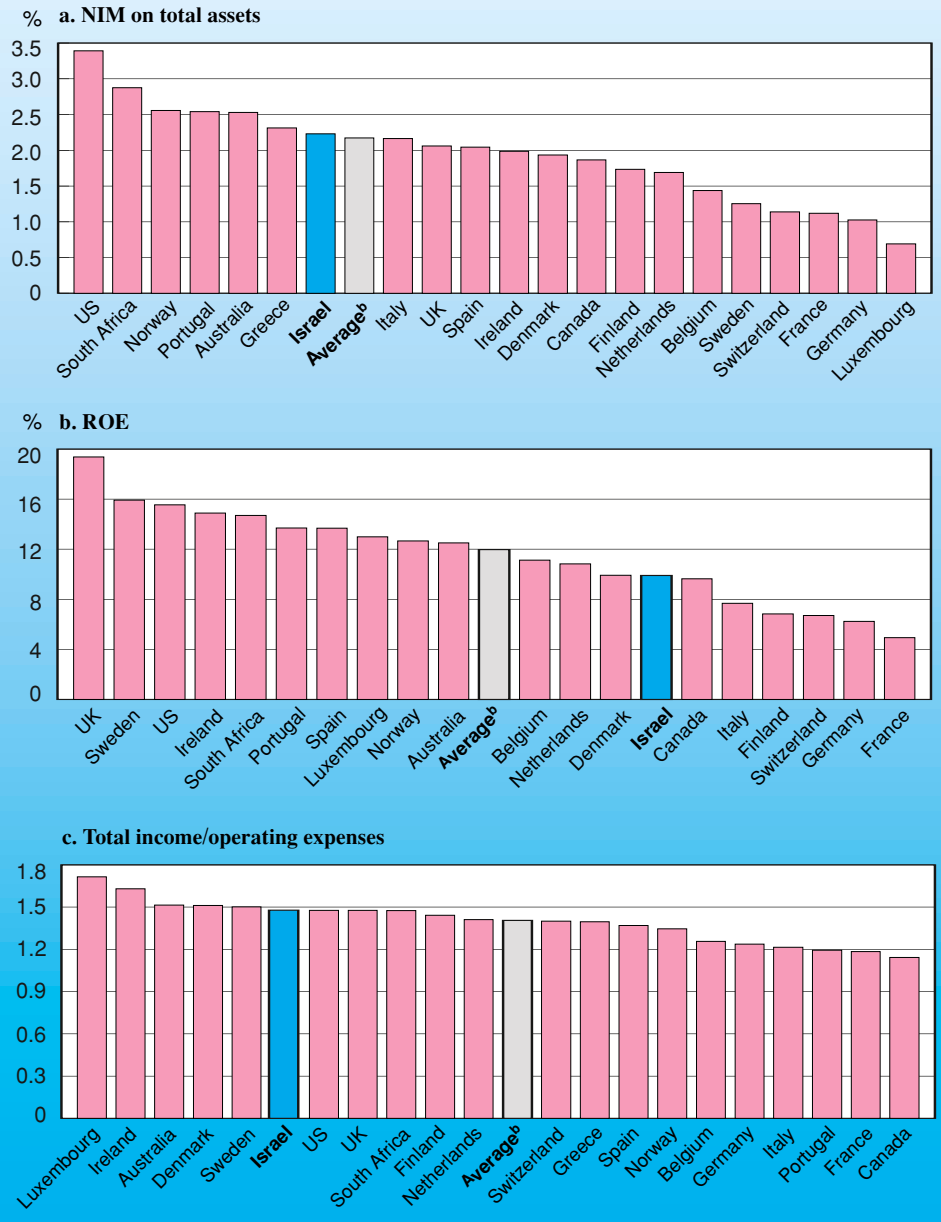
SOURCE: *Bank Profitability* ,OECD 1997.

Figure 1.13
ROE by Industry, 1993–99



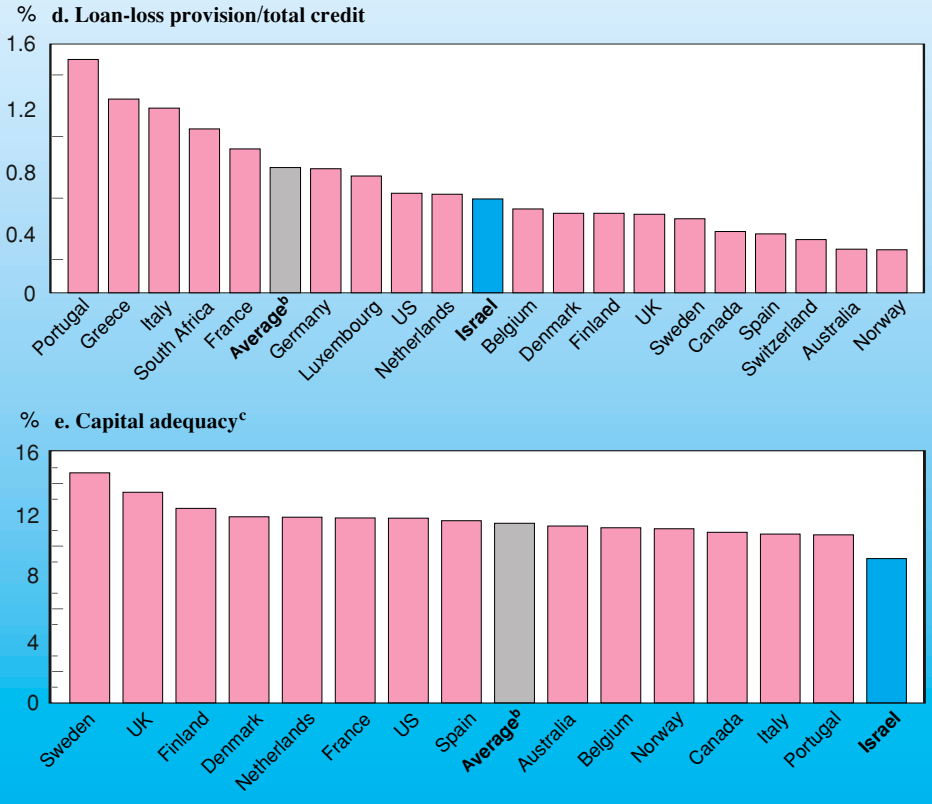
SOURCE: Financial statements and TASE.

Figure 1.14
Performance Indicators, Banking Systems Abroad,[a] 1998



[a] The data refer to the ten major banking groups in each country; in Israel, the five major groups.
[b] Average of reference group including Belgium, Denmark, Finland, Greece, Ireland, Norway, Portugal, and South Africa.
SOURCE: *The World Fact Book, 1999*, and data supplied by Bankstat.

Figure 1.14 (continued)
Performance Indicators, Banking Systems Abroad,[a] 1998



[a] The data refer to the ten major banking groups in each country; in Israel, the five major groups.
[b] Average of reference group including Belgium, Denmark, Finland, Greece, Ireland, Norway, Portugal, and South Africa.
[c] The number of countries in this category is smaller due to lack of data.
SOURCE: *The World Fact Book, 1999*, and data supplied by Bankstat.