

Chapter 2

The Financial Results of the Five Major Banking Groups¹

In a year when the global banking system experienced one of the worst crises in the modern era, the local banking system remained resilient. Nevertheless, the negative impact of the crisis was clearly apparent in the banking groups' financial results.

Since the Israeli economy emerged from the recession at the beginning of the decade, in 2003, the banking system benefited from a particularly high level of profit and profitability and a persistent decrease in the level of risk inherent in its current activity. The worsening of the global financial crisis in the fall of 2008, with the collapse of the Lehman Brothers investment bank and the spread of the crisis to the real economy, were reflected by the groups' performance and financial results in the second half of 2008 and especially towards the end of the year. Replacing the previous years' high levels of profit and profitability were near-zero levels of net profit (NIS 205 million) and an average ROE of 0.4 per cent. The financial impact of the crisis in 2008 was apparent in the activity of the financial management sector, mainly in the form of the heavy losses due provisions for write-downs and realization of securities held by the groups. The non-financial impact of the crisis was apparent in the other segments of activity, and derived from the growing effect of the recession in the advanced economies on the Israeli economy, principally on the business sector, in respect of which the groups recorded a large increase in loan-loss provisions. Net interest income was the main factor that adversely affected net profit in 2008. Despite the positive developments deriving from the groups' classic intermediation activity within the indexation segments, the financial crisis had a dramatic effect in 2008. This was reflected by the large losses which the groups recorded due to their exposure to asset and mortgage-backed securities and securities of foreign financial institutions.

The impact of global developments was also apparent in other profit components in 2008: On the operating expenses side, the negative and indirect impact of the global financial recession was reflected by an increase in salary and related expenses—mainly due to the losses that were recorded in severance pay funds. On the non-interest income side, which had an overall negative effect on the development of profits, the impact of developments in the contributions

¹Hapoalim, Leumi, Discount, Mizrahi-Tefahot, First International.

of the income components was somewhat more complicated. These income components were adversely and directly affected by developments in financing activity, which led to a fall in income deriving from the volume of customers' activity in securities, and indirectly—via losses from investments in shares due to the fluctuations in the capital market. An increase was however recorded during 2008 in non-interest income deriving from non-financial developments, mainly due to the positive developments in the first quarters of the year. (The impact of the initial enforcement of the “Commission Fee Law” on non-interest income in 2008 was marginal.)

Although the financial crisis and the non-financial crisis resulting from it affected the financial results of all the banking groups, the impact was mainly apparent from the performance of the largest two groups during the year. The varying degrees of exposure of the banking groups to the crisis, which reflect *inter alia* each of the group's risk-taking preferences, affected profit and profitability and especially net interest income, as stated.

1. PROFIT AND PROFITABILITY OF THE BANKING GROUPS

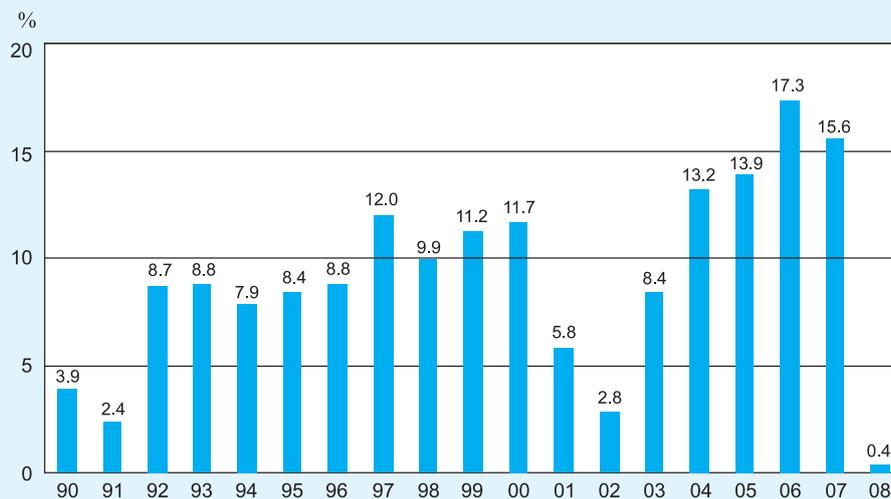
Following five years in which the local banking system had presented high levels of profit and profitability, the downtrend in both of these parameters was clearly apparent during the year: Aggregate net profit of the largest five banking groups dipped to an unprecedented low level and amounted to NIS 205 million, a decrease of 97.7 per cent from the record level of NIS 9 billion recorded in the previous year (Table 2.1). This decrease in the group's profits was also reflected by the large drop in the level of profitability, which is measured in terms of return on average equity (ROE),² from 15.6 percent in 2007 to 0.4 percent in 2008 (Figure 2.1).

The profit and profitability of the largest five banking groups were heavily affected in 2008 by the crisis in the global financial system, which led to a decline in the value of the financial assets held in the groups' investment portfolios, and from negative developments in Israel's real economy in the second half of the year.

The increasing intensity and spread of the global financial crisis, which began back in 2007 with the growing concern over financial institutions' exposure to the subprime mortgage market in the USA, were reflected by the banking groups' financial results in

² Since the first quarter of 2007, the banking corporations have been required to calculate ROE in accordance with the method practiced in the USA and other countries. ROE is calculated as net profit minus dividend per preference share not listed as an expense in the profit and loss statement and declared in the reporting period only, divided by average equity. Average equity for this purpose is total capital resources minus the average balance of minority interest and minus/plus the average of as yet unrealized losses/profits from adjustment to fair value of bonds for trading and of losses/profits in respect of bonds available for sale that are included in equity capital.

Figure 2.1
Return on Equity^a (ROE) and Ordinary After-Tax ROE of the Five Major Banking Groups, 1990-2008



The data for 2005-07 have been reclassified in accordance with the new accounting directives sent to the banks by the Banking Supervision Department. For further details, see footnote 1 to the text. The grey areas at the bottom of the columns for 2005-07 represent ordinary after-tax ROE.

SOURCE: Based on published financial reports.

2008, mainly in the last quarter of the year. However, the impact was apparent on the profits of the Bank Hapoalim group as early as the first quarter. That group realized its MBS portfolio at a loss of NIS 3.1 billion, and was affected by a write-down of an "other-than-temporary nature" in SIV type securities, and from the write-down of securities backed by other assets.

The decision by Bank Hapoalim's board of directors to realize the holdings of the bank's New York branch was made as a result of the directive from the Supervisor of Banks requiring the bank's holdings in most of the MBS portfolio to be double-weighted in the calculation of capital adequacy, which placed in doubt the continued feasibility of holding the investment portfolio.

The crisis worsened in fall 2008 and was notable for a credit crunch, liquidity shortages and increased uncertainty in global financial markets. These developments led to a series of nationalizations of banks and financial institutions in the USA and Europe, and to the acquisition and mergers of investment houses and banks with other financial entities. This deterioration in the position of the global financial system was reflected in the second half of the year by the profits derived from investments in the groups' securities portfolio. The impact of the crisis on these profits was characterized by a high degree of variation resulting from the size of each group's investment portfolio and risk-taking preferences, as expressed by the investment strategy adopted. (See Chapter 3 for more details.)

Table 2.1
Main Items in Consolidated Profit and Loss Statements, the Five Major Banking Groups, 2006–08

	(NIS million, at current prices)											
	Leumi					Hapoalim					Discount	
	2006	2007	2008	% change from 2008 to 2007	2006	2007	2008	% change from 2008 to 2007	2006	2007		2008
Net interest income before loan-loss provision	6,922	7,648	6,380	-16.58	7,579	6,933	3,256	-53.04	3,790	4,225	4,127	-2.32
Loan-loss provision	933	407	2,145	427.03	986	513	1,520	196.30	570	447	780	74.50
Net interest income after loan-loss provision	5,989	7,241	4,235	-41.51	6,593	6,420	1,736	-72.96	3,220	3,778	3,347	-11.41
Total operating and other income of which Fee income	3,881	4,222	2,800	-33.68	5,371	5,250	4,655	-11.33	2,359	2,572	2,490	-3.19
Total operating and other expenses of which Salaries and related expenses	3,013	3,350	3,362	0.36	4,008	4,247	4,310	1.48	1,911	2,214	2,339	5.65
Ordinary before-tax income	7,267	6,937	7,003	0.95	7,632	7,940	8,147	2.61	5,020	5,066	5,265	3.93
Tax provision	4,552	4,218	4,118	-2.37	4,687	4,769	4,762	-0.15	3,202	3,030	3,106	2.51
Ordinary after-tax income	2,603	4,526	32	-99.29	4,332	3,730	-1,756	-147.08	559	1,284	572	-55.45
Extraordinary after-tax income	1,320	1,722	421	-75.55	1,897	1,458	-397	-127.23	350	566	169	-70.14
Net income	1,454	2,984	-158	-105.29	2,496	2,328	-1,469	-163.10	315	707	255	-63.93
Average equity ^a	2,080	373	250	-32.98	863	351	574	63.53	521	558	-10	-101.79
Ordinary ROE, net (%)	3,534	3,357	92	-97.26	3,359	2,679	-895	-133.41	836	1,265	245	-80.63
Total ROE (%)	17,582	19,293	18,400	-4.63	17,314	19,000	18,646	-1.86	7,145	8,605	9,074	5.45
Total return on assets (ROA)(%)	8.27	15.47	-0.86	-7.88	14.42	12.25	-7.88		4.41	8.22	2.81	
	20.10	17.40	0.50	-4.80	19.40	14.10	-4.80		11.70	14.70	2.70	
	1.25	1.14	0.03	-0.29	1.19	0.92	-0.29		0.52	0.76	0.14	

(cont'd)

Table 2.1 (Cont'd)
Main Items in Consolidated Profit and Loss Statements, the Five Major Banking Groups, 2006–08

	(NIS million, at current prices)											
	Mizrahi-Tefahot					First International					Total	
	2006	2007	2008	% change from 2008 to 2007	2006	2007	2008	% change from 2008 to 2007	2006	2007	2008	% change from 2008 to 2007
Net interest income before loan-loss provision	1,987	2,026	2,289	12.98	1,831	2,047	1,857	-9.28	22,109	22,879	17,909	-21.72
Loan-loss provision	305	228	395	73.25	219	181	238	31.49	3,013	1,776	5,078	185.92
Net interest income after loan-loss provision	1,682	1,798	1,894	5.34	1,612	1,866	1,619	-13.24	19,096	21,103	12,831	-39.20
Total operating and other income	1,215	1,190	1,229	3.28	1,146	1,425	1,357	-4.77	13,972	14,659	12,531	-14.52
of which Fee income	991	1,034	1,104	6.77	932	1,117	1,223	9.49	10,855	11,962	12,338	3.14
Total operating and other expenses	2,117	1,938	2,153	11.09	1,867	2,338	2,635	12.70	23,903	24,219	25,203	4.06
of which Salaries and related expenses	1,395	1,169	1,273	8.90	1,079	1,330	1,461	9.85	14,915	14,516	14,720	1.41
Ordinary before-tax income	780	1,050	970	-7.62	891	953	341	-64.22	9,165	11,543	159	-98.62
Tax provision	349	368	356	-3.26	387	369	213	-42.28	4,303	4,483	762	-83.00
Ordinary after-tax income	427	681	601	-11.75	503	587	161	-72.57	5,195	7,287	-610	-108.37
Extraordinary after-tax income	216	227	1	-99.56	6	157	0	-100.00	3,686	1,666	815	-51.08
Net income	643	908	602	-33.70	509	744	161	-78.36	8,881	8,953	205	-97.71
Average equity^a	4,946	5,279	5,788	9.64	4,426	5,096	5,552	8.95	51,413	57,273	57,460	0.33
Ordinary ROE, net (%)	8.63	12.90	10.38		11.37	11.52	2.90		10.1	12.7	-1.1	
Total ROE (%)	13.00	17.20	10.40		11.50	14.60	2.90		17.3	15.6	0.4	
Total return on assets (ROA)(%)	0.72	0.98	0.58		0.64	0.83	0.17		1.09	1.13	0.03	

^a Average equity is used to calculate ROE and it includes total equity minus the average balance of minority shareholders' rights plus/minus the average balance of unrealized loss/profit on the adjustment of tradable bonds to their fair value and loss/profit on bonds available for sale included in equity. SOURCE: Based on published financial statements.

The decline in net profit encompassed all five groups, and mainly resulted from the development in the profit of the largest two groups—Bank Hapoalim group's loss of NIS 900 million and the 97.3 percent drop in the Bank Leumi group's profit (Table 2.1).

The development of the financial crisis into a global non-financial crisis as well and its encroachment on the Israeli economy during the second half of the year had an adverse effect on net profit. After remaining resilient in the first half of the year when it maintained the growth pattern of recent years, the economy was notable for a considerable downturn in activity during the second half. This was reflected by a slowdown in current consumption, a large decrease in exports and a slower pace of business-sector product growth. All these, together with the erosion in the value of borrowers' collateral, led to higher risk assessments in the second half and to a 186 percent upsurge in loan-loss provisions, mainly in the last quarter of the year. (See Chapter 3 for more details.)

Two other factors that reduced net profit during the year were a 14.5 percent decrease in non-interest income (mainly income derived from the capital market), despite a growth in income from banking services, and a 4 percent increase in operating expenses.

As a result of all the previously mentioned developments, ordinary profit in 2008 was negative, and amounted to a loss of NIS 610 million. This loss was completely offset by profit from extraordinary transactions, which although down by 51 percent this year, led to a minor net profit instead of a loss. Profit from extraordinary transactions totaled NIS 815 million in 2008 due to its high level at the largest two groups, at the Bank Leumi group due to the allocation of 20 percent of Leumi Card's equity to the Canit company, and at Bank Hapoalim due to the sale of the Gadish provident fund to the Psagot investment house in the last quarter of the year, the completion of the sale of Bank Yahav to the Mizrahi-Tefahot group, and the completion of the sale of Bank Massad to the First International group in the second quarter of the year.

2. DEVELOPMENTS IN INCOME AND EXPENSES

a. Net interest income before loan-loss provisions

One of the main factors adversely affecting the groups' profits in 2008 was net interest income before loan-loss provision. The aggregate net interest income of the five major banking groups plummeted by NIS 5 billion (21.7 percent) in 2008 to NIS 17.9 billion. The decrease in net interest income during the year was notable for a high degree of variation and encompassed all the major groups except for the Bank Mizrahi-Tefahot group, which presented a growth of 13 percent. Various factors affected the components of net interest income during the year. Part of them derived from the positive developments in the Israeli economy during recent years and the macroeconomic situation in the first two quarters of 2008, while part of them derived from the indirect impact of the global financial crisis on the banking groups. This was mainly via their exposure to asset and mortgage-backed securities and to the securities of foreign financial institutions.

CHAPTER 2: THE FINANCIAL RESULTS OF THE FIVE MAJOR BANKING GROUPS

The main positive contribution to net interest income was made by profit from classic financing activity,³ which is derived from the volumes of activity and the net interest margins in each of the different indexation segments: This component of net interest income expanded at four out of the five groups in 2008 (at all of them that is, except the Bank Hapoalim group), and totaled NIS 21.5 billion, an increase of 4.7 percent (Table 2.2). However, net other interest income (which is derived from interest income on problem loans previously not recorded and from profits from the sale and revaluation of bonds) had a strong negative impact. This income item was negative in 2008, declining at all the banking groups and its negative level was particularly apparent at the largest two banking groups and especially the Bank Hapoalim group. The group's interest income from their activity in options and other derivatives that are not defined as hedging activity or ALM was negative in 2008 and like other net interest income, was mainly affected by the level recorded at the largest two groups.

Table 2.2
Breakdown of Profits from Financial Activities before Loan-Loss Provision, by Type of Indexation, The Five Major Banking Groups, 2007–08
(NIS million)

	2007	2008	Change relative to 2007	
	(at current prices)		(NIS)	(percent)
Net income^a by type of indexation (including derivatives)				
Local currency, unindexed	11,213	13,014	1,801	16.1
Local currency, CPI-indexed	2,992	2,918	-74	-2.5
Foreign currency - domestic activity	6,341	5,583	-758	-12.0
1. Total income from indexation derivatives	20,546	21,515	969	4.7
Other financial income				
Commissions on transactions	824	920	96	11.7
Other net financial income	994	-3,819	-4,813	-484.2
<i>of which: Interest income on problem debts previously not recorded</i>	1,402	1,301	-101	-7.2
<i>of which: Profits from the sale and valuation of bonds^b</i>	-1,043	-5,804	-4,761	456.5
2. Total other financial income	1,818	-2,899	-4,717	-259.5
3. Options and other derivatives	515	-707	-1,222	-237.3
Profit from financial activities before loan-loss provision (1+2+3)	22,879	17,909	-4,970	-22

^a Net income from assets *minus* expenses on liabilities.

^b Including profits/losses from the valuation and sale of tradable bonds and the sale of bonds available for sale and bonds held until maturity.

SOURCE: Published financial statements.

³ Including the effect of derivatives.

Among the three indexation segments, unindexed local currency activity made a marked positive contribution to profit. Profit from this activity rose sharply, in contrast to a 2.5 percent decrease in profit from CPI-indexed local currency activity and a 12 percent decrease in profit from foreign-currency activity. As stated, net interest income derived from unindexed local currency activity rose by 16 percent to NIS 13 billion, an amount equivalent to 60.5 percent of total income from all the indexation segments (Table 2.2). In 2008 this increase derived from the positive effect of quantity (24.7 percent), which exceeded the offsetting effect of price that was reflected by a decline in the net interest margin in the segment to a level of 1.96 percent compared with 2.15 percent in 2007 (Table 2.3).

Unindexed local currency activity is largely derived from the development of the Bank of Israel's interest rate. This was notable for a mixed trend during the year, with three changes of direction: The rate was cut by one percentage point during March–April, raised again by a percentage point during the months June–September, and cut again by one and a half percent during November–December. In December the rate amounted to 2.5 percent compared with 4.25 percent at the beginning of the year. Bank of Israel interest rate adjustments are known for their direct effect on the interest rate paid on credit in the unindexed local currency segment and on the net interest margin within that segment—a well known effect that has been examined in empirical studies.⁴ The results of the studies show a positive correlation between these two variables from a long-term perspective and occasionally, a negative correlation in the short term. In 2008 the relationship between the two variables was notable for a weak positive correlation: Bank of Israel interest rate adjustments exerted slight effects in the same direction on the cost of unindexed credit and on the net interest margin in the

⁴ For more details, see:

a. D. Ruthenberg, D. Geva, and Z. Samet “Analysis of the Interest-Rate Spread in the Unindexed Shekel Segment of the Banking System in Israel July 1984–May 1987,” *Banking Issues* 7, March 1988.

b. D. Ruthenberg, “Net Interest Margin, Interest-Rate Spread, Integration of Activity in Derivatives, and the Importance of the ‘Monetary Penalty’,” Bank of Israel Banking Supervision Department, Research Unit.

c. D. Ruthenberg, “Banking Management in Israel,” Keter Press, Jerusalem, 2002.

The model developed is based on the following interest-rate spread equation, where M is the interest-rate spread, S is the interest on a monetary loan, ρ is the liquidity requirement on the deposit, θ is the elasticity of the supply of deposits, and η is the elasticity of demand for credit.

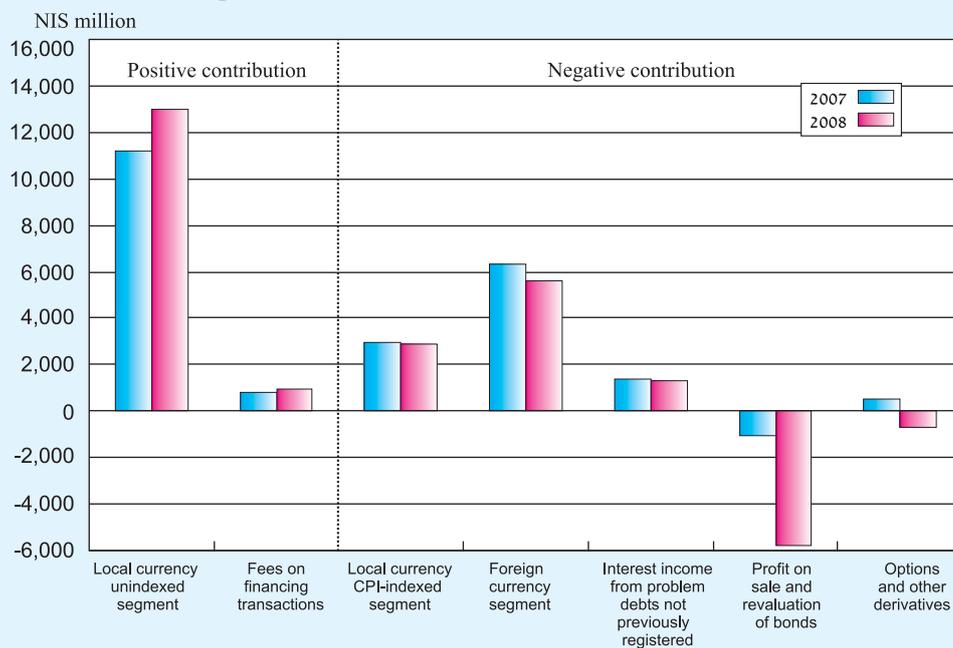
$$M = R_L - R_D = \left[\frac{1}{\left(1 + \frac{1}{\eta}\right)} - \frac{(1-\rho)}{1 + \frac{1}{\theta}} \right] \bullet S = \left[\frac{\eta}{1+\eta} - \frac{\theta(1-\rho)}{1+\theta} \right] \bullet S = h[s, \rho, \eta, \theta]$$

Since a business (banking) firm will always operate in a sector in which $\eta < -1$, it follows that

$$\frac{\partial M}{\partial S} = \left[\frac{\eta}{1+\eta} - \frac{\theta(1-\rho)}{1+\theta} \right] > 0$$

unindexed local currency segment. (See Box 1 for further details on the subject.) The weak correlation in 2008 is attributed to two factors: (a) an increase in borrowers' risk premium because of the deterioration in their position and their characteristics against the background of growing concern over a deepening of the recession worldwide and in Israel in the second half of the year; (b) the expansion of off-balance-sheet activity in derivative financial instruments, the margins on which are smaller. The growth in unindexed local currency activity during 2008 (24.7 percent) resulted mainly from the continued expansion of unindexed credit evident in the last few years. This trend derived partly from an expansion in total bank credit to the public, and partly from growing expectations of an increase in risk, which resulted in an increase in unindexed sources in line with customers' move to lower-risk forms of investment, such as deposits at banks—a development which in 2008 prompted the banks to increase the supply of unindexed credit. Net interest income derived from CPI-indexed local currency activity fell slightly, by 2.5 percent in 2008 and totaled NIS 2.9 billion, an amount equivalent to 13.6 percent of total net income from all the indexation segments (Figure 2.2).

Figure 2.2
Changes in the Components of Interest Income and their Contribution to Total Interest Income, the Five Major Banking Groups, 2007 and 2008 (at current prices)



SOURCE: Based on published financial statements.

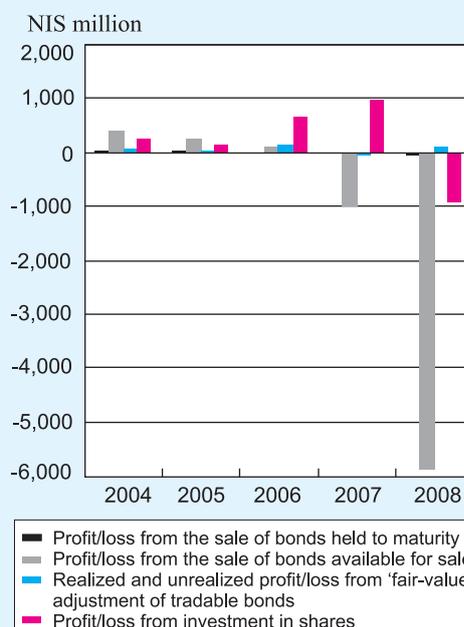
As in the unindexed local currency segment, here too the segment's profits were affected by the positive quantity effect and the negative price effect, implying a slight contraction of the net interest margin in the segment from a level of 0.8 percent in 2007 to 0.76 percent in 2008. Short-term interest rates in the CPI-indexed local currency segment are affected by the Bank of Israel interest rate, while medium and long-term interest rates are also affected by the development of yields in the CPI-indexed government bond market (these bonds serve as a substitute for CPI-indexed bank credit), a development that is derived from government and business sector borrowing requirements. The rise in yields and risk margins of CPI-indexed government bonds during the year, especially in the second half, together with the reduced supply of CPI-indexed credit substitutes in the non-bank market and the increase in borrowers' risk characteristics, moderated the contraction of the net interest margin in the segment that resulted from the Bank of Israel interest rate adjustments. The average balance of the CPI-indexed segment's assets rose during the year due to an increase in inter-bank deposits concurrent with a decrease in the volume of CPI-indexed credit to the public. Regarding the sources side, deposits from the public increased mainly because of high inflation expectations during the first three quarters of the year, but also because of increased risk aversion of individuals who sought low-risk substitute investments in view of the rise in the long-term bond yield curves, which showed that the risk of alternative indexed sources of investment had increased. Net interest income deriving from foreign-currency indexed and denominated activity fell by NIS 758 million in 2008 and totaled NIS 5.6 billion, an amount equivalent to 26 percent of total net income derived from all indexation segments (Table 2.2; Figure 2.2). The segment's profits were adversely affected in 2008 by both quantity and price, as reflected by a 1.5 percent decrease in the average balance of assets, and by a decline in the aggregate net interest margin in the segment from a level of 0.90 percent in 2007 to 0.80 percent in 2008. The foreign-currency segment's activity serves as a substitute for financial activity abroad, and is heavily affected by the Libor dollar rate, on which interest rates in the segment are largely based. The three-month Libor dollar rate, which was quite volatile during the year, fell by 1.6 percentage points annualized from 3.1 percent in December 2007 to 1.5 percent in December 2008, leading to a similar decrease in the lending rate in the segment from 7.1 percent to 5.3 percent (Table A-1.5) and to a smaller decrease in the deposit rate. Concurrent with a moderate annualized depreciation of 1.1 percent, this development had the effect of reducing the net interest margin in the segment.

While the positive net income from the indexation segments contributed to the groups' aggregate net interest income in 2008, net other financing income had the effect of reducing these profits. This income, on which a loss of NIS 3.9 billion was recorded (Figure 2.2; Table 2.2), was affected in 2008 both by non-financial developments, mainly in the first half of the year, and by developments in the financial markets. Non-financial developments in the economy were notable for interest income on problem loans not previously recorded. Although this aggregate income fell by 7.2 percent during the year,

it was high at NIS 1.3 billion. The high level resulted from the positive macroeconomic conditions in the first half of the year and business firms' sound position prior to the onset of the crisis, which can be attributed to the expansion in business activity during recent years and was reflected by an increase in firms' repayment ability (a trend that reversed in the second half of the year). Developments in global financial markets and in the local capital market adversely affected profits from the sale and revaluation of bonds, which were negative in 2008, to the extent of a massive loss of NIS 5.8 billion (Figure 2.3). The impact of the global financial crisis on the Israeli groups lagged behind that on other banks in the Western world to some extent. The effect of the crisis on profits from the sale and revaluation of bonds at the Israeli groups was indirect and notable for high variability. Those that suffered most from the crisis in 2008 were the largest two banking groups—the Bank Hapoalim group, which lost an estimated NIS 3.9 billion on this item, and the Bank Leumi group, which lost an estimated NIS 1.25 billion.

As early as the first quarter of the year, the impact of the crisis was already apparent from the profits of the Bank Hapoalim group: This group recorded an NIS 3.1 billion loss from the realization of the portfolio of MBS securities—that were not issued directly by government agencies (FHMA, FNMA, GNMA) or that were not guaranteed by them—of the bank's New York branch and additional losses due to a write-down of an "other-than-temporary nature" of SIV type securities, and to the write-down of other asset-backed securities. Although the Bank Leumi group had less activity in mortgage and asset-backed securities than the Bank Hapoalim group, it was affected by the worsening of the crisis in the last quarter of the year because of its exposure to foreign financial institutions that had defaulted. The other groups presented more moderate losses in this item for 2008: The Bank Discount group recorded an NIS 167 million loss, which mainly derived from the exposure of the group's New York subsidiary (IDB) to Lehman Brothers investment bank. The First International and the Mizrahi-Tefahot groups recorded respective losses of NIS 258 million and NIS 197 million. Another factor that adversely affected the development of net interest income during the year and which was also itself

Figure 2.3
Profit/Loss Deriving from Changes in Bonds Prices on the Capital Market and from Investments in Shares, the Five Major Banking Groups, 2004–08



SOURCE: Published financial statements.

affected by developments in the financial market, and especially by the worsening of the global recession in the second half of the year, was the groups' activity in options and derivative financial instruments. This activity, which is part of the groups' investment, risk management and customer service policy, involves exposure to credit, market, interest rate and liquidity risks in accordance with the nature and type of the transaction. Aggregate income from this activity in 2008 was negative, and amounted to a loss of NIS 707 million, compared with a profit of NIS 515 million in 2007. The distribution of profits/losses in this item was notable for high variability and like the other components of net interest income, derived from the large losses at the largest two banking groups: The losses amounted to NIS 425 million at the Bank Hapoalim group, and NIS 298 million at the Bank Leumi group.

The differences between the losses of the five major groups imputed to their profit and loss statements in 2008 resulting from their exposure to the global financial crisis derive from each group's risk preferences and the investment strategy derived from them. The distribution of the groups' bond holdings is detailed extensively in Chapter 3, which describes their exposure proportionate to equity and the groups' total assets. This distribution highlights the differences between the groups in their investment strategy and the extent of their exposure to different types of holdings.

Box 2.1

Monetary policy pass-through mechanism to the banks' profits

The main tool used by the central bank to carry out its function in maintaining price stability is the interest rate. Central bank interest rate cuts at times of recession and rate hikes at times of prosperity play a major role in sustaining the proper functioning of the economy, including in this respect the effect on the financial results of the commercial banks. This effect is exerted mainly via the variability of the net interest margin and the resulting changes in financing profits. Net interest margin is a key factor with respect to the commercial banks in Israel because classic intermediation activity—the granting of credit and the receipt of deposits—remains their predominant form of activity, and accounts for 65 percent of their aggregate income.

The downturn in economic activity which began in the second half of 2008 was reflected by a slower pace of growth in the third and fourth quarters of the year and by concern over a deepening of the recession, prompted the Governor of the Bank of Israel to gradually cut the interest rate from 4.25 percent in September 2008 to 0.75 percent in March 2009, an unprecedentedly low level.

As a result of the reduction in the monetary interest rate and the possibility of further rate cuts in the near future, we decided to examine the extent of the effect of interest rate adjustments on the net interest margin in the unindexed local currency segment, which is defined as the simple difference between the interest

rate which the banks charge on short-term unindexed credit for their customers and the interest rate which they pay on deposits. In this study we chose to focus on the unindexed local currency segment, despite the existence of additional segments of intermediation (the CPI-indexed segment and the foreign currency segment), because this is the segment that is likely to be predominantly affected by changes in the Bank of Israel interest rate. Special emphasis will be placed on the issue of the linearity of the effect of changes in the Bank of Israel interest rate on the net interest margin in the unindexed local currency segment. In other words: We will discuss the question of whether the effect of a reduction in the interest rate by a certain percentage in a high interest rate environment is equal to the effect of a reduction in the interest rate by the same percentage in a low interest rate environment.

Two methods are practiced for assessing the effect of changes in the interest rate on the banks' performance:¹ One method focuses on the effect of changes in the market interest rate on the economic value of the bank by the change in the value of its assets, in the value of its liabilities and the values of its off-balance-sheet positions. The other method focuses on the effect of changes in the market interest rate on the bank's future cash flow. An analysis based on each of these two methods requires detailed information on the sources of the bank's exposure to interest-rate risks, which derive mainly from the differences in the characteristics of the banks' assets and liabilities. In view of data restrictions, the analysis presented here will be simpler, and will be based on empirical relationships between the market interest rate and the net interest margin in the unindexed local currency segment.

Net interest margin is the principal factor that directly affects the bank's net interest income. Given a fixed volume of activity, an expansion of the net interest margin will lead to a growth in net interest income. Net interest income serves as a control variable in the assessment of the yield and risk in the bank's activity, because of the immediacy of these parameters' response to changes in the net interest margin derived from the market interest rates, as compared to the weak and delayed response of the other profit components under the effect of interest rate adjustments.² Another reason for our focusing on net interest income is that this income is exclusive of non-recurring effects, such as the banks' income from the sale of the management rights and ownership of the provident funds and mutual funds during the years 2006 and 2007.

The following studies examined the relationship between the market interest rate and banks' profits: a study based on the retail banking system in Hong Kong found

¹ For more details, see the BIS, "Interest rate risk and banks net interest margins," William B. English (2002).

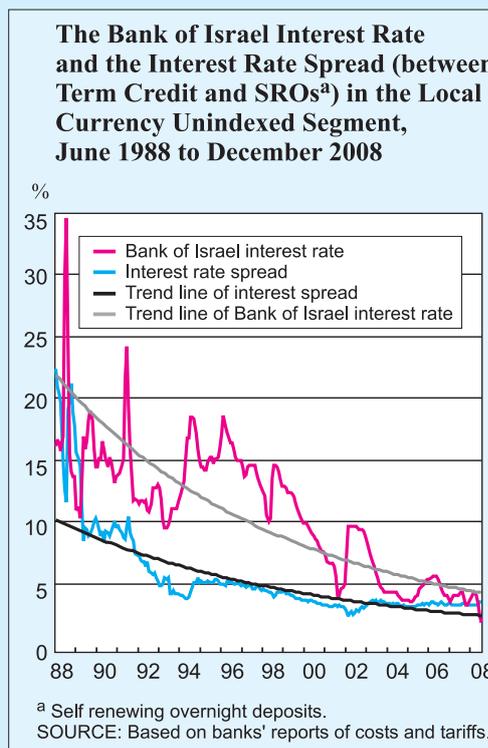
² D. Ruthenberg, D. Geva and Z. Samet, "Analysis of the interest-rate spread in the Israeli banking system's unindexed local currency segment, July 1984–May 1987," *Banking Issues* 7, March 1988.

significant positive relationships between fluctuations in the risk premium and the extent of the concentration in the banking industry, and the net interest margin. In a study on the banking system of seven OECD countries,³ they also found that changes in the market interest rates have a significant effect on net interest income, although their findings show that the direction of the effect is not uniform, and differs from country to country. A study conducted in five Latin American countries⁴ found a significant positive correlation between fluctuations in the exchange rates and the net interest margin in two countries—Bolivia and Chile. As with the study based on OECD countries, we therefore see that the direction of the effect and the extent of the significance of changes in market prices on the banks' performance are not uniform, and are dependent on the characteristics of the banking system and the local economy.

The figure shows the development of the interest rate spread in the unindexed local currency and the Bank of Israel interest rate in the last two decades. Two salient facts emerged from the diagram: One is that both the net interest margin and the Bank of Israel interest rate are notable for a long-term downtrend. The other is that the contraction of the net interest margin occurs in the short term, with a certain degree of variability around the trend line. In the short term (mainly at the end of the 1980s and the beginning of the 1990s). The opposite relationship was sometimes found between the Bank of Israel interest rate and the net interest margin.

One of the main reasons for the contraction of the net interest margin during the period reviewed was the rapid growth in the volume of unrestricted sources (sources minus the liquidity requirement on them), and the following:

1. Since the liquidity requirement was reduced considerably during this



³ Countries examined in the study were Germany, Spain, Switzerland, France, UK, Italy and the USA.

⁴ The countries examined were Argentina, Bolivia, Peru, Chile and Columbia.

period, the sources available to the banks for various uses, including the extension of credit, increased greatly.

2. The volume of monetary loans from the Bank of Israel (both in the discriminatory tender and in subsidized credit) expanded appreciably between 1990 and 1996. At the beginning of 1998 as the public started to convert increasing amounts of foreign currency, the Bank of Israel stopped the monetary loan tenders for the banking corporations and began to operate deposit tenders.

Studies conducted in Israel have found that changes in the interest rate have a material effect on net interest margins in the unindexed local currency segment. In their analysis of the net interest margin in the unindexed local currency segment, Geva and Ruthenberg⁵ found that the spread is heavily affected by the Bank of Israel's monetary policy, and that the relationship between the monetary interest rate and the net interest margin is positive and significant. We therefore examined the relationship between the net interest margin and a series of explanatory variables with direct and indirect effects, such as credit risk, the cost of raising sources and the structure of the financial system. The results obtained from the estimate were strong, and the effects of all the explanatory variables were found to be significant and in the expected direction: Net interest margin flexibility with respect to the Bank of Israel interest rate in the period 1994–2002 was greater than in the period 2003–08, which was notable for a weaker relationship. Due to its flexibility, the coefficient of the regression estimated is of special significance with respect to the non-linearity of the effect of monetary policy on the banks' net interest margin relative to the level of the monetary interest rate. If flexibility is fixed, an additional interest rate cut has a negative effect on the net interest margin. The net interest margin in the unindexed local currency segment can actually be expected to contract slightly, assuming that the volume of non-bank credit raised will remain low in the near future and the economy continues to operate under recession conditions, which involve an increase in borrowers' risk.

We found that changes in the Bank of Israel interest rate exert an effect, in the direction of the changes, on the net interest margin in the unindexed local currency segment. Because of this, a continued reduction in the Bank of Israel interest rate can be expected to erode the net interest margin in the unindexed local currency segment and as a result, the banks' aggregate net interest income as well.

Although Israel is not the only country with a low monetary interest rate environment at present, it is still too early to determine on the basis of worldwide experience whether in this interest rate environment, the flexibilities which we found are actually stable.

⁵ D. Geva and D. Ruthenberg (1989), "Interest rates in the unindexed local currency segment—flexibilities and symmetries, June 1984 to September 1988," *Banking Issues* 8, March 1999.

b. The loan-loss provision

The financial crisis, which began back in the second half of 2007 and the Israeli economy's entry into recession in the last quarter of 2008 harmed borrowers' repayment ability and eroded the value of collateral. The allowance for loan losses imputed to the profit and loss statement in the five major banking groups totaled NIS 5.1 billion in 2008 (Table 2.4) because of the downturn in economic activity in the second half, and especially in the fourth quarter. Half of this amount was recorded in the last quarter of the year.

As loan-loss provisions are negatively correlated with the business cycle in the economy, a deterioration in the state of the economy has the effect of increasing current provisions and reducing the collection of debts. This effect intensifies the impact of the business cycle on profits. Accordingly, the increase in the annual expense on the loan-loss provision in 2008 came after five consecutive years of decrease in this item, which resulted from economic growth, and reached its lowest ever level in 2007 (0.2 percent). The decline in the annual expense on loan-loss provisions during the years 2003–07 was as expected also reflected by a decrease in the “provision during the accounting year” item and by an increase in the “reduction of provisions” item, implying the collection of debts due to an improvement in borrowers' repayment ability and in collateral (Figure 2.4).

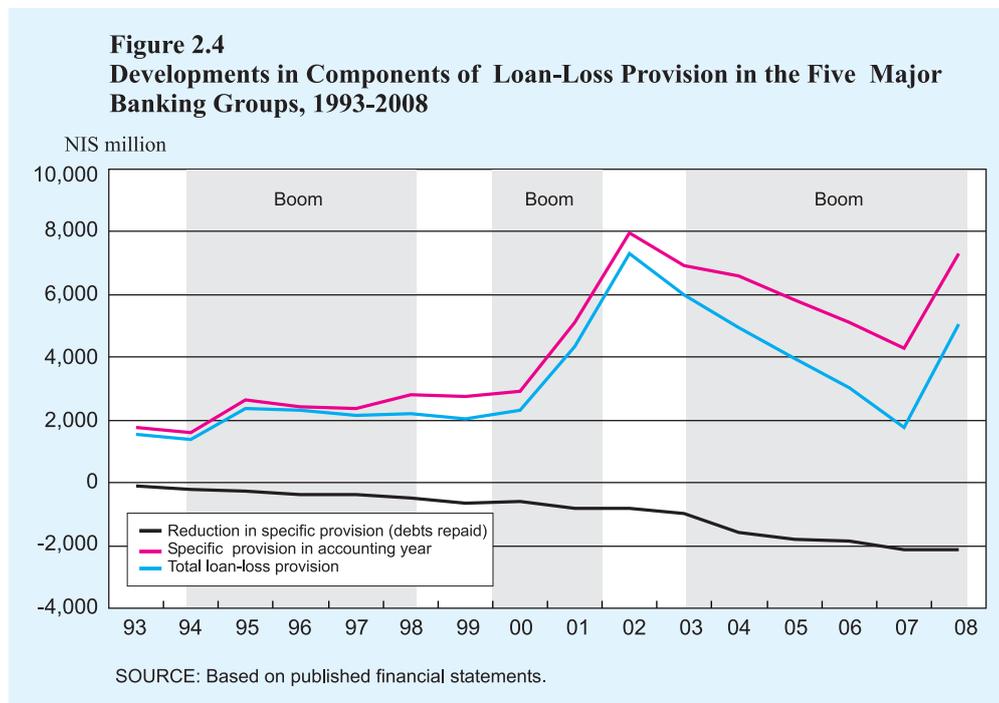


Table 2.4
Components of the Loan-Loss Provision for the Five Major Banking Groups, 2006–08
 (NIS million, at current prices)

	2006			2007			2008		
	The specific provision	The general and supplementary provision	Total	The specific provision	The general and supplementary provision	Total	The specific provision	The general and supplementary provision	Total
Beginning-of-year balance of the provision	28,531	3,389	31,920	28,839	3,241	32,080	28,002	2,986	30,988
Additions to the provision during the accounting year	5,144	113	5,257	4,274	48	4,322	7,327	240	7,567
Reduction of the provision	-1,875	-261	-2,136	-2,146	-303	-2,449	-2,120	-167	-2,287
Collection of debts written off in previous years	-108	0	-108	-97	0	-97	-202	0	-202
Amount entered in the profit and loss statement	3,161	-148	3,013	2,031	-255	1,776	5,005	73	5,078
Debits written off	-2,853	0	-2,853	-2,868	0	-2,868	-3,117	0	-3,117
End-of-year balance of provision	28,839	3,241	32,080	28,002	2,986	30,988	29,890	3,059	32,949

SOURCE: Published financial statements.

CHAPTER 2: THE FINANCIAL RESULTS OF THE FIVE MAJOR BANKING GROUPS

The deterioration in the state of the economy in 2008 led to a large increase in the “specific provisions during the accounting year” item, which totaled NIS 7.3 billion, of which NIS 2.9 billion were recorded in the last quarter. Although no decrease was recorded in the “reduction of provisions” item in the entire banking system during the year as a whole and it remained at the high level of the recent years of prosperity, the pace of collections declined in the last quarter. However, developments in this item varied among the banking groups and at some of them, decreases were recorded throughout the entire year.

The large rise in loan-loss provisions in the last quarter of the year encompassed all the banking groups, and was mainly reflected by provisions for the business sector, which is heavily affected by business cycles in the economy (Fig. 2.10). (See Chapter 3 of this review for further details.)

The general⁵ and the supplementary⁶ provisions increased by NIS 73 million compared with a decrease of NIS 255 million in 2007. The increase in 2008 derived mainly from a growth in the volume of problem loans.

c. Non-interest income

The operating (non-interest) and other income of the five major banking groups fell by 14.5 percent in 2008 and totaled NIS 12.5 billion compared with NIS 14.7 billion in 2007. The fall in income during the year put an end to the upturn in non-interest income that began back in 2003, when the Israeli economy left the recession prevailing at the beginning of the decade.

Developments in non-interest income during the year varied considerably in the different groups, and only the Mizrahi-Tefahot group presented a growth in this item. The other groups recorded a decrease of between 3.2 percent at the Bank Discount group and 33.7 percent at the Bank Leumi group. This high variability is attributed to the differences in the groups’ sources of non-interest income and the extent of their impact on income during the year. In the analysis of the distribution of non-interest income, a distinction was made between income derived from banking services, which are mainly

⁵ The general provision was used in the Israeli banking system up until 1991. It was determined as a proportion of total debts. According to directives by the Supervisor of Banks in 1992, the banks made an additional loan-loss provision in place of the general provision. At the same time, the banks were required to continue recording the general provision as the proportion of total debts determined for December 31, 1991.

⁶ The supplementary provision reflects the structural risks inherent in the credit portfolio, and replaces the previously used general provision. The supplementary provision is calculated as a proportion of excess indebtedness, as determined in the Supervisor of Banks’ directives, and is defined according to eight risk factors: financial information on the borrower, indebtedness of related parties, concentration of indebtedness by a single borrower or a group of borrowers, sector-specific concentration of indebtedness, problem loans, indebtedness of less developed countries, concentration by extent of arrears, and buyout financing.

affected by non-financial activity, and income derived from the capital market,⁷ which is affected by the volume of customers' activity and the volatility in the markets.

Income from banking services, which accounted for 76.4 percent of total non-interest income, rose by 4.7 percent in 2008 and totaled NIS 9.6 billion (Table 2.5). The growth in this income, which mainly consists of operating commission fees, derives from a 13.7 percent increase in income from credit card activity and an 8 percent increase in income from payment system services. These increases derived from a growth in the volume of customers' activity. The increases were slightly offset by a 6 percent decrease in income from account management fees and a 17.9 percent decrease in income from the processing of credit and compilation of contracts, which resulted from the implementation of the commission fee reform in July 2008. The impact of the reform was apparent from a decrease in income from account management fees at the largest two groups—the Bank Hapoalim group and the Bank Leumi group—as compared to an increase at the other groups, mainly due to the abolition of commission fee tracks and a decrease in income from the processing of credit and compilation of contract. Income from foreign trade activity and special services fell by 8.2 percent in 2008, due to the downturn in exports, which began back in the second quarter of the year.

The banks' income from capital market activity dipped by 54 percent in 2008. This income is divided here into two components: The first component is income deriving directly from the volume of activity of the banks' customers in the capital market. Such income consists of commission fees from customers' activity in securities⁸ and mutual fund and provident fund distribution fees, which are affected by trading turnover in the market and the amount of capital raised in the market, and provident fund and mutual fund management fees, which are determined on the basis of securities' market value. The other component consists of items that are affected indirectly by the level of activity in the capital market. These are profits (losses) from the investment of the securities held by the banks, and the profits (losses) which are accrued as a result of fluctuations in the capital market by the groups managing their employees' severance pay and pension fundings. The banks' income derived directly from activity in the capital market plummeted by 18.7 percent (Table 2.5). The decrease resulted mainly from the continued fall in income from provident fund and mutual fund management fees. The latter decrease resulted from the implementation of the first stage of the Bachar Reform, which called for the sale of the ownership and management rights of the provident funds and mutual funds. (The decrease was slightly offset by a small 0.7 percent increase in mutual fund distribution fees and by the charging of operational fees from the companies managing the provident funds.) The decline in customers' activity

⁷ For the purpose of the analysis, income from the capital market includes income from commission fees in respect of customers' activity in the capital market, net profits from investments in shares and profits from severance pay funds.

⁸ Including income from financial instruments, custody fees, underwriting and securities distribution.

in securities in the last quarter of the year⁹ had a negative impact on this income item, which decreased by 5.5 percent in 2008.¹⁰ The decision taken by the Commissioner of the Capital Market Insurance and Savings at the Ministry of Finance to expand the second stage of the Bachar Reform concerning the provision of pensions and insurance advice to salaried employees from April 1 2009, in a manner whereby it is to encompass the largest two banks as well—Bank Hapoalim and Bank Leumi—is expected to make a positive contribution to the banks' current income from the distribution of pension and insurance products.

Non-interest income that is affected indirectly by activity in the capital market was a major factor behind the decrease in the groups' aggregate non-interest income in 2008. This income was adversely affected by the heavy price slides recorded in 2008. Aggregate profit from investment in shares in 2008 was negative, and amounted to a loss of NIS 908 million compared with a profit of approximately a billion shekels in 2007.¹¹

The largest two banking groups—the Bank Hapoalim group and the Bank Leumi group—suffered most from these decreases. The Bank Leumi group recorded a large loss of NIS 912 million in 2008 compared with a profit of NIS 461 million in 2007, and the Bank Hapoalim group recorded a less severe loss of NIS 113 million compared with a profit of NIS 251 million in 2007. Another reason for the decline in indirect income in 2008 was the absence of profits from severance pay funds at all five groups.

d. Operating and other expenses

The five major banking groups' operating and other expenses rose by 4.1 percent to NIS 25.2 billion in 2008 (Table 2.5). Employee-related expenses rose by one percent and accounted for 58.4 percent of the banking groups' total operating expenses, compared with 60 percent in 2007 and 62.4 percent in 2006.

The increase in employee-related expenses derived from a large 21 percent growth in the salary and related expenses item, which derived from the losses on severance pay funding resulting from the price slides in the capital market. However a high positive correlation exists between direct salary expenses, such as the granting of bonuses based on profitability, and the business cycles in the economy due to the dependence of these expenses on the banks' performance. Since direct salary expenses held down total employee-related expenses in 2008 because of the low profitability recorded in that year, this item contracted by 8 percent, the first decrease recorded after five years of cumulative 42 percent increase. These developments reduced the proportion of direct

⁹ The volume of activity is measured as the average trading turnover in shares on the Tel Aviv Stock Exchange.

¹⁰ The original date for bringing the largest banks into pension advice for salaried employees was August 2010.

¹¹ Following an increase in the second quarter of the year, share prices fell heavily in the third and fourth quarters, by 18 percent and 25 percent respectively, further to the 20 percent downturn in the first quarter.

Table 2.5
Non-Interest Income and Operating Expenses of the Five Major Banking Groups, 2006–08

	Amount			Distribution			Year-on-year change		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
I. Non-interest income									
Income from banking services	(NIS million, at current prices)								
Ledger fees	1,188	1,220	1,147	8.5	8.3	9.2	-17.1	2.7	-6.0
Payment services	2,311	2,529	2,731	16.5	17.3	21.8	10.0	9.4	8.0
Credit cards	2,505	2,846	3,236	17.9	19.4	25.8	12.7	13.6	13.7
Credit services and contracts	1,064	1,155	1,160	7.6	7.9	9.3	23.1	8.6	0.4
Computerized services, data and approvals	214	212	174	1.5	1.4	1.4	4.9	-0.9	-17.9
Foreign trade and special services	446	429	394	3.2	2.9	3.1	6.4	-3.8	-8.2
Other commissions ^a	820	754	736	5.9	5.1	5.9	-11.4	-8.0	-2.4
Total income from banking services	8,548	9,145	9,578	61.2	62.4	76.4	4.7	7.0	4.7
Income from activity in the capital market									
From activity in securities ^b	2,396	2,921	2,760	17.1	19.9	22.0	11.2	21.9	-5.5
Provident and mutual funds management fees	1,897	846	250	13.6	5.8	2.0	-11.2	-55.4	-70.4
Provident fund fees	1,116	603	95	8.0	4.1	0.8	18.0	-46.0	-84.2
Mutual fund fees	781	243	155	5.6	1.7	1.2	-34.4	-68.9	-36.2
Provident and mutual funds distribution fees ^c	126	276	278	0.9	1.9	2.2	0.01	119.0	0.7
Total income from activity in the capital market	4,419	4,043	3,288	31.6	27.6	26.2	3.0	-8.5	-18.7
Other income									
Profit from compensation funds	104	167	-	0.7	1.1	0.0	-72.0	60.6	-100.0
Profit from the sale of shares ^d	674	976	-908	4.8	6.7	-7.2	414.5	44.8	-193.0
Others ^e	227	328	573	1.6	2.2	4.6	8.1	44.5	74.7
Total other income	1,005	1,471	-335	7.2	10.0	-2.7	41.0	46.4	-122.8
Total operating fees^f	10,944	12,066	12,338	78.3	82.3	98.5	6.0	10.3	2.3
Total non-interest income	13,972	14,659	12,531	100.0	100.0	100.0	6.1	4.9	-14.5

(cont'd)

Table 2.5 (Cont'd)
Non-Interest Income and Operating Expenses of the Five Major Banking Groups, 2006–08

	Amount			Distribution			Year-on-year change		
	2006	2007	2008	2006	2007	2008	2006	2007	
2. Operating expenses									
Salaries and related expenses ^a	14,915	14,516	14,720	62.4	59.9	58.4	15.8	-2.7	1.4
of which: Wages	9,561	9,814	9,031	40.0	40.5	35.8	11.2	2.6	-8.0
Maintenance of buildings	3,854	4,231	4,613	16.1	17.5	18.3	5.4	9.8	9.0
Other expenses	5,134	5,472	5,870	21.5	22.6	23.3	8.9	6.6	7.3
Marketing and advertising	810	883	876	3.4	3.6	3.5	22.7	9.0	-0.8
Computer expenses	848	865	977	3.5	3.6	3.9	9.7	2.0	12.9
Communications	599	611	636	2.5	2.5	2.5	13.2	2.0	4.1
Insurance	152	118	114	0.6	0.5	0.5	-10.1	-22.4	-3.4
Office	323	343	353	1.4	1.4	1.4	10.2	6.2	2.9
Professional services	778	771	815	3.3	3.2	3.2	26.1	-0.9	5.7
Total operating expenses	23,903	24,219	25,203	100.0	100.0	100.0	12.5	1.3	4.1
Coverage ratio^b (percent)	58.5	60.5	49.7						

^a Including primarily collection spreads and commissions on credit from the Ministry of Finance, handling fees for inheritances and estates, rental of safes, etc.

^b Including income from the activity of customers in securities, from financial instruments, custody fees, underwriting and distribution of securities.

^c As part of the Bachar reform, banks have started charging fees for distributing provident and mutual funds. The maximum fees relating to mutual funds are: 0.25 percent of the balance of assets for funds that invest mainly in short-term low-risk investments, 0.80 percent of the balance of funds that invest in shares, and 0.40 percent for other funds. Regarding provident funds (and pension funds) the maximum fee is 0.25 percent of the balance of the funds' assets.

^d Including income from the sale of shares available for sale, from the adjustment of the fair value of tradable shares and dividends from tradable shares available for sale.

^e Including profit from the sale of assets that were received to pay off debts and rental of buildings that are not in use by the bank, dividends not from subsidiaries or affiliated companies, etc.

^f Including total income from banking services and activity in securities.

^g Including payroll tax, compensation, benefits, pension and National Insurance.

^h The ratio of non-interest and other income to operating and other expenses.

SOURCE: Reports to the Supervisors of the Banks.

BANK OF ISRAEL: ISRAEL'S BANKING SYSTEM 2008

salary expenses to 36 percent of total operating expenses compared with 40 percent in previous years. The decrease in direct salary expenses in 2008 was accompanied by a 5.7 percent increase in the number of employee posts, which was similar to the rate of increase during previous years. As a result, salaries per employee post fell heavily, from NIS 222 thousand to NIS 194 thousand (13 percent), in a continuation of the previous year's decrease (Table 2.6).

The variability between the banking groups in direct salary expenses per employee post decreased, and ranged between NIS 189 thousand and NIS 199 thousand. The decrease

Table 2.6
Salaries and Related Expenses of the Five Major Banking Groups, 1998-2008
(reported amounts,^a at current prices)

	Average number of posts ^b	Salaries		Related expenses ^c		Salaries and related expenses	
		Total	Per post	Total	Per post	Total	Per post
		(NIS million)	(NIS thousand)	(NIS million)	(NIS thousand)	(NIS million)	(NIS thousand)
1998	38,230	6,341	166	2,955	77	9,296	243
1999	38,248	6,607	173	3,063	80	9,669	253
2000	39,251	7,220	184	3,557	91	10,777	275
2001	39,753	7,231	182	3,560	90	10,791	271
2002	39,531	6,819	172	3,976	101	10,795	273
2003	38,427	7,260	189	3,566	93	10,826	282
2004	38,170	7,732	203	3,677	96	11,409	299
2005	40,029	8,753	219	4,122	103	12,875	322
2006	42,200	9,561	227	5,354	127	14,915	353
2007	44,286	9,815	222	4,701	106	14,516	328
2008	46,790	9,031	193	5,689	122	14,720	315
Change from previous year							
(percent)							
1999	0.05	4.2	4.1	3.6	3.6	4.0	4.0
2000	2.6	9.3	6.5	16.1	13.2	11.5	8.6
2001	1.3	0.1	-1.1	0.1	-1.2	0.1	-1.1
2002	-0.6	-5.7	-5.2	11.7	12.3	0.0	0.6
2003	-2.8	6.5	9.5	-10.3	-7.7	0.3	3.2
2004	-0.7	6.5	7.4	3.1	3.4	5.4	6.1
2005	4.9	13.2	7.9	12.1	7.3	12.8	7.7
2006	5.4	9.2	3.7	29.9	23.3	15.8	9.6
2007	4.9	2.7	-2.2	-12.2	-16.5	-2.7	-7.1
2008	5.7	-8.0	-13.1	21.0	15.1	1.4	-4.0

^a Up to 2002, the amounts are adjusted for inflation according to the December 2003 index.

^b The number of posts includes those in subsidiaries abroad and in the consolidated companies, translation of the cost of overtime and the budgets for outside workers required to adjust for changes in the regular manpower and to assimilate projects.

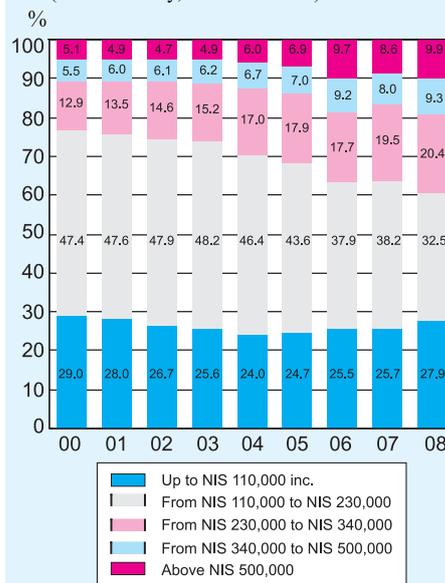
^c Includes mainly severance pay, benefits, advanced study fund, pension, annual leave, National Insurance and payroll tax, other related expenses, voluntary retirement expenses, and distribution of options to staff.

SOURCE: Published financial statements and reports to the Supervisor of the Banks.

in salary expenses was recorded despite an improvement in the quality of personnel, which was reflected by an increased proportion of graduate employees at most of the banking groups (Figure 2.6). As a result of this change in the composition of employees, the proportion of high-salaried employees¹² was 39.6 percent compared with 36.1 percent in 2007 (Figure 2.5).

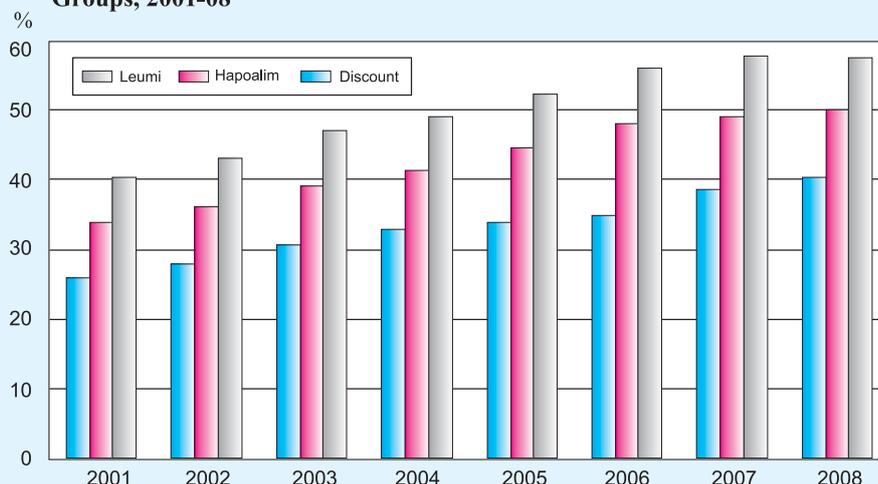
The decrease in salary per employee post at the banks was particularly notable in view of the frozen salary levels in the economy as a whole and in the finance sector in particular (Figure 2.7), although it should be noted that the average salary per employee post in the banking industry is still higher than in the other principal industries. In contrast to direct salary expenses per employee post, the gross annual cost per post was notable for variability between the five major banking groups in 2008, and

Figure 2.5
Distribution of Employees by Salary in the Commercial Banks, 2000-08
(annual salary, NIS thousand)



SOURCE: Reports to the Supervisor of Banks.

Figure 2.6
Proportion of Employees with Higher Education in the Three Major Banking Groups, 2001-08



SOURCE: Published financial statements.

¹² High salary levels are defined as an annual cost of NIS 231 thousand and more for direct salary per employee post.

ranged between NIS 275 thousand and NIS 343 thousand. The variability resulted from the fact that these expenses are affected by such components as the voluntary early retirement programs run by the banks in order to increase efficiency, and severance payments, provident fund payments and pension payments.

The development of cost per employee post as compared to output per post¹³ at each of the five major banking groups varied between the groups. Although the cost per post fell at most of the groups, at the Bank Hapoalim group and the Bank Leumi group the decrease was accompanied by a fall in output per post. Output per post at Bank Discount remained largely unchanged and increased at Bank Mizrahi-Tefahot (Figure 2.8). The use of average added value per post over time as an index of average banking output per post reveals a similar picture.

Figure 2.7
Index of Real Wage per Employee Post in Banking, Insurance and Other Financial Institutions vis-à-vis the Business Sector and the Whole Economy, 1994-2008

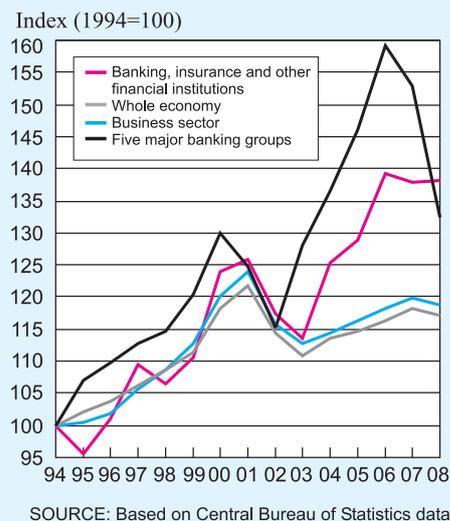
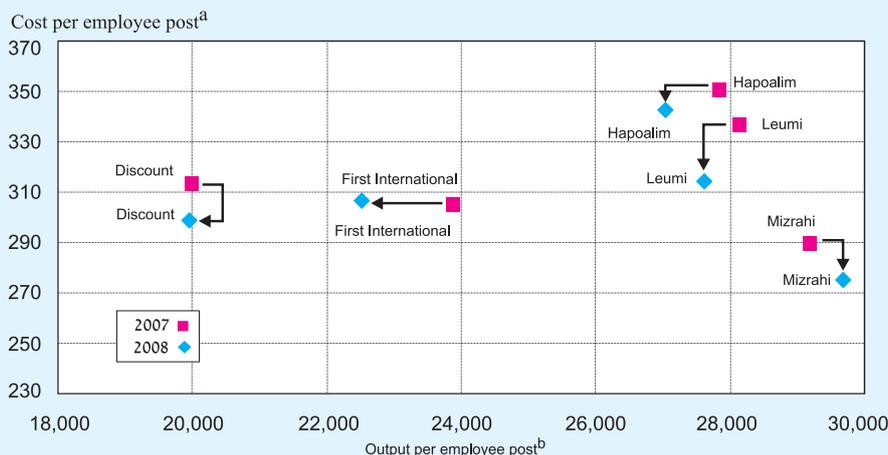


Figure 2.8
Cost^a and Output^b per Employee Post in the Five Major Banking Groups, 2008 compared with 2007
(NIS thousand at current prices)



^a Salaries and related expenses divided by number of employee posts including those in subsidiaries abroad; includes a translation of the cost of overtime and a budget for staff from manpower companies.

^b Total balance-sheet assets of the banking group plus credit equivalent value of off-balance-sheet assets.

SOURCE: Based on published financial statements.

¹³ Output per post is calculated as the group's total balance-sheet assets plus value equivalent of off-balance-sheet assets divided by the number of posts.

Operating and other expenses excluding salaries totaled NIS 10.8 billion in 2008 compared with NIS 9.7 billion in 2007, an increase of 8 percent. The increase derived mainly from expenses on the maintenance and depreciation of premises and equipment, which rose by 9 percent to NIS 4.6 billion in 2008.

e. Operating indices and operating efficiency

Operating efficiency is a major topic in the banking literature. From the business aspect, a bank's management endeavor to obtain as much information as possible on the factors that are likely to affect the volume of production expenses and their sensitivity to their components, information that can assist it in enhancing its decision-making processes. From the public aspect, an understanding of the production function enables the regulator to plan long-term policy regarding the desired structure of the banking system, and in this way to influence the extent of competition in the industry.

During the second half of the 1990s, the Israeli banks began to adopt a policy of increasing their efficiency by reducing operating expenses and increasing non-interest income. Measures adopted on the income side included the banks' entry into areas of activity connected directly or indirectly with the capital market (such as security distribution, underwriting and trading services for securities), on which they were able to charge commission fees. Notable developments on the operating expenses side were the reduction in the number of bank branches during the years 1998–2004, the addition of ATMs, the application of innovative technologies (including home banking and an expansion of internet banking services) and during recent years, personnel reductions by means of programs for encouraging voluntary retirement and employee retrenchments.

As we do every year, in the following analysis we use four accepted indices for assessing the efficiency of the Israeli banks. The first two indices are the operational coverage ratio¹⁴ and the operating efficiency ratio,¹⁵ which make it possible to assess the banks' ability to cover operating expenses by non-interest income, and by non-interest income and net interest income together. The other two indices examined are increasing, decreasing or constant returns to scale as reflected by the development of operating expenses per unit of output¹⁶ (average expense), and the banks' efficiency given their size, or X-efficiency.¹⁷

¹⁴ Calculated as the ratio of total non-interest income to total operating and other expenses.

¹⁵ Calculated as the ratio of total non-interest income plus profit from financing operations to total operating and other expenses

¹⁶ Calculated as total operating and other expenses relative to output, where output is calculated as total balance-sheet assets plus the value equivalent of off-balance-sheet assets.

¹⁷ Calculated as the average minimum expenditure divided by the average maximum expenditure in each group size (AC_{\min}/AC_{\max}). 1 minus this ratio in each group therefore reflects the potential maximum saving in production expenses for each group.

These indices are based on the economic theories according to which returns to scale are measured as the extent of the change in the bank's average cost as a function of the change in the volume of output.¹⁸

The downturn in the banking groups' results during 2008 was apparent in the efficiency indices. After amounting to 0.61 in 2007, the five major banking groups' average operating coverage ratio fell to 0.50 in 2008 (Table 2.7). Although a similar decrease is apparent from an examination of the average operating efficiency ratio, the decline here is steeper. While this ratio fell at all the groups during the year, the average was mainly affected by its value at the largest two groups. The average value of the ratio amounted to 1.21 in 2008 compared with 1.55 in 2007 (Table 2.7).

The change in the ratio of the largest two groups in 2008 derived from a large decrease in net interest income (before loan-loss provision) caused by the financing losses which both these groups recorded as a result of the financial crisis. (See above in this chapter for more details.) The decrease in non-interest income concurrent with the increase in operating expenses (for the reasons previously mentioned in this chapter) adversely affected the development of the two ratios. While the largest two groups recorded a downturn in the index values, despite a decrease in the two operating efficiency ratios, the Bank Mizrahi-Tefahot group managed to maintain its efficiency ratio at a high level. This was due *inter alia* to the group's low level of exposure to the financial crisis, the nature of its retail activity (which enabled it to actually increase net interest income

Table 2.7
Coverage and Efficiency Ratios of the Five Major Banks, 2006-08

Bank	2006		2007		2008	
	Coverage ratio ^a	Efficiency ratio ^b	Coverage ratio ^a	Efficiency ratio ^b	Coverage ratio ^a	Efficiency ratio ^b
Hapoalim	0.70	1.70	0.66	1.53	0.57	0.97
Leumi	0.53	1.49	0.61	1.71	0.40	1.31
Discount	0.47	1.23	0.51	1.34	0.47	1.26
Mizrahi-Tefahot	0.57	1.51	0.61	1.66	0.57	1.63
First International	0.61	1.60	0.61	1.49	0.52	1.22
Average of the five major banks	0.59	1.51	0.61	1.55	0.50	1.21

^a Calculated as the ratio of non-interest and other income to overheads.

^b Calculated as the ratio of non-interest income and net interest revenue to operating expenses. It is sometimes presented as the ratio of operating expenses to non-interest income and profit from financial activity.

SOURCE: Based on published financial reports.

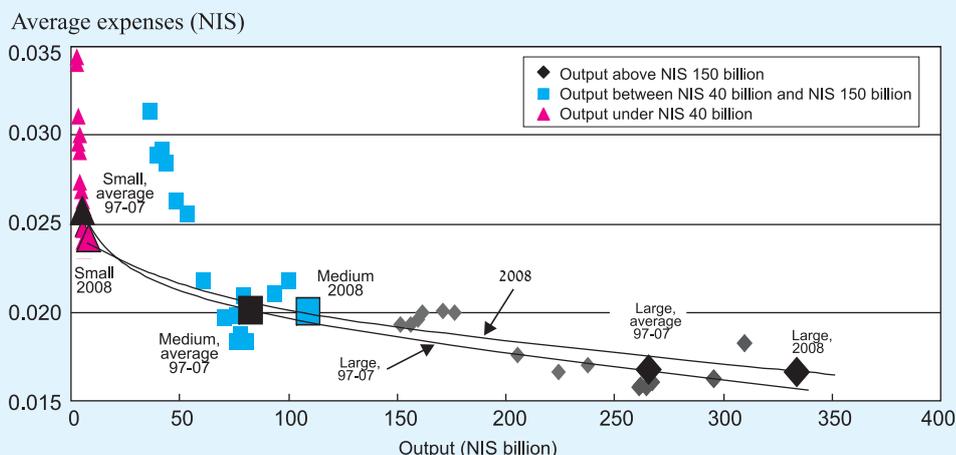
¹⁸ Graphically, return to scale is defined as the slope of the average cost curve, where a negative slope is indicative of the existence of economies of scale and a positive slope is indicative of the existence of diseconomies of scale.

in 2008), and an increase in non-interest income, which derived mainly from the consolidation of Bank Yahav in the group's financial statements from the last quarter of the year.

In order to analyze the efficiency deriving from changes in the banks' size, we calculated operating expenses per shekel of output in accordance with the banks' different size groups. For this purpose, we divided the banks into three size groups (peer groups): large banks—banks with an output exceeding NIS 150 billion; medium-sized banks—with an output of between NIS 40-150 billion; and small banks—with an output of up to NIS 40 billion. As an index of banking output, we selected total assets, which includes balances of balance-sheet assets and the credit value equivalent of off-balance-sheet assets.

In Figure 2.9 we outlined the average expense function of the commercial banks in Israel. Two points emerge from a comparison of the slope of the line connecting the average expense in 2008 with the line connecting the average expenses at all the size groups in the years 1997–2007: (1) The Israeli banking system is notable for economies of scale, which exhaust themselves at the activity levels of the group of medium-sized banks. (2) The moderation of the slope of the average expense line within the

Figure 2.9
Operating Expenses per Unit of Output^a in the Banking System,^b
by Size of Bank, 1997-2008



^a Output: The book balance of balance-sheet assets and the equivalent balance-sheet value of non-balance-sheet assets.

^b Bank Hapoalim, Leumi Bank, Discount Bank, Mizrahi Bank, First International Bank of Israel, Union Bank, Mercantile Discount Bank, Bank Otsar Ha-hayal, Bank Yahav for Government Employees, Arab Israel Bank, Bank Massad, Bank Poalei Agudat Israel, Continental Bank, Industrial Development Bank (up to 2002), Bank of Jerusalem (from 1997), Bank Investec Israel, Maritime Bank (up to 2002), Eurotrade Bank, Trade Bank (up to 2001), National Credit and Savings Bank, Netanya, Cooperative Association Ltd. (up to 2004), World Investment Bank (up to 2003), and Bank Polska Kasa Opieki Tel Aviv (Bank Pekao) Ltd. (up to 2003).

SOURCE: Based on published financial statements.

area between small and medium-sized activity levels in 2008 reflects the decrease in economies of scale in 2008 in the transition from the group of small banks to the group of medium-sized banks. The stability of the slope in the transition between the groups of medium-sized and large banks proved that economies of scale remained relatively stable here. This finding for 2008 fully conforms to technological developments, and especially the operation of direct banking services and internet banking. These contributed to a reduction in economies of scale between the medium-sized and small banks, economies which had derived from the relatively widespread deployment of the branches of the former. It should however be noted that the small banks still have a considerable potential for increasing their efficiency.

The last index we present is X-efficiency. In 2008 as in previous years, an examination of the index values clearly highlights the homogeneity of the group of large banks as compared to the relative heterogeneity typical of the group of medium-sized banks and the high level of heterogeneity at the group of small banks. In the last group, the bank with the highest average operating expense in 2008 was 63 percent more efficient than the least efficient bank. This ratio amounted to 33 percent in the group of medium-sized banks, and 3 percent in the group of large banks (Table 2.8). We attribute the large gap in the group of small banks to the major differences between the banks comprising the

Table 2.8
Ratio of Overheads to Unit of Output^a, and X-Efficiency by Banking Group (by Size), 1997-2008

	Small banks (up to NIS 40 billion) ^b	Medium-sized banks (NIS 40-150 billion) ^c	Large banks (more than NIS 150 billion) ^d
	Average expenses		
1997 - 2007	0.0258	0.0205	0.0169
2008	0.0238	0.0198	0.0165
	Maximum X-Efficiency ^e (maximum saving)		
1997 - 2007	0.33 (0.67)	0.65 (0.35)	0.92 (0.08)
2008	0.37 (0.63)	0.67 (0.33)	0.97 (0.03)

^a Defined as total operating expenses as share of output. Output is calculated as total balance sheet assets and equivalent value of off-balance-sheet assets.

^b This group includes banks that were active during all or part of the period 1997–2008, so as not to affect the quality of the indices. The banks included are: Union, Mercantile Discount, Otsar Hahayal, Yahav, Arab Israel, Massad, Poalei Agudat Israel, Continental, Jerusalem (from 1997), Investec (Israel), Maritime (up to 2002), Euro-Trade, and Trade (up to 2001).

^c This group includes Discount, Mizrahi-Tefahot and First International.

^d This group includes Hapoalim and Leumi.

^e Calculated as the minimum average expenses *divided* by the maximum average expenses for that group of banks (by size) (AC_{\min}/AC_{\max}), and therefore 1 *minus* this ratio, in each group, reflects the maximum potential saving in production expenses for that group.

SOURCE: Reports to the Supervisor of Banks.

CHAPTER 2: THE FINANCIAL RESULTS OF THE FIVE MAJOR BANKING GROUPS

group: Part of them are independent, while part of them are held by a large banking group. This compares with the other size groups, which are notable for a small number of banks and the similarity between them.

The upcoming implementation of the Basel II agreement is likely in our estimation to lead to increased economies of scale in the banking system in Israel. Despite the freedom of choice granted to the banks with respect to the methods which they use to determine their capital adequacy, the large banks (banks that operate internationally) are expected over time to develop and adopt an advanced approach, while the small and medium-sized banks (which operate mainly in the local market) will use the less advanced approaches.

3. ANALYSIS OF PERFORMANCE BY ACTIVITY SEGMENT—THE FIVE MAJOR BANKING GROUPS

Some of the large banking groups underwent a process of change in their organizational structure at the beginning of the present decade. In this process, banking activity segments were divided into independent profit centers, which the banks' management use to analyze their financial results and take decisions in accordance with these results. Under Bank of Israel directives,¹⁹ an activity segment must adhere to three conditions: The segment must engage in business activities that are likely to produce income and incur expenses; the results of its activity must be examined regularly by the management and the board of directors for the purposes of decision-making with respect to the allocation of resources to the segment and the assessment of its performance; and separate financial information about it must be available. The directive in question was determined following the application of foreign accounting standards concerning activity segments and in particular, the application of Statement of Financial Accounting Standards No. 131 in the USA.²⁰ In July 2005 the Supervisor of Banks specified the segments of activity for which disclosure is required—the corporate segment, the commercial segment, small businesses, private banking, households, financial management and others. The division into segments of activity is based on the types of product and service as well as the types of customer.²¹

¹⁹ Directives on Reporting to the Public (9) (12/09), Annual Financial Statements, Section 79 (Principal Segments of Activity).

²⁰ SFAS 131—Disclosure about segments of an enterprise and related information.

²¹ The banking groups are entitled to define their activity segments according to the character, extent, and characteristics of their customers' activity. Their choice in this respect leads to differences in definitions, and complicates the analysis. In the analysis presented here however, we focus on six main segments of activity—segments for which disclosure is required: the corporate segment, the commercial segment, small businesses, private banking, households and the financial management segment.

Apart from the five segments of activity that were analyzed in previous years, this year the analysis presented below includes the financial management segment, which had a decisive impact on the groups' financial results for the year. Although the definition of the financial management segment varies from bank to bank, at all of them it includes the management of the group's nostro portfolio, which contains investments in foreign securities and complex financial instruments, dealing room activity, and management of market risks and liquidity risks (including activity in financial derivatives). The development of the financial management segment during recent years, as a dominant part of the banking groups' activity, derives from the reforms that were implemented in the Israeli financial system²² in those years, and especially the Bachar Reform.²³ Prior to the implementation of the reforms, the banking groups enjoyed a large market segment, high market power and stable income, which did not give them any incentive for developing and investing in complex financial instruments. Growing competition between the banking system and non-bank financial entities (principally in the business sector), the removal of the provident funds and the mutual funds from the banks, and expectations prior to the enforcement of the Commission Fee Law reform compelled the groups to seek alternative sources of income complementary to those derived from classic intermediation activity. Among the measures taken in this respect were the expansion of the banking groups' activity in foreign markets by means of the acquisition of local banks abroad and the expansion of overseas branches' activity, as well as the expansion of financial investment activity via the financial management segment.

From the end of the previous recession at the beginning of the decade and until the second half of 2008, the Israeli economy benefited from stable and sustained growth, and from favorable macroeconomic conditions. The high level of activity in the economy together with the low rates of unemployment, high business sector profitability and a buoyant capital market were clearly reflected in the financial results of each of the segments of activity. In the second half of 2008 and especially during the last quarter, the global crisis entered a critical stage and began to encroach into the real economy as well. As a result of this development, the crisis began to gradually affect the Israeli economy.

The impact of the global crisis on the financial results of the segments of banking activity can be divided into two: the financial effect, which was apparent in 2008 in the financial results of the financial management segment; and the real effect, which was apparent in the results of part of the classic segments of activity—the corporate segment, the commercial segment, small businesses, private banking and households.

²² Relaxations of the Investment Regulations for Institutional Investors (2002); the Tax Reform (2003); the Pension Reform (2003); the Law for Increasing Competitiveness and Reducing Concentration and Conflicts of Interest (2005); the Underwriting Reform (2005); and the Government Bond Market Reform (2005). For further details on the subject, see the section on the Banking Groups' Activity in the Supervisor of Banks' Annual Survey for 2007.

²³ For further details see "Financial Results of the Five Banking Groups" in the Supervisor of Banks' Annual Survey for 2005.

CHAPTER 2: THE FINANCIAL RESULTS OF THE FIVE MAJOR BANKING GROUPS

An examination of net interest income before loan-loss provision (which is derived from current activity in each segment), clearly demonstrates the negative impact of the global financial recession on the groups' profit. The loss from financing activity in the financial management segment amounted to NIS 4.1 billion in 2008 compared with a profit of NIS 2.5 billion in 2007. Although all five major banking groups recorded a loss on this segment's activity in 2008, most of the loss (79 percent) was recorded at the Bank Hapoalim group. The financial management segment's financing loss at that group amounted to NIS 3.2 billion, and included losses from the realization of MBS securities due to the sale of the portfolio of these securities held by the bank's New York branch, losses on the credit derivatives portfolio, the provision for write-down of an "other-than-temporary nature" in respect of SIV and other asset-backed securities (principally CDO) and bonds of foreign financial institutions.

As stated, the financial management segment's negative results were apparent at the other banking groups as well. The volatility in global securities markets (and in Israel) and the uncertainty surrounding activity in the financial markets resulted in a decrease in the value of the groups' nostro portfolios and to a fall in the net interest income deriving from this activity. (For details of the extent of the exposure in the groups' securities portfolios, see Chapter 3 "Risks and Capital Adequacy".)

The trend in the other segments' ordinary profit, which consists mainly of profit from classic intermediation activity, was mixed in 2008 but was positive in all cases. Division of the segments of activity into retail, i.e., households, private banking and small businesses, and wholesale, i.e., the corporate and commercial segments, makes it easier to discern the non-financial impact of the global crisis on the groups' financial results.

The provision for loan losses, which is derived from borrowers' repayment ability, rose in all segments of activity in 2008. In order to deduct the effect of the growth in provisions deriving from the expansion of activity in each segment, we calculated the ratio of loan-loss provisions to the average balance of assets in each of them. According to the data, the growth in provisions in 2008 exceeded the growth in activity. A particularly adverse performance in this respect was recorded in the wholesale segments, where this ratio increased considerably (Table 2.9). Most of the increase in loan-loss provisions in the corporate and commercial segments occurred in the second half of the year, and derived from the large drop in domestic demand for these segments' products and services, and from the large decrease in service exports and industrial exports. These led to a decline in the activity of local business companies and adversely affected their repayment ability. However, an examination of net interest income before loan-loss provision in the classic segments of activity shows that despite the downturn in net profit, which derived as stated from the increase in loan-loss provisions, the net interest income of most of the segments actually increased in 2008 due to a growth in activity volumes. This growth derived from increased demand for bank credit resulting from the continued expansion of economic activity in the first half of the year, and from an increase in the volume of bank credit for the corporate segment in the second half of the year, which resulted from the reduced supply of non-bank credit substitutes for that segment's customers.

Table 2.9
Performance Indicators in the Five Major Banking Groups, ^{a,b} by Sector, 2007-08

	2007					2008				
	Households	Private banking sector	Small businesses	Business sector	Commercial sector	Households	Private banking sector	Small businesses	Business sector	Commercial sector
Components of profit	Distribution (%)									
Average balance of assets	30	6	9	39	17	30	7	9	39	16
Net interest income before loan-loss provision	35	11	14	23	16	35	10	14	26	14
Total non-interest and interest income	39	14	14	20	13	39	14	14	21	13
Loan-loss provision	32	2	28	13	25	17	2	12	51	18
Non-interest and other income	46	19	13	15	8	47	19	13	11	9
Operating expenses	47	16	14	12	11	46	16	13	13	11
Ordinary before-tax profit	24	12	10	40	14	34	14	16	24	12
Net profit	33	12	10	33	12	38	16	14	21	11
	Ratios (%)									
Loan-loss provision to total assets	0.3	0.1	0.9	0.1	0.4	0.4	0.2	1.1	1.0	0.8
Profit from financial activity to total assets	3.9	6.0	5.4	2.0	3.2	3.8	5.1	5.3	2.2	2.9
Total income ^c to total assets	7.0	12.1	8.3	2.7	4.2	6.6	10.3	8.0	2.7	4.0
Operating expenses to total assets	5.4	8.9	5.7	1.0	2.4	4.9	7.8	5.0	1.0	2.3
Return on equity	1.3	2.4	1.3	1.0	0.9	1.0	1.9	1.3	0.4	0.6
	Ratios									
Coverage ratio ^d	0.57	0.68	0.52	0.75	0.40	0.57	0.67	0.55	0.50	0.45
Efficiency ratio ^e	1.29	1.35	1.47	2.63	1.73	1.34	1.32	1.61	2.58	1.72
Return per unit of risk ^f	4.19	27.91	1.43	10.86	1.99	2.41	11.19	1.23	0.44	0.71

^a Each banking group defines the sectors of its activity using its discretion and in accordance with the characteristics and extent of its customers' activities. In general, the household sector consists of private customers with low to medium financial wealth; the private banking sector consists of wealthy private customers; the small business sector consists of commercial customers with a low level of business activity; the commercial sector consists of businesses with a high level of activity; the business sector consists of companies with high sales turnover and indebtedness.

^b Not including the financial management sector, others, and adjustments.

^c Total income is defined as the sum of non-interest and other income plus net interest income before loan-loss provision.

^d Calculated as the ratio between total non-interest and other income to total operating and other expenses.

^e Calculated as the ratio between total non-interest and other income and profit from financial activity to total operating and other expenses.

^f Calculated as the ratio of before-tax profit plus provisions to the total loan-loss provision.

SOURCE: Based on published financial statements.

CHAPTER 2: THE FINANCIAL RESULTS OF THE FIVE MAJOR BANKING GROUPS

As we mentioned in the past, the Bank of Israel and the Knesset introduced a number of regulatory and legislative measures during recent years in order to increase the competition in the local credit market and to reduce the oligarchic power of the commercial banks by decreasing the concentration in the Israeli banking system and encouraging competition between the banks and non-bank entities. With respect to business credit, the reforms applied in recent years²⁴ in the Israeli capital market supported the development of competition for this segment's customers between the commercial banks, financial institutions and the capital market, by encouraging the creation of readily available non-bank credit for the corporate segment's customers. With respect to retail credit, Proper Conduct of Banking Business Regulation 432²⁵ concerning the transfer of activity and the closure of an account is intended to increase the mobility of the household segment's customers, and the Commission Fee Law²⁶ is intended to increase the transparency of the cost of banking services for retail customers. Numerous other initiatives were aimed at increasing the competition in the industry. These included the entry of additional banks into the system, the entry of a foreign bank that will work with retail customers, the operation of an internet bank and the privatization of the Postal Bank. All these, together with the convening of the Ariav Committee²⁷ were as stated intended to increase competition within the banking system and between it and the non-bank credit market, and to lead to the development of a sophisticated market in the area of retail credit as well and to reduce the commercial banks' ability to employ market power over these customers.

Apparent from an examination of the contribution of the classic segments of activity to aggregate net profit is a decrease in the contribution of the corporate segments, which amounted to 32.5 percent in 2008 compared with 45 percent in 2007, and an increase in the contribution of the retail segment from 55 percent in 2007 to 67.5 percent in 2008 (Table 2.9). The latter increased in 2008 despite a fall in net profit in the households segment and the private banking segment. The increased contribution derived largely from reduced profits in the wholesale segments and especially in the corporate segment as detailed above. It is interesting to note that the decrease in the corporate segment's contribution to net profit actually occurred in a period when the segment's ability to raise credit from non-bank sources declined and its demand for bank credit rose. This resulted from business firms' increased exposure to risk—a development that was reflected in 2008 by a growth in loan-loss provisions for them. The distribution of net

²⁴ See footnote 22.

²⁵ Proper Conduct of Banking Business Regulations, July 2005.

²⁶ The Commission Fee Law went into effect on July 1 2008. For further details, see Chapter 4 in this review.

²⁷ In November 2007 the Governor of the Bank of Israel and the Minister of Finance appointed the Director-General of the Ministry of Finance, Yaron Ariav, to head a committee for the development and growth of competition in the banking system and in the capital market in Israel. The committee is charged with examining the measures that are required for the development of the local capital market and for increasing its attractiveness for foreign capital, in order to position it as a significant global player and to increase the competition and efficiency in it.

interest income actually changed, and the corporate segment's contribution to net profit rose slightly instead of declining. This mainly resulted from increased corporate sector demand for bank credit and from a rise in the risk premium on this credit. Nevertheless, the household segment's contribution to the groups' profits remained at a stable high level. This finding is based on two factors: (1) In contrast to the wholesale segments, which are notable for homogeneity and for a high level of exposure to business cycles, the household segment is notable for heterogeneity and a more moderate level of exposure to the business cycles in the economy. The level of the groups' loan-loss provisions relative to activity volumes in respect of the household segment was lower than in the wholesale segments in 2008; (2) The lack of adequate bank credit substitutes for the household segment's customers enabled the groups to employ marketing power over them in 2008, and to benefit from these customers' stable contribution to their profitability.

Excluding the effect of the financial management segment on the groups' operational efficiency, an examination of the classic segments of activity shows that despite all of the developments in the course of the year, the extent of the retail segment's operational efficiency was notable for its stability while the extent of the corporate segment's operational efficiency declined. Notable from an examination of the operational coverage ratio²⁸ is the decline in the ratio in the wholesale segments (from 0.57 in 2007 to 0.48 in 2008) compared with the retail segments, which retained the previous year's level (0.59, Table 2.9). This resulted from the decrease in the level of the corporate segment's non-interest income. An examination of the operational efficiency ratio²⁹ shows a slight decrease in its level in the wholesale segments and a slight increase in the retail segment.

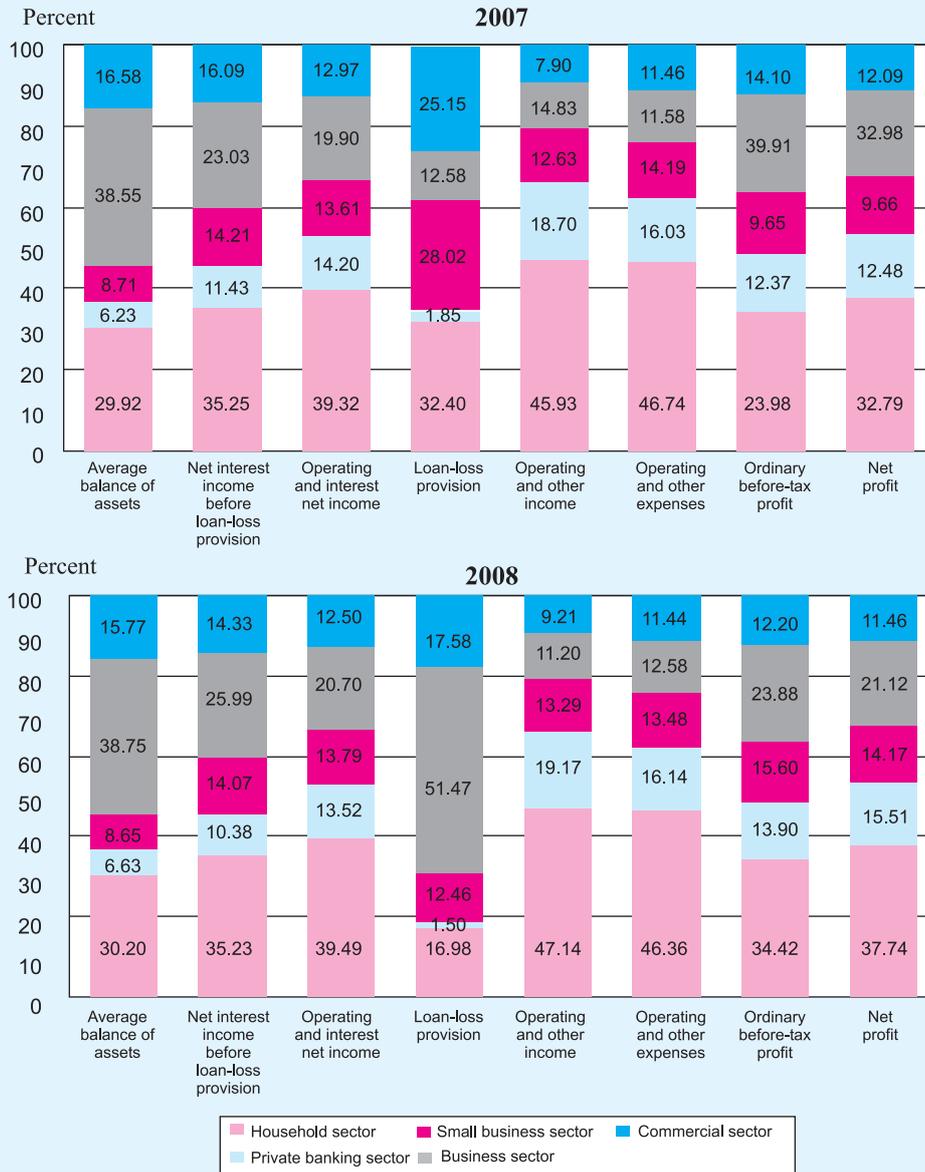
The difference between the high operating expenses of the retail segments and the relatively low operating expenses of the wholesale segments, as reflected by the share of each of these segments in total operating and other expenses, remain apparent in 2008. The high operating expenses involved in the activity of the household segment, whose share in total expenses amounted to 46.4 percent in 2008, derived from the groups' need to maintain and operate an extensive network of branches for the retail customers, including large human and physical resources. In contrast, the relatively low share of expenses on the corporate segment's activity (11.4 percent; Figure 2.10) is attributed to the small number of business centers.

The risk involved in the segments' activity is known to have a major effect on their performance and financial results. In order to assess the performance of each of the segments of activity, with due reference to the profits and the risk involved in the activity of each of them, we calculated the ratio of net profit plus loan-loss provisions to loan-loss provisions. In this way we obtained an approximation of the Risk Adjusted Return on Capital (RAROC). The index values show a deterioration in all the segments

²⁸ Calculated as the ratio between total non-interest income and total operating and other expenses.

²⁹ Calculated as the ratio between total non-interest income and net interest income, and total operating expenses.

Figure 2.10
Contribution of Different Areas of Activity^a to Selected Items in the Financial Statements of the Five Major Banking Groups



^a Not including financial management sector, others and adjustments.
 SOURCE: Published financial statements.

(except for the private banking segment), and the declines in the ratio in the corporate segment was particularly apparent in 2008. This resulted from the high levels of profit and low rates of provision that were charged to the segment's activity in 2007, and from the large increase in the rates of provision in 2008. Comparison of this ratio between the wholesale and retail segments clearly highlights the difference between the favorable and stable performance of the former and that of the latter (Table 2.9).

4. ANALYSIS OF THE BANKS' PERFORMANCE AS MEASURED BY THE MARKET VALUE TO BOOK VALUE RATIO (MV/BV)³⁰

In this section we present an alternative approach for estimating the banks' performance, which is based on information that is to be found in the financial markets. In the previous section of this chapter, the analysis was based on accounting reports as reflecting developments in the banking system, while here it is based on an estimate of the banks' performance and robustness, as reflected by investors' assessments. This use of financial market data fully conforms to the third pillar of the Basel II agreement concerning increased transparency and more extensive disclosure with the purpose of improving market discipline—which is intended to serve as an additional supervisory mechanism alongside institutional supervision. For this purpose, we use the market value to book value (MV/BV) ratio.

The MV/BV ratio reflects the premium that the market is willing to pay on the book value of the bank's share capital, and is used as an effective and accepted measure of the market's assessment of a bank's future performance. The MV/BV ratio is defined as the ratio of the market value of a bank's share capital, which reflects the capacity of the capital to generate income, to its book value, which reflects the original cost of raising the capital. When this ratio is greater than 1, it means that investors underestimate the economic value of equity capital. It therefore follows that its latent future potential (as reflected in a high return and/or a low risk) is high, and vice versa.

An examination of the value of the MV/BV ratio at the largest five banks in Israel shows that the downtrend in the ratio typical of 2007 continued in 2008. The decrease in the ratio during 2008 was clear and across-the-board and for the first time in the last four years, its average value was less than 1 and amounted to 0.56—a value only slightly higher than the low ebb recorded in the first quarter of 2003 (0.54).

The decline in the MV/BV ratio during 2008 derived mainly from the developments and shocks in the global financial system and the real crisis which resulted from it and

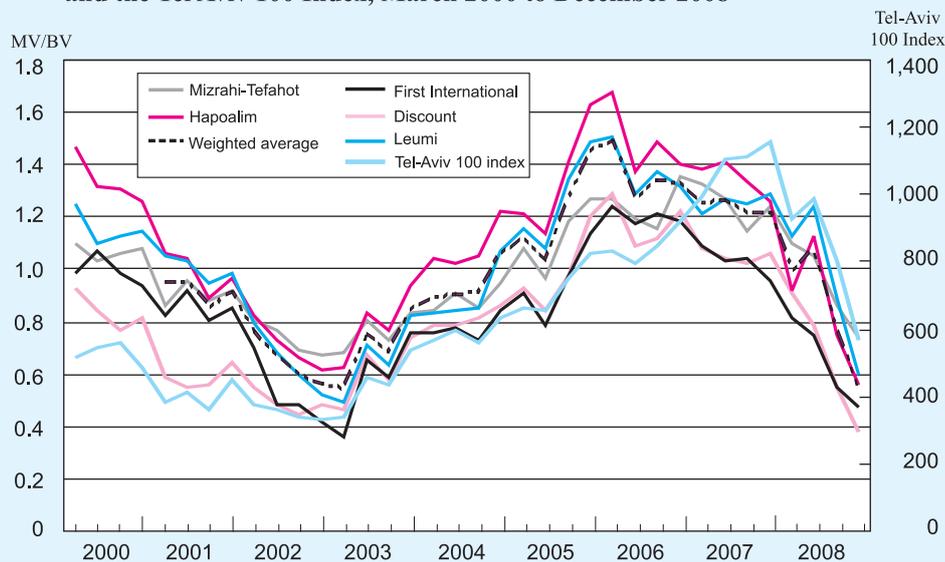
³⁰ The market value to book value ratio is defined as $(MV/BV)_i$, where MV_i is the market value of the shares and options of bank i in period t . The market value of any company is defined as the value of its shares and options listed for trading (excluding convertible bonds). The market value also includes shares not listed for trading, to which is assigned the market value of the shares that are listed for trading. BV_i is the balance sheet value of the equity, including paid in share capital, reserves, and surplus capital, of bank i in period $t - 1$.

CHAPTER 2: THE FINANCIAL RESULTS OF THE FIVE MAJOR BANKING GROUPS

impacted the Israeli economy as well. The direct effect of the crisis on the MV/BV ratio in 2008 was evident in the decrease in the local banks' market value, in the context of increased volatility and uncertainty in the local capital markets and the fall in the value of securities on the Tel Aviv Stock Exchange. The effect on the ratio was an outcome of globalization, which creates a positive correlation between the performance of the local and global capital markets (as is the case with the financial markets in many developed countries and emerging markets). The indirect effect of the crisis on the index values was mainly apparent in the second half of the year, when the local banking groups' risk exposure to foreign financial institutions materialized, and also resulted from the development of the global financial crisis into a non-financial crisis as well, which was reflected by a slowdown in economic activity with a consequent increase in exposure to risk (as defined extensively in the chapter on risks) and decrease in profitability. Figure 2.11 highlights the positive correlation between the performance of the Tel Aviv 100 Index, which reflects the behavior of the local capital markets, and the development of the commercial banks' MV/BV ratio over time.

An examination of the development of the ratio during 2008 at each of the five major banking groups shows that despite their differing characteristics, financial results and exposure to risk, the ratio fell at all of them. The entry of the Israeli economy into recession in the second half of the year and its dependency, as a small and open economy, on the global economy, which is suffering from a serious recession, increased investors'

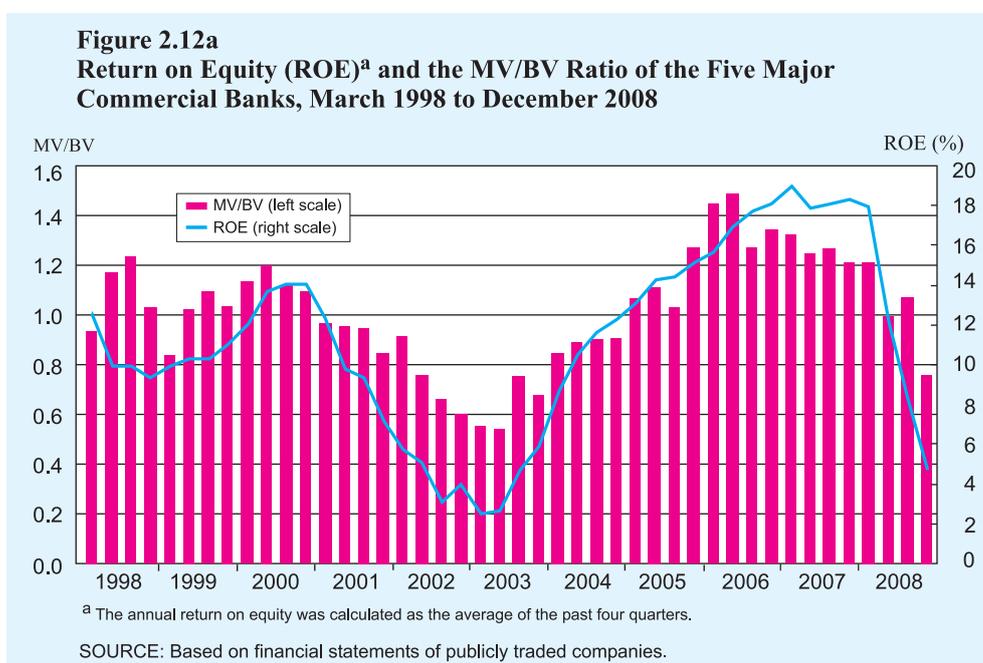
Figure 2.11
Ratio of Market Value to Book Value (MV/BV) of the Five Major Banks
and the Tel Aviv 100 Index, March 2000 to December 2008



SOURCE: Based on financial statements of publicly traded companies.

concern that despite the moderate impact of the recession on the local financial system and despite the system's resilience and conservatism, the development of the crisis would directly or indirectly affect the performance of the banks and the local capital market, in the short term at least.

In Figure 2.12 we delineated the MV/BV ratio once against ROE, an accepted index for a banking firm's profitability, and once against the ratio of total credit to GDP, which is a risk index, over the period between March 1998 and December 2008. Notable in these diagrams are the negative relationship between the level of a firm's risk and the MB/BV ratio, and the positive relationship between the extent of profitability and the ratio—relationships that are described in the literature³¹ that is based on financing theory.³² The application of the Basel II agreement in the Israeli banking system in 2009



³¹ For more details, see Yoram Landskroner, David Ruthenberg and Shaul Pearl, "Market-to-Book Value Ratio in Banking—The Israeli Case," Banking Supervision Department, Research Unit, Bank of Israel, June 2006.

³² This relationship is based on the MV/BV relationship, which is formulated as follows:

$$\frac{MV}{BV} = \frac{ROE - g}{k - g},$$

where

ROE—Return on Equity

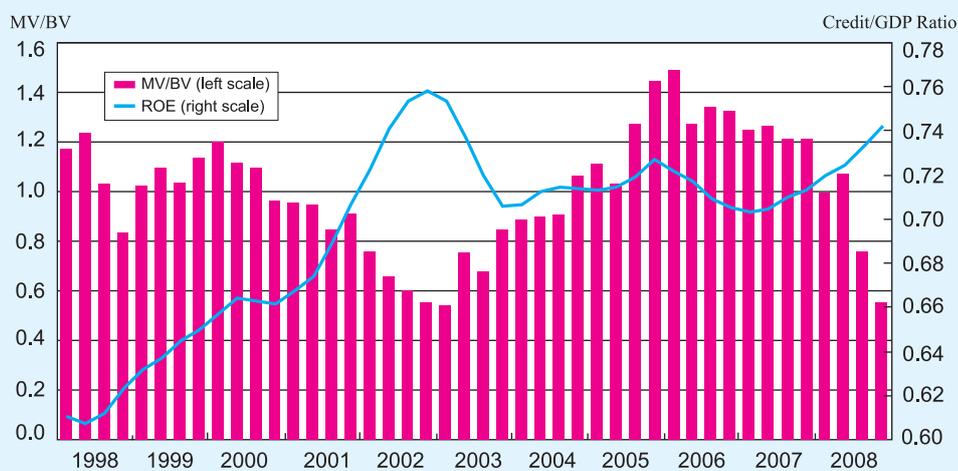
g—the banks' growth rate;

k—the bank's risk.

For further details on the subject, see Landskroner, Ruthenberg and Pearl's study mentioned in the previous footnote.

will in our estimation lead to more focused and more accurate risk management and to increased transparency and due disclosure. These can be taken as indicative to the market of an improvement in the banks' decision-making processes and risk management and of an increase in market discipline. We believe that this process will lead to a more accurate assessment of market value and the MV/BV ratio, and to a strengthening of the relationship between it and RAROC.

Figure 2.12b
Credit/GDP Ratio^a and the MV/BV Ratio of the Five Major Commercial Banks, March 1998 to December 2008



^a Calculated as the average of the previous four quarters.

SOURCE: Based on financial statements of publicly traded companies.

