CHAPTER 1

DEVELOPMENTS IN THE BANKING SYSTEM

- In 2013, the Israeli banking system maintained its resilience and stability and posted adequate business results, against the background of continued moderate growth, a decline in sovereign risk, and improvement in the domestic labor market. An increase in core Tier 1 capital and the strengthening of banks' risk-management and corporate governance regimes supported the system's resilience. This resilience was also reflected in the results of stress tests that the Supervisor of Banks carried out during the year—results that, however, also underscored the main risks that the banks face: exposure to the construction and real estate industry and housing credit, and borrower concentration.
- The banks continued to increase their core Tier 1 capital ratio in order to meet new core capital targets; thus, the ratio increased by 0.6 percentage points to 9.4 percent in 2013. On January 1, 2014, Israel's banking corporations began to implement the Basel III framework in accordance with transitional directives. The shift to this framework brought only a small 0.2 percentage point decrease in the five banking groups' aggregate core capital (Common Equity Tier 1) ratio.
- The net profit of the five banking groups increased by 19 percent this year, to NIS 7 billion. This reflected a return on equity of 8.7 percent, which essentially matches the long-term average. The banks' business results were favorably affected by developments in the stock and bond markets and adversely affected by the low interest rate environment and the moderation of economic activity.
- The banks' loan loss provisions dropped sharply in 2013, to only NIS 2.1 billion, (compared with NIS 3.6 billion in 2012), despite an increase of provisions in respect of housing loans after the Supervisor of Banks mandated a minimum group allowance for this activity segment.
- The banking corporations' total balance sheet increased by 2.1 percent during the year, to NIS 1.3 trillion. On the assets side, the rate of increase in credit to the public moderated while the securities portfolio continued to expand. On the liabilities side, equity continued to increase and the growth rate of deposits from the public moderated.
- The balance-sheet credit portfolio increased by only 1 percent in 2013. The trends that characterized this portfolio in 2012 continued this year: increased credit to households, particularly housing credit, and reduced credit to the business sector. The banks' credit risk receded during the year as credit portfolio quality indices improved and large borrower concentration waned. The portfolio is, however, susceptible to several focal points of risk: exposure to the construction and real estate industry and to housing credit, which together account for 43 percent of the bank credit portfolio; exposure to leveraged credit; and borrower concentration, which, although somewhat attenuated, remains high.

- The banks' exposure to the construction and real estate industry contracted by 3 percent in 2013 as real estate lending declined by 7 percent (approximating the rate of decline in 2012) and construction credit increased by only 3 percent. The contraction in bank credit to the real estate industry followed increases among industry firms in equity and bond issuances and direct borrowing from institutional investors. The risk to firms in this industry remains high relative to that of firms in other industries.
- Housing credit continued to expand markedly, increasing by 10 percent in the review year. The Supervisor of Banks took various measures—pursuant to those taken in the past—to reduce borrowers' exposure to this risk and banks' exposure to the risk inherent in the housing-loan portfolio, and to limit the possible consequences of the occurrence of a crisis in the real estate market. As a result of these measures, a decline can be seen in the level of risk inherent in the housing credit portfolio. Nevertheless, borrowers and the banking system are exposed to a negative impact against the background of the large sums extended in mortgage loans, the ongoing increase in home prices, and the low interest rate environment.
- The Israeli banking system continued to be marked by a high level of liquidity, affected by the structure of its sources: it is made up mostly of a stable core of deposits from the public and a smaller share of other funding components. However, short-term (up to one month) liquidity risk increased somewhat in 2013 and deposit concentration increased as well. The Banking Supervision Department started implementing the Basel III liquidity requirements in Israel. The Supervisor of Banks published draft guidelines on the implementation of the Liquidity Coverage Ratio (LCR) and carried out a Quantitative Impact Study (QIS). A preliminary review of the study results indicates that the system already meets the minimum ratio requirements.
- Improving banking corporations' operating efficiency is one of the principal challenges that the Israeli banking system faces. A cross-country comparison shows that Israel falls short of other OECD countries in the operating efficiency of its banks. Although several banks improved their operating efficiency in 2013, it remained at a low level.

Table 1.1
Principal banking system indices,
December 2001 to December 2013

Year	Ratio of market value to book value[a] (MV/BV)	Average yield spread between bonds of the banks and government bonds[b] (percentage points)	Ratio of credit to GDP[c] (percent)	Rate of change in balance-sheet credit to the public[d] (percent)	Loan loss provision to total credit to the public[d] (percent)	Ratio of liquid assets[e] to liquid liabilities[f]	Ratio of credit[g] to deposits	Capital adequacy ratio (percent)	Core Tier 1 capital ratio (percent)	ROE (percent)
2001	0.91	0.7	111.9	17.9	0.85		0.81	9.4		5.8
2002	0.56	0.8	107.5	-1.1	1.32	0.42	0.83	9.9		2.8
2003	0.85	0.7	105.5	-1.7	1.12	0.41	0.82	10.3		8.4
2004	1.06	0.7	101.1	0.1	0.90	0.41	0.80	10.7		13.2
2005	1.45	0.7	101.7	6.7	0.69	0.42	0.82	10.7		14.5
2006	1.33	0.6	96.5	2.0	0.52	0.38	0.80	10.8		17.3
2007	1.21	0.9	96.8	7.7	0.28	0.29	0.85	11.0		15.6
2008	0.56	2.0	100.3	10.4	0.72	0.27	0.90	11.2		0.3
2009	1.11	1.6	93.7	-1.4	0.75	0.38	0.86	13.7[h]		8.8
								13.6[i]	7.9	
2010	1.06	1.0	93.4	7.2	0.41	0.32	0.91	14.0	8.0	9.8
2011	0.69	1.3	90.8	3.7	0.39	0.37	0.89	14.0	8.0	10.2
2012	0.78	1.0	86.3	2.1	0.41	0.39	0.87	14.9	8.7	7.9
2013	0.84	0.9	82.3	1.1	0.25	0.38	0.87	14.8	9.4	8.7

[a] In calculating the MV/BV ratio, the book value (BV) is calculated with a delay of one quarter after the market value (MV).

[b] Average for December of that year.

[c] Measured using gross credit.

[d] Until December 2010—net credit to the public; from December 2011—gross credit to the public.

[e] Liquid assets include government bonds and cash as well as deposits at the Bank of Israel and at other banks with up to 3 months to maturity.

[f] Liquid liabilities include total deposits with up to 3 months to maturity.

[g] Calculated in relation to net credit.

[h] Calculated in accordance with the Basel I principles.

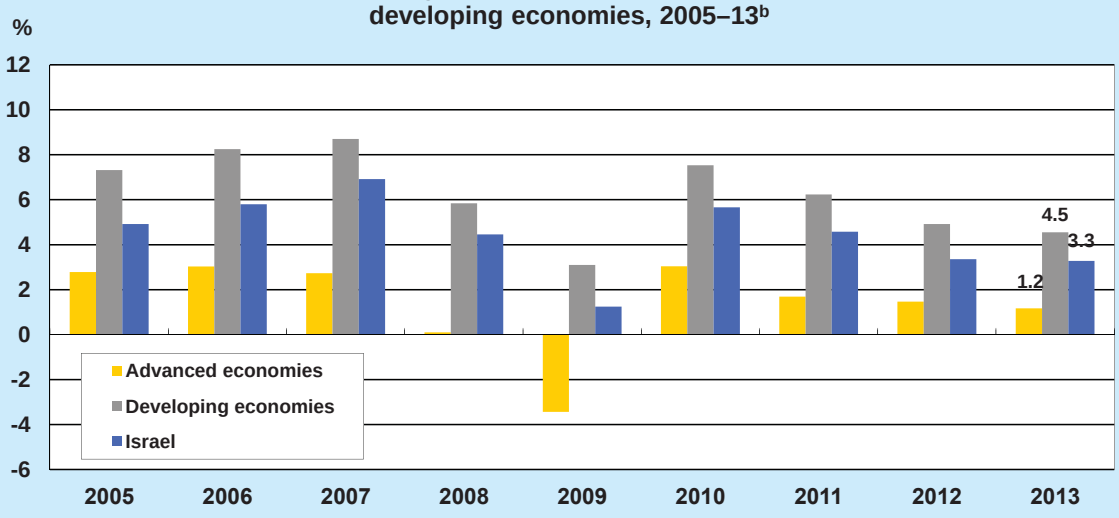
[i] Calculated in accordance with Basel II principles.

SOURCE: Banking Supervision Department based on Central Bureau of Statistics, Bank of Israel, published financial statements, and reports to the Banking Supervision Department.

1. MACROECONOMIC DEVELOPMENTS IN THE ISRAELI ECONOMY

Israel's GDP grew by 3.3 percent in 2013, a moderate rate considering the 0.8 percentage point contribution made by the onset of production of natural gas. Advanced economies grew by only 1.2 percent and developing markets by 4.5 percent, slower than in 2012 (Figure 1.1). The moderation of activity in Israel is attributed mainly to a slowdown in demand from abroad, which not only led to a decline in exports but also slowed the growth rate of investment in the principal industries. Underlying these developments were the ongoing low rate of growth in world trade and the slowing of growth in advanced and developing economies. Private and public consumption continued to increase steadily, supported by the income effect among other things. The employment rate continued to rise and the unemployment rate fell to 6.3 percent.

Figure 1.1
Annual rates of change in GDP—Israel[a], advanced economies and developing economies, 2005–13[b]



[a] In 2006, the Central Bureau of Statistics made a change in the GDP calculation methodology.
[b] Data for foreign countries are updated until October 2013.
SOURCE: Foreign countries - IMF; Israel - Based on Central Bureau of Statistics.

In response to the moderation of demand from abroad, and against the background of the low inflation rate, which totaled 1.8 percent, monetary policy continued to focus on supporting economic activity and maintaining financial stability. Continuing the trend it began in the second half of 2011, the Bank of Israel reduced the interest rate from 1.75 percent at the beginning of 2013 to 1.0 percent in December and to 0.75 percent in February 2014, as advanced economies continued to adopt accommodative monetary policy stances in view of low inflation and high unemployment rates. The Bank of Israel reduced its rate to stimulate domestic demand and investment and to slow currency appreciation; it also continued to purchase foreign currency in order to moderate appreciation and prevent shocks to activity.

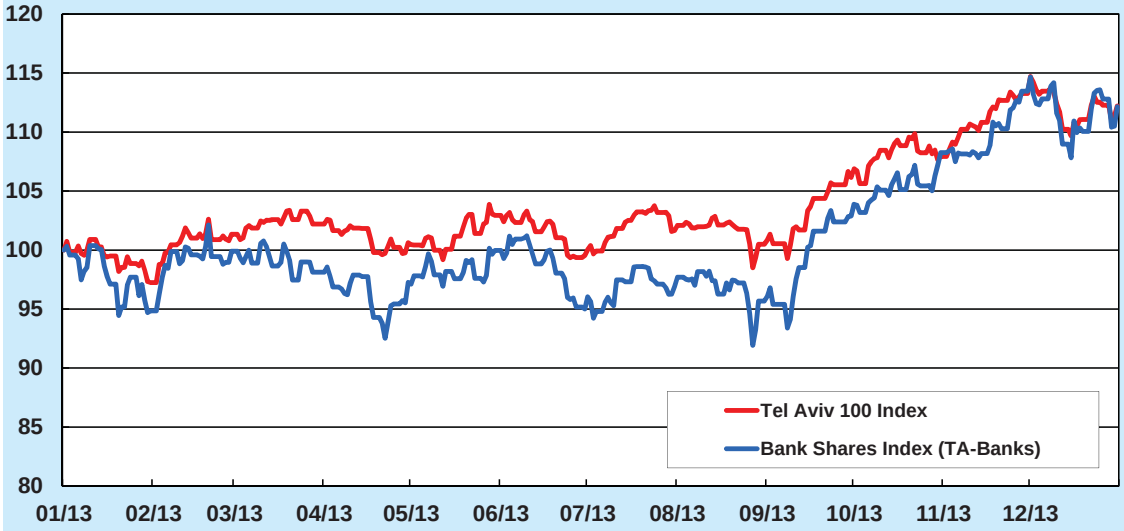
The real effective exchange rate appreciated by 6 percent in 2013, after it depreciated by 4 percent in 2012. The real appreciation was affected by several factors: the state of the domestic economy was

good relative to countries directly impacted by the global crisis, natural gas reserves were discovered and developed, geopolitical risks declined, and the surplus in the current account increased to 2.4 percent of GDP. The increase in the surplus may be explained by a decline in imports that was led by a slowdown in growth of investment.

Home prices increased by 6 percent in real terms, after a cumulative increase of around 50 percent between 2008 and 2012. Price increases resumed in the second half of 2012 and continued throughout 2013. The increase in home prices in recent years came against the background of the steep increases in demand for homes and a slower rate of expansion in supply, which were reflected in a shortage of dwellings. Homebuying demand began to grow in 2008, apparently because individuals diverted financial savings to investment in homes, after yields on alternative investments declined, and the risks embodied in financial investments in the capital market increased. In 2011–13, in contrast, demand increased mainly among purchasers of first homes, with the number of transactions increasing since the middle of 2012. The surge in demand for homes was also reflected in an increase in bank credit for housing—it increased by 9.5 percent in 2013 relative to 2012 and grew at an annual rate of 12 percent, on average, since December 2007.

Share prices in Israel increased sharply in 2013, with the Tel Aviv 100 Index and the bank shares (Tel Aviv Banks) index gaining 12 percent (Figure 1.2). The increases began only in September after the ebbing of geopolitical concerns and in a delayed response to developments in stock markets in advanced economies. Share prices in advanced economies increased by 20–40 percent; these markets were volatile throughout the year, strongly affected by estimations about the timing of the gradual onset of the tapering of quantitative easing in the United States. Despite the bullishness of Israel's stock market, its trading volumes remained far below the record levels posted in 2010.

Figure 1.2
Tel Aviv 100 Index and the bank shares index in Israel, January 1-December 31, 2013[a]
(Index January 1, 2013 = 100)



[a] On days for which there is no trading, the previous day's figure is used.
SOURCE: The Tel Aviv Stock Exchange.

Yields to maturity on long term nominal and real government bonds continued to decline in the first half of 2013, and ranged around historically low levels in the second half. The decline originated in a reduction in sovereign risk (reflected in the contraction of CDS spreads[1]) and in domestic monetary interest rate cutting. Yield spreads of corporate over government bonds narrowed to historical lows, supported by an increase in the public's holdings of corporate bonds due to an increase in mutual funds' net investment, because of a lack of risk-free alternatives that would deliver the same return.

Gross bond issuance in the nonfinancial business sector[2] has been increasing since 2010 and came to NIS 29 billion in 2013. Due to a faster pace of redemptions, however, net capital raised was negative. Net bonds outstanding decreased despite a decline in corporate-bond market yields, making it less costly for firms to issue debt and possibly indicating mild demand for credit in this market. The narrow spreads between corporate and government bonds may also reflect the underpricing of risks in the corporate-bond market. The construction and real estate industry took advantage of the low spreads to raise NIS 7.7 billion (net) during the year in tradable and nontradable bonds, compared with NIS 1.1 billion in 2012. Firms in this industry also increased their direct borrowing from institutional investors and their issues of share capital. Conversely, bank lending to construction and real estate firms slumped by 3 percent[3]; the decline originated in the real estate industry.

2. THE STRUCTURE OF THE BANKING SYSTEM IN ISRAEL

a. Description of the system

The banking system in Israel consists of five major banking groups—Leumi, Hapoalim, Discount, Mizrahi-Tefahot and First International—which account for about 94 percent of commercial bank assets, and three small independent banks (Union Bank, Bank of Jerusalem and Dexia Israel Bank) (Table 1.2 and Figure 1.3). In addition there are four branches of foreign banks[4] which operate on a small scale, though they compete with Israeli banks in specific areas.

The banking corporations provide a wide range of financial services, including corporate and commercial banking, retail banking, housing loans and credit card services. In addition, they are active in the capital market in securities trading, both on behalf of customers and for their own portfolios (nostro), and they provide pension and investment advisory services. The banks' activity in insurance is limited, as dictated by law.[5]

[1] The CDS spread, a reflection of sovereign default risk, declined by about 36 basis points in 2013 to its lowest level since 2009, continuing a trend that began in 2012.

[2] Not including banks and insurance companies.

[3] Credit issued to construction and real estate borrowers by the five major banking groups for the borrowers' activity in Israel.

[4] The four branches belong to four foreign banks: Barclays Bank, HSBC, Citibank and State Bank of India. Their credit granting operations are small both in absolute terms (about 0.6 percent of the total for the banking system) and relative to their total assets (about 32 percent). In the area of deposits, they are somewhat more active and account for about 1.4 percent of total deposits in the banking system.

[5] The banks market property insurance and life insurance as part of their mortgage activity.

Table 1.2
Banking system structure, December 2013[a]

Bank	Balance-sheet data						Direct holdings[b]			Size data		
	Share of total assets	Share of total bank credit	Total assets	Credit to the public	Total deposits	Equity	Holdings by parties at interest[c]	Institutional holdings[d]	Public holdings	Number of branches	Number of employee posts[e]	Number of machines[f]
	(Percent)		(NIS million)				(Percent)					
The five major banking groups												
Leumi[g]	28.3	28.1	374,360	244,757	286,003	26,765	838.0	16.9	74.3	322	13,307	983
Hapoalim	28.7	29.3	380,246	255,543	276,525	29,310	22.6	9.4	68.0	304	13,202	1304
Discount	15.1	13.5	200,507	117,993	148,928	12,538	18.2	10.8	71.1	249	9,834	813
Mizrahi-Tefahot	13.6	16.1	179,613	139,880	141,244	10,335	44.7	0.0	55.3	177	5,767	356
First International	8.4	8.0	111,103	69,533	89,122	7,120	74.9	0.0	25.2	183	5,177	357
Total for the five major banking groups	**94.1**	**95.0**	**1,245,829**	**827,706**	**941,822**	**86,068**				**1,235**	**47,287**	**3813**
The independent banks												
Union Bank of Israel	3.0	2.6	39,490	22,420	30,622	2,335	74.8	0.6	24.7	36	1,278	66
Bank of Jerusalem	0.9	1.1	13,412	9,736	11,071	697	91.6	0.0	8.4	21	528	0
Dexia Israel Bank	0.7	0.7	8,910	6,287	4,411	772	65.3	0.0	34.7	1	45	
Total for the independent banks	**4.7**	**4.4**	**61,812**	**38,443**	**46,104**	**3,804**				**58**	**1,851**	**66**
Total of foreign bank branches	**1.2**	**0.6**	**16,008**	**5,269**	**14,340**					**4**		
Total for banking system	**100.0**	**100.0**	**1,323,649**	**871,418**	**1,002,266**	**89,872**				**1,297**	**49,138**	**3879**

[a] Financial data for the banking groups is presented on a consolidated basis, and the numbers of branches and of employee posts include all banks belonging to the group.

[b] Based on reports to the Stock Exchange and published financial reports, as of the end of 2013.

[c] A "party at interest" is defined as someone holding five percent or more of the issued share capital of a corporation or of voting rights in the corporation. In addition, the reporting on holdings of parties at interest includes the holdings of the CEO and of Directors.

[d] As defined in Regulation 33(i) of the Securities Regulations (Periodic and Immediate Reporting), 5730-1970.

[e] On a monthly average basis.

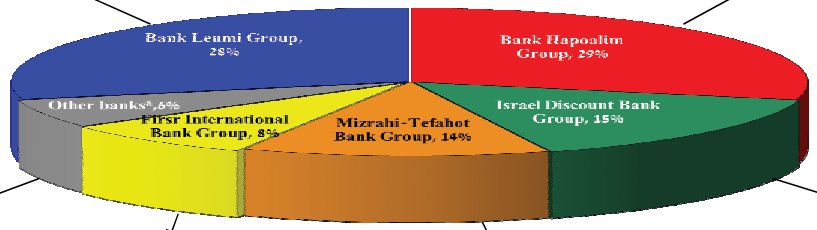
[f] Including cash withdrawal machines and machines for providing information and issuing instructions, belonging to banking corporations. Not including machines of nonbank corporations (Shva - Automatic Bank Services), Casponet Ltd., and Inkas Pay Tech).

[g] Bank Leumi is the only banking corporation in the system where there is still a government holding (about six percent of the bank's capital).

SOURCE: Based on published financial statements, reports to the Banking Supervision Department, and reports to the Stock Exchange.

Figure 1.3
The structure of Israel's banking system and investments in main investee companies[a], December 2013

Total assets: NIS 1,324 billion
Herfindahl index: H = 0.19
CR_2 = 56%



Bank Leumi Group

A. Banking and finance in Israel
Bank Leumi Le-Israel Ltd. (1)
Arab Israel Bank Ltd. (1)
Leumi Tech Ltd. (2)
Leumi Finance Company Ltd. (3)
Leumi Real Holdings Ltd. (6)
Leumi Financial Holdings Ltd. (6)
B. Banking and finance abroad (5)
Bank Leumi USA
Bank Leumi UK plc
Leumi Private Bank S.A.
Bank Leumi Luxembourg
Bank Leumi Romania
Leumi International Investments NV
Leumi Re Ltd.(8)

C. Capital market and financial services
Leumi Card Ltd. (4)
Leumi Securities and Investments Ltd. (8)
Leumi Capital Market Services Ltd. (8)
Bank Leumi Le-Israel Trust Co. Ltd. (8)
Leumi Partners Ltd. (6)(8)
D. Nonbanking corporations
The Israel Corporation Ltd.

Bank Hapoalim Group

A. Banking and finance in Israel (1)
Bank Hapoalim Ltd.
B. Banking and finance abroad (5)
Bank Hapoalim (Switzerland) Ltd.
Banque Hapoalim (Luxembourg) S.A.
Bank Hapoalim (Cayman Islands) Ltd.
Hapoalim (Latin America) S.A.
Bank Pozitif Kredi Ve Kalkinma Bankasi A.S. (with a holding in JSC Bank Pozitiv)
C. Capital market and financial services
Isracard Ltd. (4)
Poalim Express Ltd. (4)
Poalim Capital Markets Ltd. (7)
Poalim Sahar Ltd. (8)
Bank Hapoalim Trust Company Ltd. (7)
Poalim Asset Management (8)
Poalim Securities Ltd. (8)
Peilim Investment Portfolio Management Ltd. (8)

Other banking corporations

A. Banking and finance in Israel (1)
Union Bank of Israel Ltd.
Bank of Jerusalem Ltd.
Dexia Israel Bank Ltd.
B. Foreign banks
Citibank N.A.
HSBC Bank plc
Barclays Bank plc
State Bank of India
C. Financial institutions
"Hesech" Kupat Hisachon Lehinuch Ltd.
D. Joint service companies owned by the five major banking groups
Automated Clearing House (Masav) Ltd.
Automatic Banking Services (Shva) Ltd.

Israel Discount Bank Group

A. Banking and finance in Israel (1)
Israel Discount Bank Ltd.
Mercantile Discount Bank Ltd.
First International Bank of Israel Ltd.
B. Banking and finance abroad (5)
Israel Discount Bank of New York
Discount Bank (Latin America)
IDB (Swiss) Bank Ltd.
C. Capital market and financial services
Discount Leasing Ltd. (8)
Discount Manpikim (8)
Israel Discount Capital Markets and Investments Ltd. (8)
Tafnit Discount Asset Management Ltd. (8)
CAL (Cartisey Ashrai Le'Israel)–Israel Credit Cards Ltd. (4)
Diners Club Israel Ltd. (4)
Discount Trust Ltd. (8).

First International Bank Group

A. Banking and finance in Israel (1)
The First International Bank of Israel Ltd.
Poalei Agudat Israel Bank Ltd.
U-Bank (Israel) Ltd.
Otsar Hahayal Bank Ltd.
Bank Massad Ltd.
B. Banking and finance abroad (5)
FIBI Bank (UK) plc
FIBI Bank (Switzerland) Ltd.
C. Capital market and financial services
First International Leasing Ltd. (8)
Modus Selective Investment Management and Investment Consulting (8)
U-Bank Investments and Holdings Ltd. (8)
U-Bank Trust Company Ltd. (8)
CAL (Cartisey Ashrai Le'Israel)–Israel Credit Cards Ltd. (4)

Mizrahi-Tefahot Bank Group

A. Banking and finance in Israel (1)
Mizrahi-Tefahot Bank Ltd.
Bank Yahav for Government Employees Ltd.
B. Banking and finance abroad (5)
United Mizrahi Bank (Switzerland) Ltd.
C. Capital market and financial services
Etgar Portfolio Management Ltd. (3)
Mizrahi-Tefahot Issuing Company Ltd. (8)
Mizrahi-Tefahot Trust Company Ltd. (8)
Tefahot Insurance Agency Ltd. (8)
Rosario Capital Ltd. (8)
Mustang Mezzanine Fund Limited Partnership (credit provider)
D. Nonbanking corporations (consolidated companies)
Pesagot Jerusalem Ltd.

Definitions
(1) Commercial banks
(2) Investment finance banks
(3) Financial institutions
(4) Credit card companies
(5) Subsidiaries abroad
(6) Consolidated holding companies
(7) Investment house
(8) Capital market companies, including companies supplying operating services to institutions, and underwriting, trust, leasing, insurance, and asset management companies.

[a] **Groups on consolidated basis. The calculation is based on total assets.**
SOURCE: Based on published annual reports.

The domestic Israeli banking system has about 1,200 branches located throughout the country. In addition, there are about 7,150 automated teller machines (ATM), of which 4,900 are cash withdrawal machines[6] and about 2,250 are machines that provide information and enable customers to carry out financial activities and other banking instructions. The number of residents in Israel relative to the number of ATMs (880 residents per ATM in 2013) is similar to the average for other countries. In addition to branches and ATMs, the banks also maintain staffed call centers and provide advanced and secure Internet services as well as services via mobile devices.

The large Israeli banks are also active abroad through branches and subsidiaries (overseas offices).[7] However, this activity has not succeeded in creating significant and stable profit centers for the banks, despite their widespread deployment abroad and the notable investment made in such activity. The attempts by Israeli banks to penetrate foreign markets have not been particularly successful and the proportion of assets of their overseas offices in total banking system assets has gradually declined (the total assets from activity outside of Israel account for about 10 percent of the banking system's total assets).

All of the banks heading the large banking groups are publicly traded companies. Apart from Bank Leumi, all of them were controlled by a controlling core until the end of 2013. On December 3, 2013, the controlling shareholders of Discount Bank began selling their shares, in accordance with the holding permit granted to them by the Governor of the Bank of Israel for the purpose of dispersing control of the bank over a two-year transition period. Starting from that date (December 3, 2013), the bank became a banking corporation without a controlling core. In December 2013, the controlling shareholders sold 7 percent of the bank's shares and in April 2014, an additional 3.5 percent. The dispersal of the controlling shares has proceeded in accordance with the principles published by the Banking Supervision Department in July 2013, which were intended to ensure that former controlling shareholders do not continue to control the bank during the transition period even if they still hold a significant proportion of the means of control in the bank.

The ownership structure of the banks may undergo additional changes as a result of the passing of the Promotion of Competition and Reduction of Concentration Law in December 2013. The new law requires a separation between significant financial and nonfinancial corporations.[8] An entity which prior to the passing of the law controlled both a significant nonfinancial corporation and a significant financial corporation will be permitted to continue doing so for a maximum period of 4–6 years and then will be required to sell one of them.

[6] 3,268 of which are machines of nonbank corporations, including machines of Shva (Hebrew acronym for Automatic Bank Services).

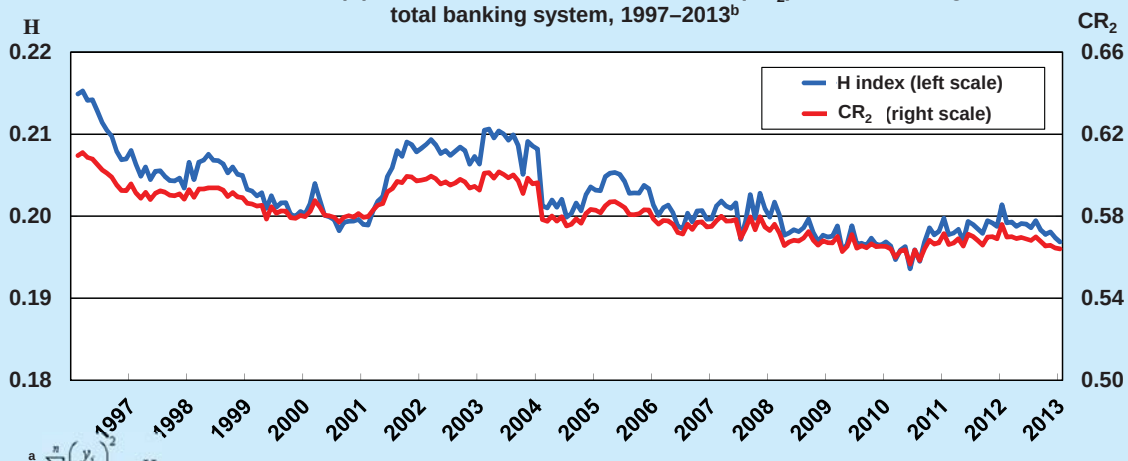
[7] These subsidiaries are mainly located in the US, Switzerland and the UK.

[8] Significant financial entities include mutual funds, banking corporations, etc., with assets exceeding NIS 40 billion. Significant nonfinancial corporations include construction companies, supermarket chains, mobile phone companies and various manufacturing companies, with sales of NIS 6 billion or more, or NIS 2 billion in the case of a monopoly. The list of significant financial and nonfinancial corporations will be drawn up by the Committee for Reducing Concentration, headed by the by the Director General of the Israel Antitrust Authority.

b. Concentration and competition in the banking system

Concentration in the banking system is one of the factors that impact on its level of competition[9], and can be measured using two indicators: the Herfindahl-Hirschman Index (H index),[10] which measures the concentration in the system as a whole and is calculated here according to the total assets of the banks, and the Concentration Ratio (CR_2), which measures the market share of the two largest banks (Leumi and Hapoalim) within the system's total assets. During 2013, the indices declined somewhat to 0.20 and 0.56, respectively (Figure 1.4). The declines can be attributed primarily to the increased market share of

Figure 1.4
The Herfindahl-Hirschman (*H*) Index and the Concentration Ratio (CR_2)[a] for the two largest banks, total banking system, 1997–2013[b]



[a] $\sum_{i=1}^{n}\left(\frac{y_i}{y}\right)^2 = H$ = The Herfindahl-Hirschman Index of industry concentration, where y_i = output of bank *i* (total assets) and *y* = the industry's output.

CR_2 = The market share of the two largest banks in the system.
The two indices are calculated based on the commercial banks' assets.

[b] In 2012, the indices were affected, *inter alia*, by the completion of the mergers of Discount Mortgage Bank and Leumi Mortgage Bank into their parent banks.

SOURCE: Based on published financial statements, and reports to the Banking Supervision Department.

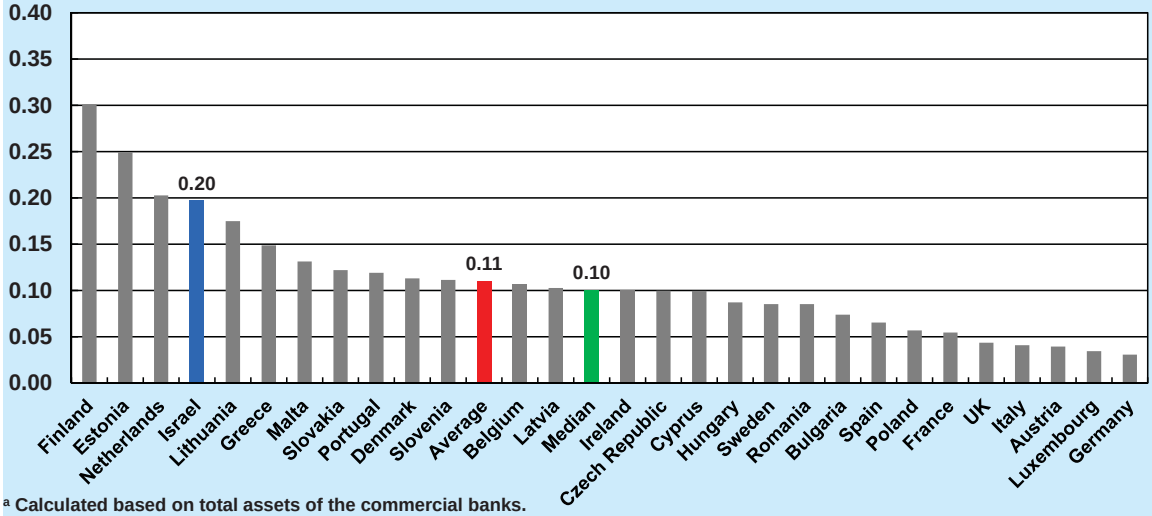
Mizrahi-Tefahot and the First International Bank, mainly as a result of the expansion of their retail credit. An international comparison of the Herfindahl Index shows that the concentration of the Israeli banking system is significantly higher than the EU average (Figure 1.5).

In March 2013, the final report of the Team to Examine Increasing Competition in the Banking System was published. Since the banking system is relatively concentrated, and since it is the main source of financial services for the banks' retail customers—households and small businesses—there is concern that the level of competition is low in the provision of these services. Therefore, the Team focused its

[9] According to the Structure Conduct Performance (SCP) approach, there is a connection between the structure of the banking system and a bank's conduct and performance; the greater the level of concentration in the banking system, the greater will be the market power of the banks and the better will be their performance. Other approaches claim that such a connection does not necessarily exist.

[10] $\sum_{i=1}^{n}\left(\frac{y_i}{y}\right)^2 = H$ where y_i = the output of bank i (total assets) and y = total output of the banking industry.

Figure 1.5
International comparison: The Herfindahl-Hirschman (H) Index[a] in EU countries and Israel, 2012[b]



[a] Calculated based on total assets of the commercial banks.
[b] The figure for Israel is for December 2013, is calculated based on the total assets of the commercial banks, and does not include activity of foreign banks in Israel. Figures for other countries are for December 2012, and include activity of foreign banks in each country.

SOURCE: Foreign countries–ECB; Israel–based on published financial statements.

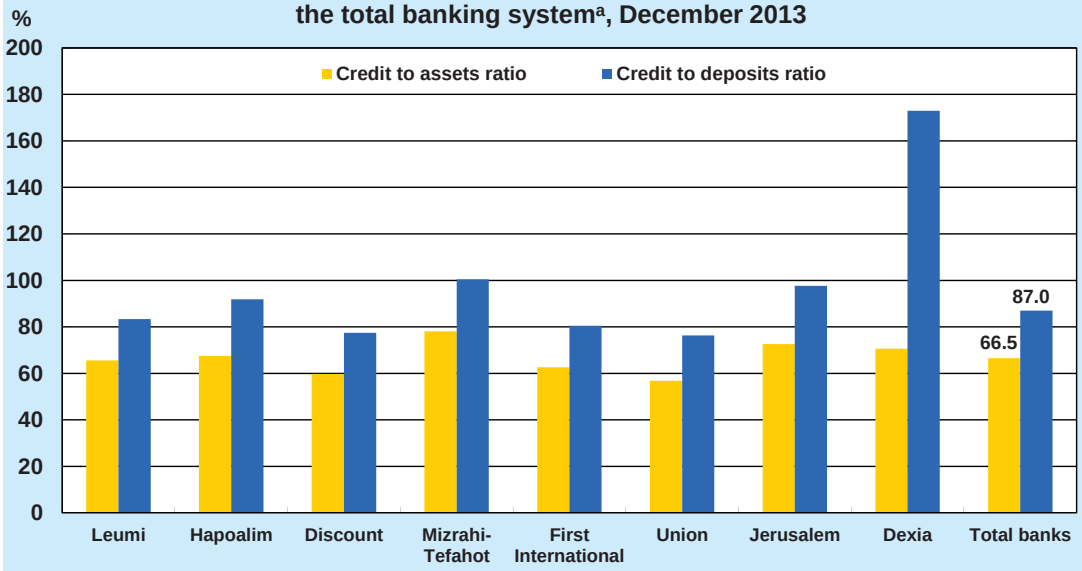
attention and recommendations on increasing competition in the provision of services related to savings, credit and the payment system in the retail sector, both inside and outside the banking system. The report includes, among other things, recommended structural measures that are intended to increase the number of participants in the market in the medium and long terms. These include allowing institutional investors to become involved in the provision of credit products and encouraging the creation of an Internet bank, credit unions and cooperative banks (Box 2.1 describes the implementation of the Team's recommendations in greater detail).

3. MAIN DEVELOPMENTS IN BALANCE-SHEET AND OFF-BALANCE-SHEET ACTIVITY

Balance-sheet activity: The aggregate balance sheet of the banks in Israel grew during 2013 by a rate of about 2.1 percent, to a total of about NIS 1.3 trillion (Table 1.3). The rate of change in the balance sheet varies from one bank to the next and its trend primarily reflects the ongoing developments in the housing market, the moderation of business sector activity, regulatory changes and the banks' business strategy to reduce concentration in their credit portfolio.

The composition of the balance sheet remained relatively conservative this year. Most of the balance sheet is based on the classic activities of providing credit and taking deposits. However, during the last two years, there has been somewhat of a decline in the proportion of credit to the public within total assets (from about 72 percent in 2010 to 67 percent this year; Figure 1.6) and an increase in the proportion of securities (about 14.5 percent in 2013; Figure 1.7). The ratio of credit to the public to total deposits of the public remained stable this year at about 87 percent.

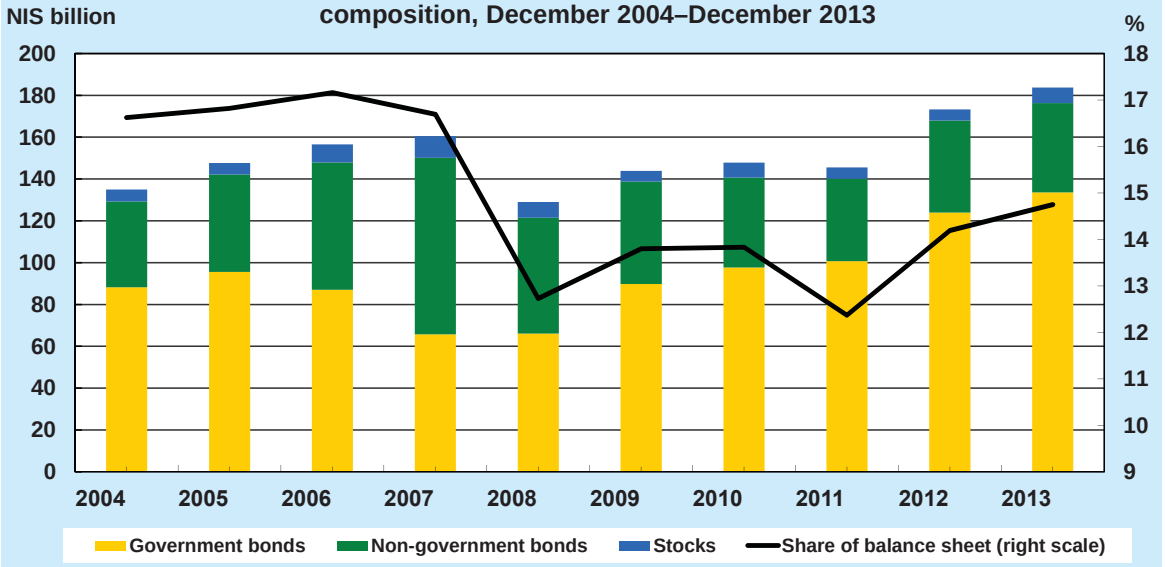
Figure 1.6
Credit to deposits ratio and credit to assets ratio, the total banking system[a], December 2013



[a] Includes the five major banking groups (Leumi, Hapoalim, Discount, Mizrahi-Tefahot, and First International), Union Bank, Bank of Jerusalem and Dexia Bank.

SOURCE: Based on published financial statements.

Figure 1.7
The five major banking groups' securities portfolio[a]—size and composition, December 2004–December 2013



[a] Excluding consolidated companies which are included in the groups' equity basis.

SOURCE: Based on published financial statements.

Table 1.3
Balance sheet of the total banking system[a], 2011–13

	In current prices			Rate of change during 2012	Rate of change during 2013	Distribution		
	2011	2012	2013			2011	2012	2013
	(NIS million)			(Percent)		(Percent)		
Assets								
Cash and deposits at banks	182,944	184,764	182,276	1.0	-1.4	14.8	14.4	13.9
Of which:								
Cash[b]	155,748	158,085	155,487	1.5	-1.6	85.1	85.6	85.3
Deposits at commercial banks	26,626	26,517	26,784	-0.4	1.0	14.6	14.4	14.7
Securities	154,528	180,084	189,946	16.5	5.5	12.5	14.1	14.5
Of which:								
Securities provided as collateral to lenders	13,563	15,369	15,688	13.3	2.1	8.8	8.5	8.3
At fair value	44,810	152,849	161,476	241.0	5.6	29.0	84.9	85.0
Securities borrowed or bought under reverse repurchase agreements	3,021	3,076	3,090	1.8	0.5	0.2	0.2	0.2
Credit to the public	**839,202**	**856,942**	**866,149**	**2.1**	**1.1**	**68.0**	**66.9**	**66.2**
Allowance for credit losses	13,084	13,230	12,627	1.1	-4.6	1.1	1.0	1.0
Net credit to the public	826,117	843,712	853,522	2.1	1.2	66.9	65.9	65.3
Of which:								
Unindexed local currency	466,654	490,922	518,832	5.2	5.7	56.5	58.2	60.8
Local currency indexed to the CPI	195,068	203,564	205,443	4.4	0.9	23.6	24.1	24.1
Foreign-currency indexed and denominated	163,633	148,336	128,089	-9.4	-13.7	19.8	17.6	15.0
Of which: In dollars	115,098	103,159	91,398	-10.4	-11.4	70.3	69.5	71.4
Nonmonetary items	763	890	1,158	16.6	30.1	0.1	0.1	0.1
Credit to governments	2,910	3,256	3,890	11.9	19.5	0.2	0.3	0.3
Investments in subsidiary and affiliated companies	4,437	4,417	3,936	-0.5	-10.9	0.4	0.3	0.3
Premises and equipment	13,783	13,777	13,544	0.0	-1.7	1.1	1.1	1.0
Intangible assets	1,114	1,050	909	-5.8	-13.4	0.1	0.1	0.1
Assets in respect of derivative instruments	30,748	30,023	33,468	-2.4	11.5	2.5	2.3	2.6
Other assets	15,272	16,728	23,060	9.5	37.9	1.2	1.3	1.8
Total assets	**1,234,874**	**1,280,888**	**1,307,641**	**3.7**	**2.1**	**100**	**100**	**100**
Liabilities and equity								
Deposits of the public	933,625	969,485	987,926	3.8	1.9	75.6	75.7	75.6
Of which:								
Unindexed local currency	538,690	572,707	597,437	6.3	4.3	57.7	59.1	60.5
CPI-indexed local currency	95,417	95,698	95,714	0.3	0.0	10.2	9.9	9.7
Foreign-currency indexed and denominated	298,639	299,926	293,348	0.4	-2.2	32.0	30.9	29.7
Of which: In dollars	222,005	223,611	219,795	0.7	-1.7	74.3	74.6	74.9
Deposits from banks	20,203	17,814	18,143	-11.8	1.8	1.6	1.4	1.4
Deposits from governments	3,236	2,878	2,711	-11.1	-5.8	0.3	0.2	0.2
Securities lent or sold under repurchase agreements	8,447	7,575	4,538	-10.3	-40.1	0.7	0.6	0.3
Bonds and subordinated notes	100,061	103,124	100,749	3.1	-2.3	8.1	8.1	7.7
Liabilities in respect of derivative instruments	36,298	36,279	36,520	-0.1	0.7	2.9	2.8	2.8
Other liabilities	56,933	59,688	67,182	4.8	12.6	4.6	4.7	5.1
Of which: Allowance for credit losses in respect of non-balance sheet credit instruments	1,237	1,367	1,407	10.5	2.9	2.2	2.3	2.1
Total liabilities	**1,158,803**	**1,196,844**	**1,217,769**	**3.3**	**1.8**	**93.8**	**93.4**	**93.1**
Minority interest	1,429	1,555	1,606	8.8	3.3	0.1	0.1	0.1
Shareholders equity	74,642	82,489	88,266	10.5	7.0	6.0	6.4	6.8
Total equity	76071	84044	89872	10.5	6.9	6.2	6.6	6.9
Total liabilities and equity	**1,234,874**	**1,280,888**	**1,307,641**	**3.7**	**2.1**	**100**	**100**	**100**

[a] On a consolidated basis. Includes the five major banks (Leumi, Hapoalim, Discount, First International and Mizrahi-Tefahot), Union Bank, Bank of Jerusalem and Dexia Bank, but does not include branches of foreign banks operating in Israel.

[b] Including deposits at the Bank of Israel.

SOURCE: Banking Supervision Department based on published financial statements.

On the assets side, there has been a continuing moderation in the rate of growth in credit to the public this year, from about 2.1 percent last year to about 1.1 percent this year. This year again, growth was primarily the result of developments in the housing market, due to the expansion of the housing credit portfolio, which constitutes about two-thirds of the outstanding credit to individuals.

Contributing to the moderation in the rate of growth in the credit portfolio were the decrease in total business credit, which followed the moderation in demand for credit in some industries in the business sector and the continuing implementation of the business strategy adopted by some of the banks since the crisis in 2008. This strategy is aimed at reducing the concentration of the credit portfolio by increasing the proportion of retail credit (including credit to small and medium-size businesses) and reducing the proportion of business credit. The appreciation this year of the shekel against the dollar and the euro were also contributing factors.

An additional factor in the growth of the balance sheet this year was the expansion of the securities portfolio, which increased this year by about 6 percent, to about NIS 184 billion. This was mainly due to the increase in Israeli government bonds (about 10 percent) and growth of about 40 percent in holdings of equities (about NIS 2.1 billion; about 4 percent of the portfolio; Table 1.4). In contrast, the banking corporations reduced the portfolio's exposure to foreign governments by about 16 percent and to domestic business corporations by about 30 percent (Table 1.4). The main factor behind this development in the securities portfolio was the decline in the monetary interest rate and its low level, which worked to shift assets to other yielding investment channels, though it was also due to two other factors: (1) regulation regarding capital ratios (Basel III), which has led in recent years to an increase in the low-risk component of the portfolio, and mark to market adjustments; (2) the decline in total cash and deposits held at the Bank of Israel (about 1.6 percent; Table 1.3), whose yield has fallen and for which the opportunity cost of holding them has increased.

A breakdown of credit by indexation segments indicates that shekel denominated credit has grown while credit in the foreign currency segment has contracted. The low interest rate and inflation environments, along with reduced uncertainty with respect to inflation, have contributed to the continuation of the multiyear trend of growth in the demand for unindexed shekel-denominated credit (about 6 percent this year) and its proportion in total credit to the public totaled about 61 percent this year (Table 1.3). CPI-indexed credit increased by about 1 percent this year, despite the growth in total CPI-indexed housing credit, as a result of the contraction in bank credit to the business sector.

Total credit denominated in foreign currencies declined this year by about 14 percent, the result of the drop in demand for dollar-denominated credit (in light of the decline in domestic demand and the accompanying slowdown in imports) and the nominal appreciation this year of the shekel against the dollar.

On the liabilities side, funds raised from the capital market and from the public declined somewhat this year and equity on the basis of retained earnings continued to expand. The deposits of the public increased slowly this year (by about 1.9 percent; Table 1.3) relative to the previous two years and it appears that part of the public's assets were shifted this year from the banks to other yielding investment channels (which is reflected in the asset portfolio of the public, in which the proportion of stocks and bonds increased sharply). The shift of assets was apparently the result of price increases on the Tel Aviv Stock Exchange this year, the continuing reduction in the monetary interest rate and possibly also the measures adopted by the Banking Supervision Department to cancel fees on money market funds and *makam*, which made investing in them

Table 1.4
Securities portfolio of the five major banking groups, 2012 and 2013

		Bank Leumi				Bank Hapoalim				Bank Discount			
		2012		2013		2012		2013		2012		2013	
		Fair value (NIS million)	Distribution (Percent)	Fair value (NIS million)	Distribution (Percent)	Fair value (NIS million)	Distribution (Percent)	Fair value (NIS million)	Distribution (Percent)	Fair value (NIS million)	Distribution (Percent)	Fair value (NIS million)	Distribution (Percent)
Securities	Of Israeli government	31,978	56.7	37,840	59.4	41,172	79.1	48,486	79.6	26,682	58.0	25,689	62.2
	Of foreign governments	6,765	12.0	4,871	7.6	2,141	4.1	2,845	4.7	951	2.1	335	0.8
	Of Israeli financial institutions	452	0.8	432	0.7	969	1.9	875	1.4	835	1.8	716	1.7
	Of foreign financial institutions	5,369	9.5	5,396	8.5	1,953	3.8	2,677	4.4	2,675	5.8	2,821	6.8
	Mortgage-backed / asset-backed securities	5,407	9.6	7,625	12.0	-	-	-	-	11,327	24.6	8,072	19.5
	Other - Israeli	1,746	3.1	1,130	1.8	2,910	5.6	1,570	2.6	723	1.6	782	1.9
	Other - foreign	2,325	4.1	2,522	4.0	1,228	2.4	2,205	3.6	2,102	4.6	2,045	4.9
	Stocks	2,366	4.2	3,919	6.1	1,697	3.3	2,254	3.7	706	1.5	865	2.1
	Total securities, all types	**56,408**	**100.0**	**63,735**	**100.0**	**52,070**	**100.0**	**60,912**	**100.0**	**46,001**	**100.0**	**41,325**	**100.0**

Table 1.4 (continued)
Securities portfolio of the five major banking groups, 2012 and 2013

		Mizrahi-Tefahot				First International				Five largest banking groups			
		21012		2013		2012		2013		2012		2013	
		Fair value (NIS million)	Distribution (Percent)	Fair value (NIS million)	Distribution (Percent)	Fair value (NIS million)	Distribution (Percent)	Fair value (NIS million)	Distribution (Percent)	Fair value (NIS million)	Distribution (Percent)	Fair value (NIS millon)	Distribution (Percent)
Securities	Of Israeli government	8,114	89.7	6,340	90.6	5,687	58.3	6,587	61.0	113,633	65.6	124,942	68.0
	Of foreign governments	98	1.1	82	1.2	372	3.8	501	4.6	10,327	6.0	8,634	4.7
	Of Israeli financial institutions	123	1.4	124	1.8	252	2.6	238	2.2	2,631	1.5	2,385	1.3
	Of foreign financial institutions	394	4.4	224	3.2	1,351	13.8	1,477	13.7	11,742	6.8	12,595	6.9
	Mortgage-backed / asset-backed securities	-	-	-	-	538	5.5	567	5.3	17,272	10.0	16,264	8.9
	Other - Israeli	25	0.3	23	0.3	1,064	10.9	1,000	9.3	6,468	3.7	4,505	2.5
	Other - foreign	168	1.9	109	1.6	40	0.4	71	0.7	5,863	3.4	6,952	3.8
	Stocks	119	1.3	98	1.4	452	4.6	358	3.3	5,340	3.1	7,494	4.1
	Total securities, all types	**9,041**	**100.0**	**7,000**	**100.0**	**9,756**	**100.0**	**10,799**	**100.0**	**173,276**	**100.0**	**183,771**	**100.0**

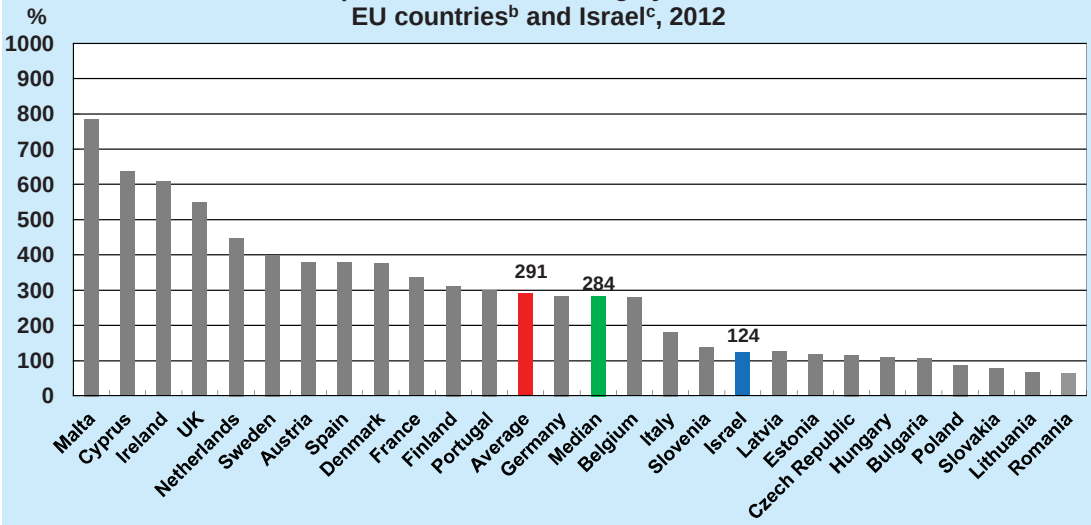
SOURCE: Banking Supervision Department based on published financial statements.

more attractive.[11] The raising of funds through bonds and subordinated debt notes contracted by about 2 percent this year and totaled about NIS 100 billion.

The total equity of the banking corporations grew this year by a rate of about 7 percent, to around NIS 90 billion (Table 1.3). This is a direct continuation of the banks' concerted effort in the previous year to increase capital and is primarily based on retained earnings. This increase derives from the banking corporations' preparations for the implementation of the new directives published by Banking Supervision regarding minimum capital ratios, which are part of the process to adopt and implement the Basel III requirements within the Israeli banking system.

An examination of the scale of banking activity relative to the level of economic activity in Israel and in the EU indicates that the ratio of banking system assets to GDP in the EU (291 percent) is high while in Israel it is low (124 percent) and similar to those of the developing countries, rather than the advanced economies, of the EU (Figure 1.8). Even though a high ratio may be an indicator of the depth of the banks' financial intermediation, an overly high ratio can expose the domestic economy to the risk that the authorities will not be able to provide, if the need arises, assistance to the large banks and to the banking system as a whole (in other words, the risk that the banking system is "too big to save" if it becomes necessary to do so).

Figure 1.8
International comparison of total banking system assets[a] to GDP, in EU countries[b] and Israel[c], 2012



[a] Total assets are calculated on a consolidated basis and include all banking groups and independent banks operating in the domestic economy, as well as subsidiaries and banking branches controlled by foreign corporations and operating in the domestic economy.
[b] For Luxembourg (which does not appear in the graph), the ratio is 1,725. Greece is not included due to the absence of data.
[c] The figure for Israel is as of December 2013.

SOURCE: Foreign countries–the European Central Bank (ECB) and Eurostat; Israel–published financial statements and Central Bureau of Statistics.

[11] The cancellation of the fees went into effect in January 2013 and was part of the implementation of the recommendations of the Team to Examine Increasing Competition in the Banking System. Although it is still too early to assess the effect of this measure, it appears at this stage that it has had a larger effect on the volume of shekel-denominated money market funds held by the public and less of an effect on total holdings of *makam*.

Table 1.5
Transactions in off-balance-sheet financial instruments where the par value reflects credit risk, total banking system[a], 2012 and 2013

	End of year balance		Rate of change	Distribution	
	2012	2013		2012	2013
	(NIS million)		(percent)	(percent)	
Documentary credit	5,494	4,859	-11.6	1.2	1.0
Credit guarantees	19,289	18,672	-3.2	4.2	4.0
Guarantees for home purchases	45,827	51,047	11.4	10.0	10.9
Other guarantees and liabilities	52,665	52,087	-1.1	11.5	11.1
Unused credit card lines of credit	94,423	96,190	1.9	20.7	20.5
Unused lines of credit to the public	111,521	114,270	2.5	24.4	24.3
Irrevocable commitments to provide credit that has not yet been extended	84,870	87,068	2.6	18.6	18.5
Commitments to issue guarantees	42,463	45,275	6.6	9.3	9.6
Total	**456,552**	**469,468**	**2.8**	**100**	**100**

[a] The five major banking groups, Union Bank, Bank of Jerusalem and Dexia Israel Bank.

Source: Banking Supervision Department based on published financial statements.

Table 1.6
Distribution of the balance of derivative instruments, Israeli banking system[a], 2013 compared with 2012

(NIS million)[b]

	By type of instrument		Rate of change compared with 2012	By type of transaction			Rate of change compared with 2012
	2012	2013			2012	2013	
Interest rate contract	832,458	903,503	8.5	Hedging derivatives[d]	21,141	22,035	4.2
Exchange rate contract	669,808	740,051	10.5	ALM derivatives[d,e]	1,482,539	1,642,331	10.8
Other contracts[c]	209,757	322,789	53.9	Other derivatives[f]	179,150	276,075	54.1
Total	**1,712,023**	**1,966,342**	**14.9**	**Total**	**1,712,023**	**1,966,342**	**14.9**

[a] Includes the five major banks and the independent banks (Union, Jerusalem and Dexia).

[b] In notional amounts, at current prices.

[c] Contracts in respect of shares, commodity contracts and other contracts.

[d] Excluding credit derivatives.

[e] Derivatives constituting part of the bank's assets and liabilities, which were not designated for hedging purposes.

[f] Including credit derivatives and currency swaps.

SOURCE: Banking Supervision Department based on published financial statements.

Off-balance-sheet activity: Total guarantees and commitments to provide credit increased by about 3 percent this year to a total of about NIS 469 billion, which accounts for about 26 percent of total balance-sheet and non-balance-sheet activity. Again this year, the main developments were in housing credit (an increase of 11 percent in guarantees to homebuyers) and the slowdown in business activity, which was reflected in the decrease in documentary credit (12 percent) and credit guarantees (3 percent; Table 1.5).

Banking corporations' activity in derivatives grew by about 15 percent this year in notional amounts, to NIS 1.97 trillion (Table 1.6). This encompassed all the types of instruments, including exchange rate contracts (from about NIS 670 billion to about NIS 740 billion), which are used by the banks and their customers to hedge exchange rate risk against volatility of the main currencies.

4. THE CREDIT PORTFOLIO AND CREDIT RISK

Credit risk is the main financial risk faced by a bank in its operations. It is determined by the size of the credit portfolio, its quality and its level of diversification. During 2013, there was some decline in the banks' level of credit risk. Thus, indices of credit portfolio quality improved and there was a decrease in borrower concentration in the portfolio, although its level still remained high. Despite the decline in credit risk, there are still specific areas of operations in which credit risk is high, in particular credit to the construction and real estate industry[12] and housing credit, which together account for 43 percent of the banks' credit portfolio.[13] The risk from these two sectors has increased in recent years, against the background of developments in the housing market.

a. Main developments in the banks' credit portfolio

In 2013, the total credit portfolio[14] of the five major banking groups increased by only 2 percent, to a total of NIS 1,266 billion. Total balance-sheet credit[15] increased by 1 percent, to NIS 828 billion (Table 1.7). The trends that characterized the banks' credit portfolio last year continued to do so this year, including expansion of credit to households (in particular housing credit) and a decline in credit to the business sector and borrowers whose main activity is located abroad (Figure 1.9). As a result of these trends, credit to households as a share of the banks' total credit portfolio continued to increase, reaching 45 percent (Figure 1.10).

[12] It should be noted that the construction industry is quite heterogeneous and is composed of a number of sub-industries—income-yielding real estate, project management, infrastructure, etc.—each of which has its own risk characteristics.

[13] Housing credit accounts for 30 percent of the bank credit portfolio and credit to the construction and real estate industry accounts for 13 percent.

[14] The total credit portfolio includes total balance-sheet credit to the public, bonds, securities borrowed or purchased under agreements to resell and assets in respect of derivative instruments and the credit from off-balance-sheet financial instruments, as calculated for the purpose of limitations on a borrower's indebtedness.

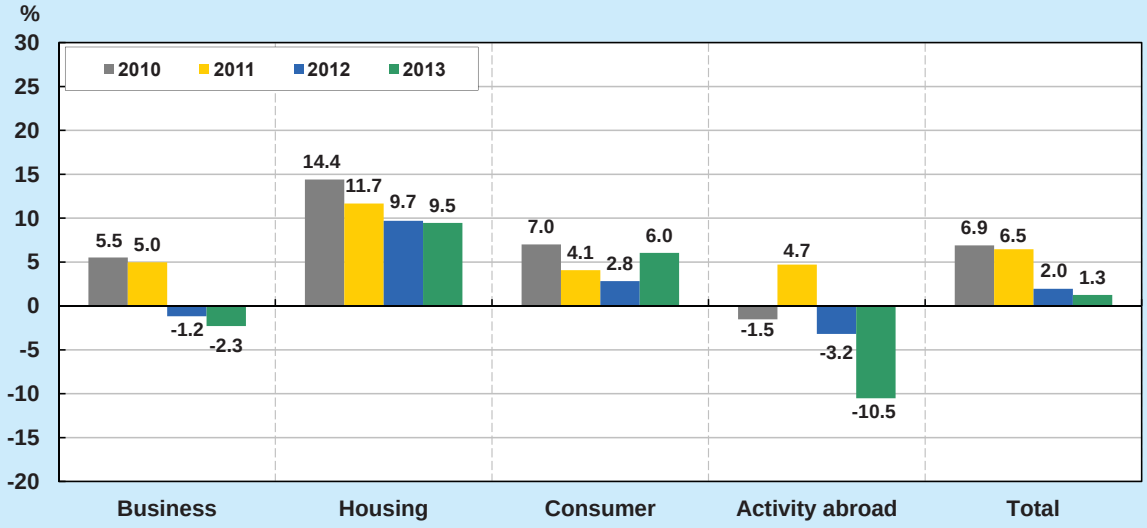
[15] Total balance-sheet credit includes credit to the public, apart from bonds and securities borrowed or purchased under agreements to resell.

Table 1.7
Distribution of outstanding credit to the public, by principal industries, the five major banking groups, December 2012 and December 2013

Principal industries	Total balance of credit risk[a]					Balance-sheet credit[b] (debts)				
	Balance		Distribution of credit		Change in credit	Balance		Distribution of credit		Change in credit
	2012	2013	2012	2013	2013	2012	2013	2012	2013	2013
	(NIS million)		(percent)		(percent)	(NIS million)		(percent)		(percent)
Borrower activity in Israel	**1,087,534**	**1,119,345**	**87.4**	**88.4**	**2.9**	**730,110**	**749,584**	**89.3**	**90.6**	**2.7**
Business sector	**630,942**	**631,970**	**50.7**	**49.9**	**0.2**	**388,491**	**379,573**	**47.5**	**45.9**	**-2.3**
Agriculture	7,253	7,243	0.6	0.6	-0.1	5,854	5,796	0.7	0.7	-1.0
Manufacturing	111,191	107,807	8.9	8.5	-3.0	65,998	64,250	8.1	7.8	-2.6
Construction and real estate	204,289	205,331	16.4	16.2	0.5	111,495	108,462	13.6	13.1	-2.7
Of which: construction	134,898	139,638	10.8	11.0	3.5	50,398	51,760	6.2	6.3	2.7
real estate	69,391	65,693	5.6	5.2	-5.3	61,097	56,702	7.5	6.9	-7.2
Electricity and water	19,373	21,574	1.6	1.7	11.4	8,203	11,872	1.0	1.4	44.7
Commerce	80,285	84,351	6.5	6.7	5.1	61,085	62,903	7.5	7.6	3.0
Tourism	14,261	14,535	1.1	1.1	1.9	12,538	12,662	1.5	1.5	1.0
Transport and storage	20,281	20,129	1.6	1.6	-0.7	16,094	15,723	2.0	1.9	-2.3
Communications and computer services	22,558	19,623	1.8	1.5	-13.0	16,400	13,543	2.0	1.6	-17.4
Financial services	93,908	94,389	7.5	7.5	0.5	48,011	41,466	5.9	5.0	-13.6
Other business services	35,810	35,656	2.9	2.8	-0.4	25,959	26,186	3.2	3.2	0.9
Public and community services	21,733	21,332	1.7	1.7	-1.8	16,854	16,710	2.1	2.0	-0.9
Private individuals	**456,592**	**487,375**	**36.7**	**38.5**	**6.7**	**341,619**	**370,011**	**41.8**	**44.7**	**8.3**
Of which: housing loans	237,034	258,175	19.0	20.4	8.9	226,195	247,613	27.7	29.9	9.5
Nonhousing loans	219,558	229,200	17.6	18.1	4.4	115,424	122,398	14.1	14.8	6.0
Borrowers' activity abroad	**157,039**	**147,069**	**12.6**	**11.6**	**-6.3**	**87,313**	**78,122**	**10.7**	**9.4**	**-10.5**
Total	**1,244,573**	**1,266,414**	**100.0**	**100.0**	**1.8**	**817,423**	**827,706**	**100.0**	**100.0**	**1.3**

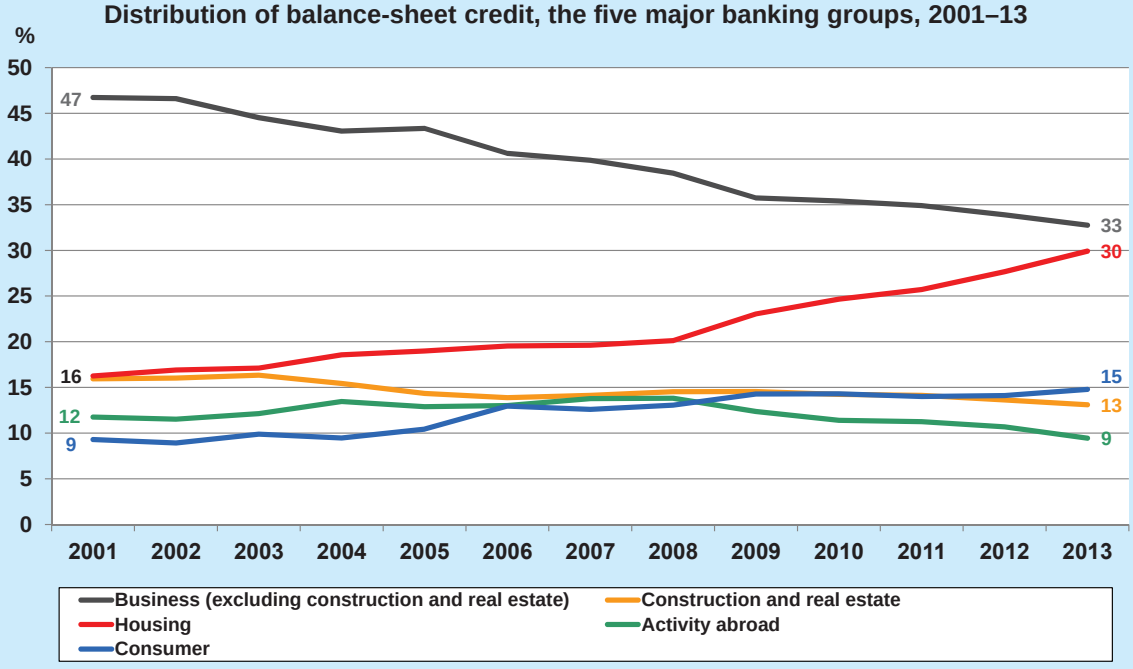
[a] Includes balance-sheet and non-balance-sheet credit risk.
[b] Includes credit to the public, excludes bonds and securities borrowed or purchased under agreements to repurchase.
SOURCE: Banking Supervision Department based on published financial statements.

Figure 1.9
Annual change in balance-sheet credit to principal sectors, the five major banking groups, 2010-2013



SOURCE: Based on published financial statements, and reports to the Banking Supervision Department.

Figure 1.10
Distribution of balance-sheet credit, the five major banking groups, 2001–13



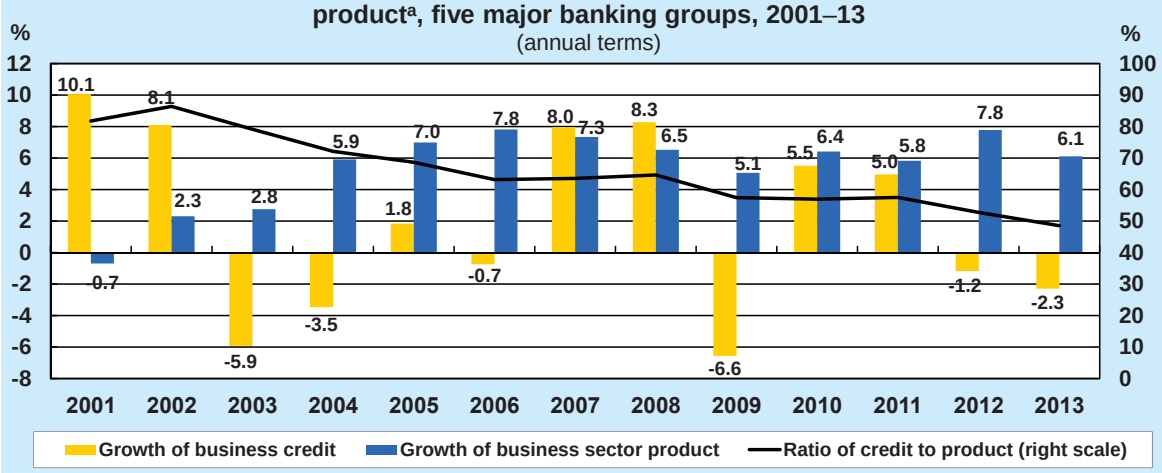
SOURCE: Published financial statements and reports to the Banking Supervision Department.

Business credit

Total balance-sheet business credit contracted by 2 percent this year, to NIS 380 billion, continuing the trend that began last year. This development was a result of reduced demand for business credit and factors on the supply side. These factors included the banks' reduction of exposure to large borrowers, with the goal of reducing concentration risk in the credit portfolio, and a moderation in the growth rate of risk assets, with the goal of meeting core capital targets. The shekel's appreciation this year against foreign currencies directly affected the volume of credit in foreign currency, which also contributed to the decrease in the banks' total business credit. Business sector product grew this year by 6 percent in nominal terms, despite the drop in credit to the business sector, and the ratio of bank credit to the business sector to business sector product declined again this year, to a record low of 49 percent (Figure 1.11). A similar trend can be seen in the ratio of total credit to the business sector to business sector product. The decrease in the banks' business credit occurred primarily in the financial services industry[16] (about NIS 7 billion) and the real estate industry (about NIS 4 billion).

[16] In the financial services industry, most companies for which credit to them declined were holding companies.

Figure 1.11
Growth rates of nominal business sector product[a], growth rates of business sector bank credit[b], and ratio of credit to nominal business sector product[a], five major banking groups, 2001–13
(annual terms)



[a] During 2013, the Central Bureau of Statistics changed the method of calculation of the National Accounts, and revised all of the data series dating back to 2006, including business sector product data. The level of business sector product over the period from 2001 to 2006 was recalculated according to the rate of change.
[b] According to gross balance-sheet credit.

SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

Credit to the construction and real estate industry: This industry accounts for 29 percent of the banks' business credit. During 2013, the total fell by 3 percent as a result of a 7 percent decrease in credit to the real estate industry[17] (which decreased by a similar rate in 2012 as well). The reduction in bank credit to the real estate industry occurred as companies in the industry increased their issues of stocks and bonds via the capital market and obtained direct loans from institutional investors. In contrast, total balance sheet credit to the construction industry[18] continued to expand again this year, against the background of the growth in activity in the industry, though at a slower rate this year (3 percent).

Various indicators point to some decline in the level of risk among companies in the construction and real estate industry. Thus, for example, during the last two years, lower loan loss provisions have been recorded for the industry (Table 1.8). In addition, the yield spread has narrowed between corporate bonds of companies in the industry and government bonds (Figure 1.12).[19] With that, the construction and real estate industry is marked by a high level of risk and historically has been characterized by large credit losses relative to the rest of the business sector. For example, during the last decade the ratio of loan loss provisions to total credit to the industry stood at 1 percent on average, compared with 0.7 percent in the

[17] For which the main activity is: trade and intermediation in real estate, rentals, management and maintenance, rent collection and related activities.

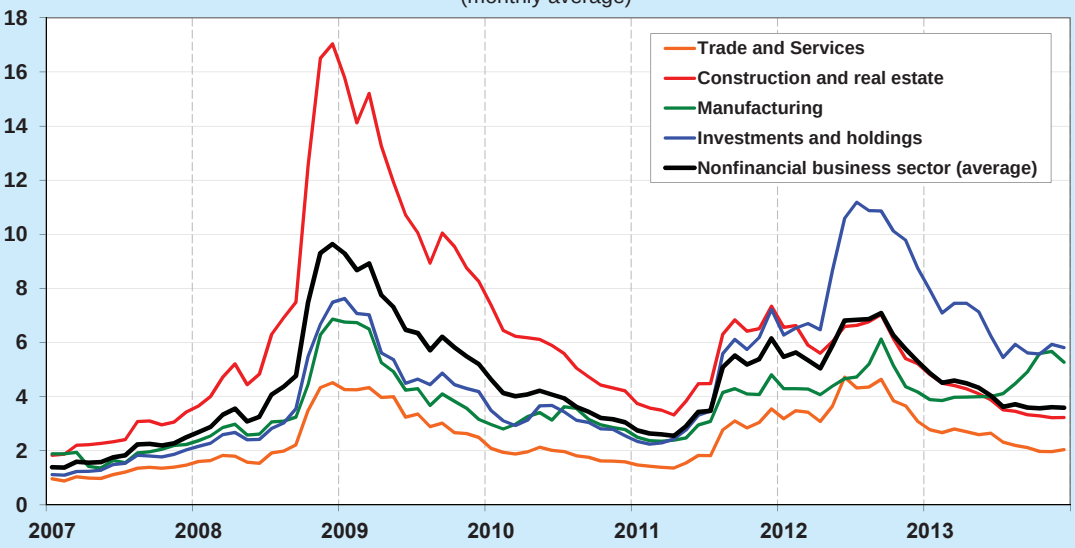
[18] For which the main activity is construction (development of building sites; construction of entire buildings or parts of buildings; carpentry and metalwork; installation of water, electricity and air conditioning systems; finishes; renovations and repairs to structures; creation, assembly and erection of pre-fab buildings) and civil engineering work (earthworks; paving and infrastructure, other engineering work; and the rental of construction or demolition equipment with an operator).

[19] At the same time, the low level of spreads also reflects an underpricing of risk in the corporate bond market.

rest of the business sector. Further evidence of the high level of risk in the industry is the internal ratings of borrowers' credit risk relative to other industries (Figure 1.13).

This risk is increasing against the background of the growing exposure of the banks to this industry and to mortgages, which together account for 43 percent of the banks' credit portfolio, and also against the background of the continuing increase in home prices, for the sixth consecutive year. In the case of a severe domestic recession and a steep decline in home prices, the activity of the construction and real estate industry is liable to be severely affected, borrowers in the industry are likely to have difficulty repaying their debts and the value of the collateral provided to banks against credit will be eroded.[20]

Figure 1.12
Yield spread between corporate bonds[a] and CPI-indexed government bonds, by industry, January 2007–December 2013
(monthly average)



[a] Bonds traded on the Tel Aviv Stock Exchange, excluding convertible bonds and structured bonds.
SOURCE: Bank of Israel.

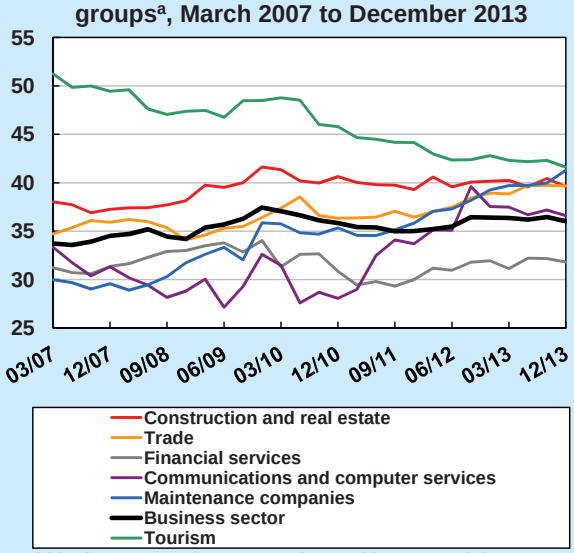
Leveraged credit: This type of credit includes transactions in which the financial leverage is significantly higher than the norm in industry and therefore their implicit level of risk is high. These transactions include, among others, credit for financing the acquisition of means of control of a corporation. In recent years, the banks have significantly reduced their exposure to credit for financing the acquisition of means of control of corporations and as a result the share of this type of credit in the business credit portfolio has declined from 7 percent in December 2008 to 4 percent in December 2013. During the last year, total credit for financing the acquisition of means of control of corporations contracted by NIS 6 billion, to NIS 14 billion. A portion of leveraged credit is provided to holding companies, and during 2013, the exposure of the banks to holding companies declined. However, their level of risk remains high relative to other industries. The

[20] For further details, see Section 9 - Stress Tests.

level of risk is reflected in the internal rating of the companies' credit risk (Figure 1.13), in write-offs and credit loss allowances, and in the yield spreads of bonds issued by companies in the industry, which remained higher than the average spread in the nonfinancial business sector, despite the narrowing of spreads (Figure 1.12).

Alongside the banking credit channel, there are nonbank credit sources, both domestic and foreign, and they account for about half of the supply of credit to the business sector. Total nonbank credit was unchanged this year and totaled NIS 391 billion. Domestic nonbank credit grew by about 1.9 percent in 2013. Thus, the value of total tradable and nontradable bonds outstanding in the domestic market decreased by about 2.8 percent despite the decline in yields and spreads, apparently as a result of the decrease in demand; in contrast, direct loans from institutional investors grew during the year by NIS 10 billion. Total credit from nonresidents contracted this year by 3.3 percent (a decline of NIS 5.5 billion), primarily as a result of the stronger shekel.

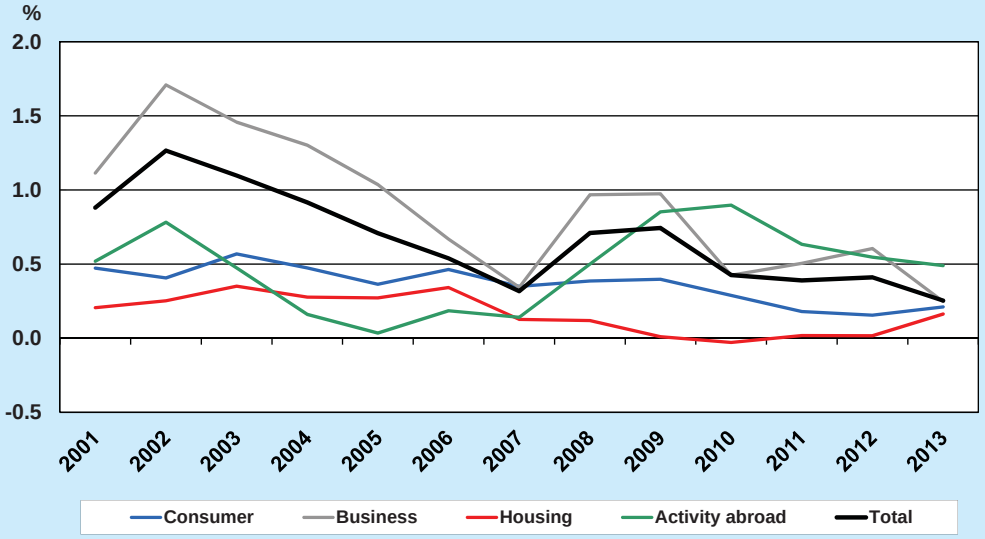
Figure 1.13
Average credit risk rating by principal industries at the five major banking groups[a], March 2007 to December 2013



[a] Within the context of reports to the Banking Supervision Department, banking corporations rate the credit risk of companies whose outstanding indebtedness exceeds NIS 20 million. Since the rating scales reported by the banks differ from bank to bank, we constructed a standard rating scale for all five major banking groups, with values ranging from 0 to 100. The lower the reported value, the higher the quality of the company's credit.

SOURCE: Reports to the Banking Supervision Department.

Figure 1.14
Ratio of loan loss provisions to total balance sheet credit by principal sector[a], the five major banking groups, 2001–13



[a] Business sector credit including credit to the construction and real estate industry.

SOURCE: Based on published financial statements.

Table 1.8
Credit quality indices, by principal industry, five major banking groups, December 2012 and December 2013
(percent)

	Impaired loans to total balance-sheet credit to the public		Loan loss provisions to total balance-sheet credit to the public		Net write-offs to total balance-sheet credit to the public		Allowance for credit losses to total balance sheet credit to the public		Coverage ratio: Allowance for credit losses to impaired loans to the public	
Principal industries	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013
Borrowers' activity in Israel	**2.89**	**2.38**	**0.40**	**0.23**	**0.38**	**0.30**	**1.69**	**1.59**	**58.5**	**66.8**
Business	**5.08**	**4.39**	**0.60**	**0.25**	**0.51**	**0.32**	**2.17**	**2.16**	**42.7**	**49.1**
Agriculture	2.77	2.24	-0.24	-0.22	-1.20	-0.07	1.78	1.62	64.2	72.3
Manufacturing	5.28	4.98	0.47	0.87	0.62	0.37	2.62	2.98	49.6	59.8
Construction and real estate	7.51	6.02	-0.18	0.06	0.54	-0.09	2.35	2.57	31.3	42.6
Of which: Construction	9.63	6.77	-0.11	-0.07	0.35	-0.20	3.04	3.02	31.5	44.5
Real estate	5.76	5.34	-0.24	0.17	0.70	0.02	1.78	2.16	31.0	40.4
Electriciy and water	1.12	0.75	-0.18	-0.11	0.12	0.03	0.24	0.15	21.7	20.2
Commerce	3.02	3.69	1.01	0.50	0.52	0.56	2.13	2.14	70.6	58.1
Tourism	8.09	8.33	0.08	-0.02	0.05	0.19	1.39	1.22	17.2	14.6
Transportation and storage	3.47	2.82	1.01	-0.11	0.11	0.31	1.97	1.60	56.8	56.5
Communications and computer services	3.35	4.67	-0.26	1.10	-0.15	0.73	1.26	2.16	37.6	46.2
Financial services	5.67	3.74	2.92	-0.41	1.12	0.59	2.98	2.23	52.5	59.7
Other business services	1.86	2.27	0.16	0.32	0.48	1.16	1.51	1.20	81.1	52.9
Public and community services	2.60	0.81	0.47	-0.07	0.40	0.08	0.76	0.57	29.2	70.6
Private individuals	**0.41**	**0.31**	**0.16**	**0.21**	**0.22**	**0.27**	**1.15**	**1.00**		
Housing loans	0.00	0.01	0.02	0.16	0.07	0.18	0.87	0.78		
Nonhousing loans	1.20	0.92	0.43	0.31	0.53	0.47	1.69	1.45		
Borrowers' activity abroad	**5.50**	**4.73**	**0.55**	**0.49**	**0.52**	**0.51**	**2.05**	**2.11**		

SOURCE: Banking Supervision Department based on published financial statements.

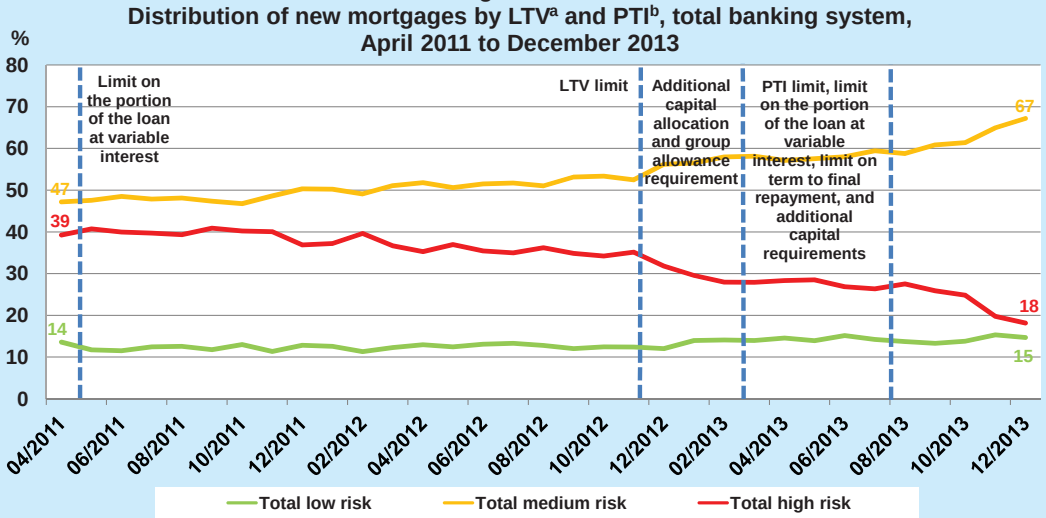
Credit to households

Outstanding balance-sheet credit to private individuals[21] expanded by 8 percent in 2013, similar to the average rate of growth in the previous two years, reaching a total of NIS 370 billion (Table 1.7). Housing credit—which accounts for two-thirds of balance-sheet credit to private individuals—increased by 10 percent, and consumer credit increased by 6 percent (Figure 1.9). The expansion of consumer credit derived from the low interest rate environment—which was intended *inter alia* to encourage activity by providing an incentive for private consumption—and from the increase in the prices of the public's assets and from the decline in the unemployment rate. Despite the rapid expansion in credit to private individuals, the ratio of household debt to disposable income remained stable and considerably less than in other advanced economies.[22]

Housing credit continued to expand in 2013 (Figure 1.9), to a total of NIS 248 billion. The proportion of housing credit in the bank credit portfolio reached 30 percent in December 2013 (Figure 1.10). Against the background of the measures adopted by the Supervisor of Banks with respect to housing credit,[23] a decrease in the risk inherent in the housing credit portfolio was apparent (Figure 1.15).

Notwithstanding the reduced risk characteristics of the housing credit portfolio, borrowers and the banking system are vulnerable to a negative impact due to the large volume of mortgages, the continuing rise in home prices, and the low interest rate environment. As a result, among its other activities, in 2013 the Banking Supervision Department conducted a stress test to estimate the expected losses in the housing credit portfolio resulting from adverse developments in the housing market. Within this framework, the Banking Supervision Department examined the portfolio's sensitivity to risk factors such as unemployment, the interest rate, borrowers' income and housing prices. The scenario's findings indicate that the adverse effect on borrowers could be significant. More details of the stress test on the housing credit portfolio appear in Box 1.2.

Figure 1.15
Distribution of new mortgages by LTV[a] and PTI[b], total banking system, April 2011 to December 2013



Low risk: (PTI ≤ 20% and LTV ≤ 60%)
Medium risk: (20% < PTI ≤ 40% and LTV < 60%) or (PTI ≤ 30% and 60% < LTV ≤ 75%) or (PTI ≤ 10% and LTV > 75%)
High risk: (PTI > 40%) or (30% < PTI ≤ 40% and LTV > 60%) or (10% < PTI ≤ 30% and LTV > 75%)

[a] LTV = Loan-to-value ratio. Rate of financing.
[b] PTI = Payment -to-income ratio.

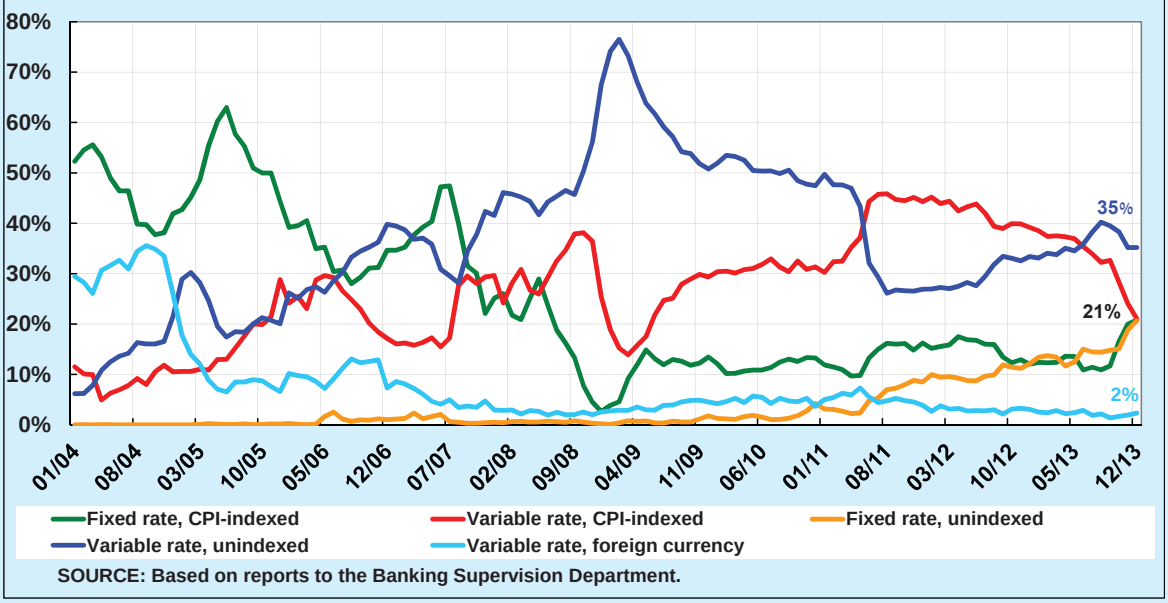
SOURCE: Based on reports to the Banking Supervision Department.

[21] Includes housing credit and nonhousing credit (consumer credit).
[22] Unlike elsewhere in the world, data on disposable income in Israel include company profits, which leads to some bias.
[23] See Box 1.1 for more details.

Box 1.1.: The Banking Supervision Department's measures with respect to housing credit, and their implications

Against the background of the increase in home prices and the low interest rate environment, the bank housing credit portfolio and its characteristics have changed in recent years. In the years 2008–13, home prices have increased by 82 percent in nominal terms.[1] Concurrently, housing credit grew by an average annual rate of 12 percent (Figure 1.9), to NIS 248 billion in December 2013. The share of housing credit in the bank credit portfolio increased from 20 percent to 30 percent in the past 6 years (Figure 1.10). The share of mortgages granted at variable rate interest increased over the period and at the beginning of 2009 it reached 95 percent (Figure 1).

Figure 1
Share of new housing loans by indexation segments and interest rate tracks, total banking system, January 2004 - December 2013

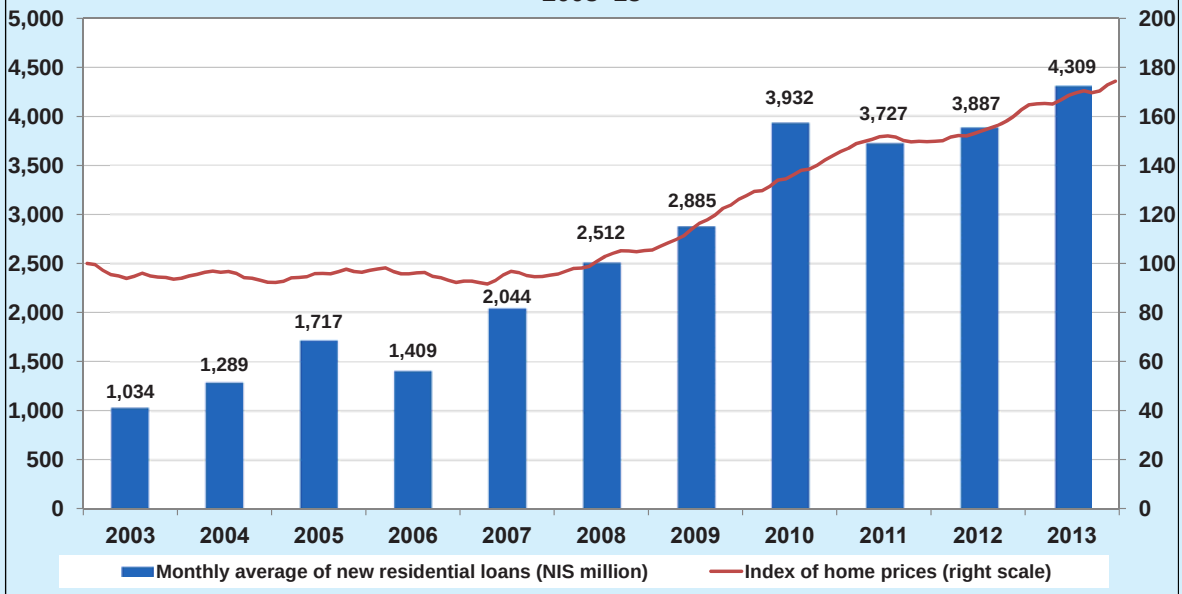


SOURCE: Based on reports to the Banking Supervision Department.

In 2013, new mortgages granted reached a historic high, averaging NIS 4.3 billion a month (Figure 2) and the average loan to home buyers increased to NIS 600,000. The ratio of households' debt, in respect of housing loans, to disposable income[2] ratio reached 34 percent in 2013, compared with 28 percent in 2004 (Figure 3). These developments led to an increase in the risks inherent in the housing credit portfolio, exposing borrowers and the banking system to the risk of an adverse impact from potential changes in the economic environment.

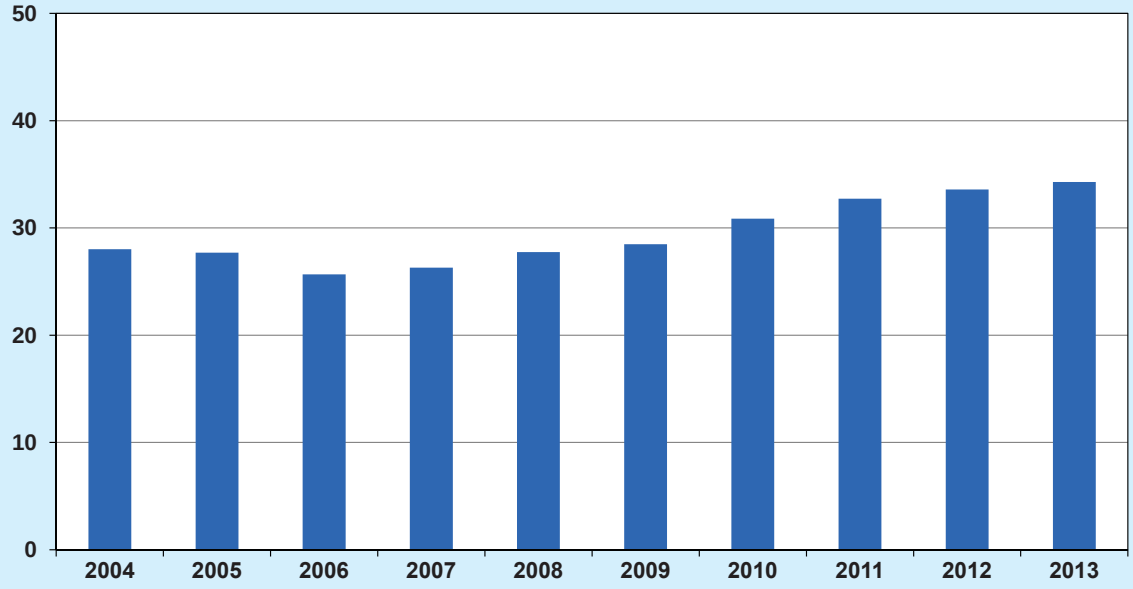
1 An increase of 58 percent in real terms.
2 According to the Central Bureau of Statistics definition, net private disposable income from all sources.

Figure 2
Monthly average of new loans granted for the purchase of residential property, total banking system, and index of home prices (2003=100), 2003–13



SOURCE: Based on reports to the Banking Supervision Department.

Figure 3
The ratio of the balance of housing loans to disposable income[a], 2004-13



a) Disposable net private income from all sources.
SOURCE: Based on Central Bureau of Statistics and reports to the Banking Supervision Department.

Against this background, during recent years the Supervisor of Banks adopted a range of measures with respect to housing credit (Table 1). These measures were intended to reduce borrowers' and the banking system's exposure to the risks inherent in developments in the housing market and to increase the banks' capital buffers and credit loss allowance buffers against this risk. It should be noted that over the course of recent years, many supervisory authorities worldwide have adopted macroprudential measures in respect of the housing market in order to reduce the risks inherent in the bank credit portfolio, to maintain the stability of the financial system, to slow the rate of increase in housing prices, and to moderate the growth in housing credit.

These measures affected the characteristics of the mortgage portfolio and the various risk factors, and were focused on three main areas: quantitative restrictions, capital buffers and credit loss allowance buffers. It should be noted that an integral part of the Banking Supervision Department's activity in the area includes regulation relating to qualitative aspects (such as a requirement for applying stringent underwriting procedures and a higher level of disclosure), which makes it difficult to quantify their effect.

An analysis of mortgage data indicates that the range of measures adopted by the Banking Supervision Department reduced the level of risk to borrowers and the banking system.[3] Despite the decline in the risk characteristics of the housing credit portfolio, borrowers and the banking system are nonetheless still vulnerable due to the large volume of mortgages granted, the prolonged increase in home prices, and the low interest rate environment. The most notable effects which the measures had on the characteristics of the housing credit portfolio are reviewed below:

The composition of mortgages by interest rate tracks and indexation type: Against the background of the low interest rate environment in recent years, the proportion of variable-rate mortgages increased considerably and reached 95 percent (Figure 1). This increase exposed borrowers to the risk of an increase in the interest rate, which would increase borrowers' monthly repayments. As a result, in May 2011, the Supervisor of Banks restricted to 33.3 percent the share of a variable-rate housing loan on which the interest rate adjustment period is less than 5 years. In addition, the Supervisor required the banking corporations to explain to mortgage borrowers the significance of taking an unindexed variable-rate loan and the potential effect of a rise in this rate in increasing the monthly repayment.

As a result of this measure, in the second half of 2011 the proportion of unindexed variable-rate mortgages, which had accounted for the vast majority of variable-rate mortgages, declined to 27 percent. This decline was accompanied by an increase in the proportion of mortgages on other tracks. In particular, the proportion of CPI-indexed, variable-rate, mortgages—on most of which the interest rate changes every 5 years—rose to 44 percent. Since the rapid expansion in the volume of housing loans continued and borrowers remained exposed to the risk of an increase in the interest rate, in August 2013 the Supervisor restricted to 66.7 percent that part of a housing loan granted at variable-

[3] It is however difficult to quantify their effect on demand for homes or on home prices since these are affected by a combination of numerous factors, including: the supply of land, the stock of homes, building starts, the interest rate in the economy, tax factors, the unemployment rate, and the public's expectations regarding developments in the housing market. During the recent past and as stated, the level of demand for home purchase remained high and home prices continued to rise.

rate interest (regardless of the frequency of the interest rate adjustment).[4] As of December 2013, the proportion of variable-rate mortgages amounted to 59 percent. The decrease in the proportion of variable-rate mortgages led to a concurrent increase in the proportion of unindexed and CPI-indexed fixed-rate mortgages. Fixed-rate mortgages are mostly granted for shorter periods and at high interest rates.

LTV:[5] The loan to value ratio in housing loans is the ratio between the approved loan line and the value of the asset, and provides an indication of mortgage recipients' level of leverage. A high (low) LTV ratio means that a borrower uses little (much) of his or her own capital for the purpose of buying the apartment, and the loan therefore accounts for a large (small) part of the financing of the apartment. During periods of severe recession and sharp declines in home prices, households whose loans are marked by high LTV ratios could have difficulty in paying a mortgage and cause losses to the banks. Against the background of the continuing price increase in the housing market, during recent years the Supervisor of Banks adopted a series of measures with respect to housing loans with high LTVs.

During 2010 the Supervisor published guidelines concerning a supplementary allowance and an additional allocation of capital in respect of housing loans with high LTV ratios.[6] The Supervisor recently published two additional guidelines: (1) In November 2012, the Supervisor imposed restrictions on housing loans with high LTV ratios, in accordance with the type of buyer:[7] Loans for those buying a sole home were restricted to an LTV of 75 percent, loans for buyers of a replacement home–to an LTV of 70 percent, and loans for those buying an investment home[8]–to an LTV of 50 percent. This measure was intended to reduce households' levels of leverage in housing loans while accommodating those buying a sole home. (2) In March 2013, the Supervisor of Banks stipulated additional capital requirements in respect of housing loans in accordance with LTV ratios. This was in order to increase the capital buffers allocated against high LTV loans. As a result of these guidelines, the proportion of loans with low LTV ratios (up to 45 percent) increased, and the average LTV on mortgages declined from 55 percent to 52 percent (Figure 4).

PTI:[9] The mortgage PTI ratio serves as an indicator of the borrower's ability to make mortgage payments on an ongoing basis. Changes in the economic environment, such as a deterioration in the labor market or a rise in interest rates, could increase the debt burden imposed on borrowers and the risk that they will have difficulty in repaying the mortgage. In view of these concerns, in August 2013 the Supervisor of Banks restricted the PTI ratio to 50 percent (meaning that a loan cannot be extended to borrowers for whom more than half their income has to be used for repaying the mortgage), and required an additional allocation of capital in respect of housing loans on which the PTI exceeds 40 percent.

4 The restriction on variable-rate housing loans which was imposed in May 2011 remained in force.

5 Loan to Value.

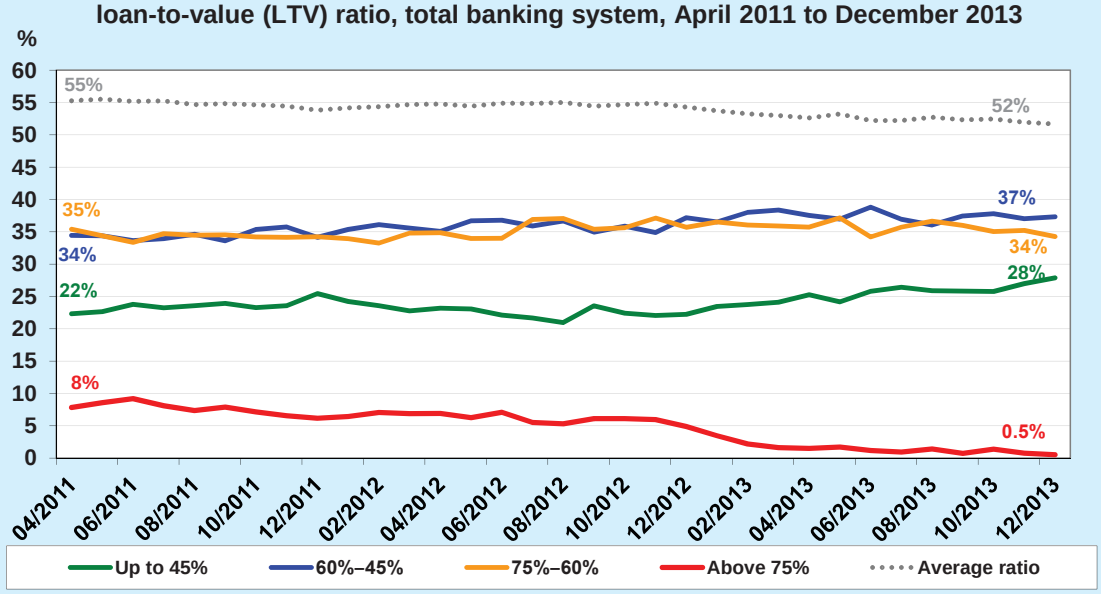
6 The Supervisor revised the guidelines in March 2013, with the result that the October 2010 guideline concerning an additional allocation of capital for high LTV loans was revoked.

7 The measure is graded and enables young couples to obtain a housing loan with an LTV that is limited, though high relative to other borrowers.

8 An investment home is defined as a residential property that is not (the owner's) sole home or replacement home.

9 Payment to income.

Figure 4
Distribution of new loans granted for the purchase of residential property by loan-to-value (LTV) ratio, total banking system, April 2011 to December 2013



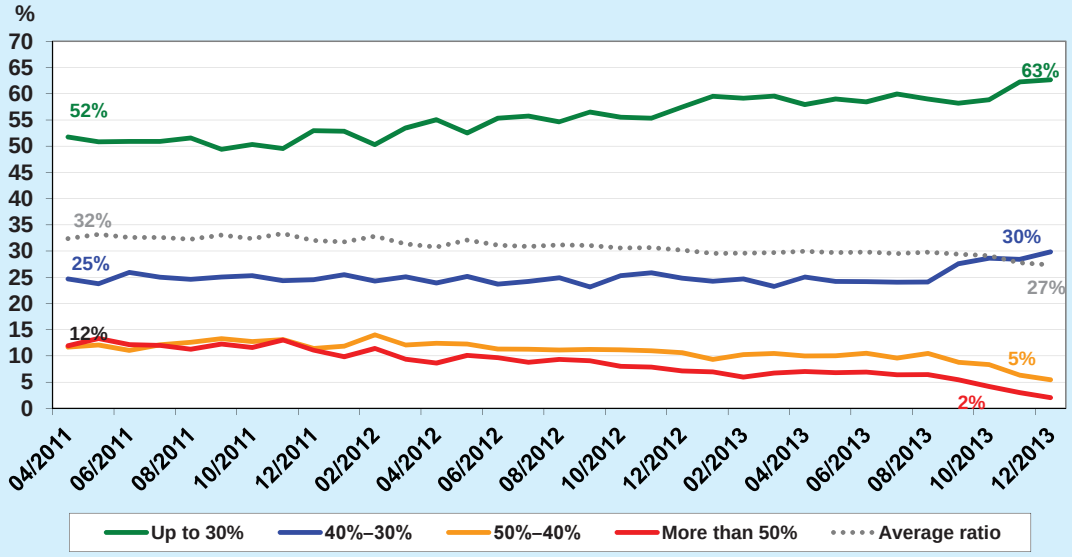
SOURCE: Based on reports to the Banking Supervision Department.

Against the background of this and additional guidelines, the proportion of loans granted at a high PTI ratio declined, with the average PTI ratio on new mortgages falling from 32 percent to 27 percent (Figure 5).

Period to final repayment: The average period to final repayment has remained stable in recent years and stands at approximately 20 years (Figure 6). This period is affected by several factors, one of the main factors being the composition of the mortgages, which are comprised principally of variable-rate housing loans. These loans are mostly granted for long periods, as distinct from fixed-rate loans, which are usually granted for shorter periods. The restriction imposed on variable-rate housing loans in August 2013 led to a decline in the proportion of variable-rate mortgages and an increase in the proportion of fixed-rate mortgages. Despite the change in composition, the average period to final repayment remained largely unchanged because the average period to repayment of fixed-rate CPI-indexed mortgages lengthened from 9 to 16 years. The increase resulted from the fact that borrowers are unable to pay a substantial part of the loan within a short period of time. Additionally, under the August 2013 directive, the Supervisor of Banks limited the period to final repayment to a maximum of 30 years. This restriction is intended to prevent the spreading out of debts over excessively long periods.

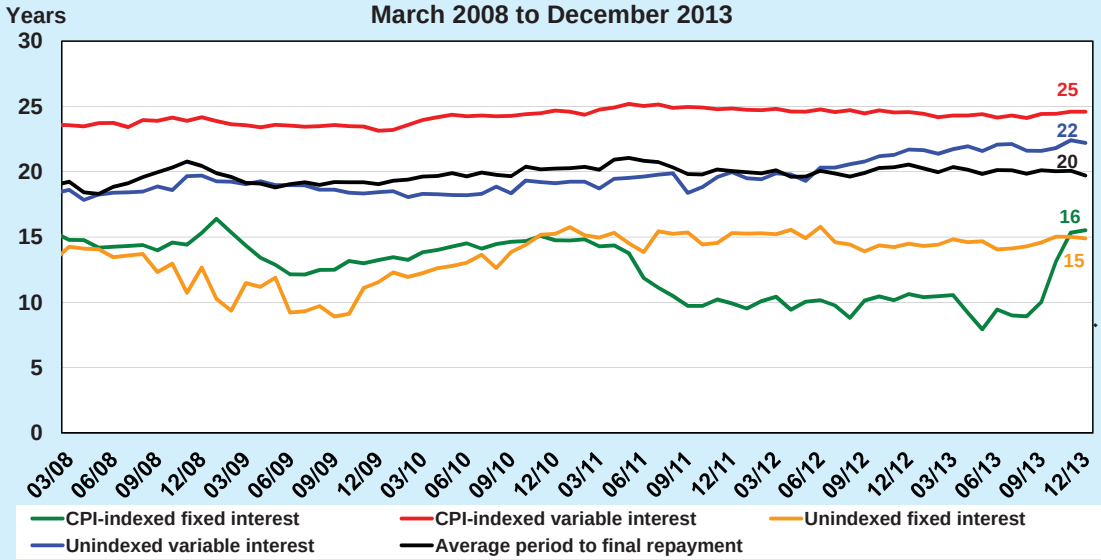
Capital buffers in respect of housing loans: In view of the increased level of risk inherent in the housing credit portfolio, the Supervisor of Banks required the banks to allocate additional capital in respect of housing loans that are notable for higher risk characteristics. In this respect, an additional

Figure 5
Distribution of new loans for the purchase of residential properties by payment to income ratio, total banking system, April 2011 to December 2013



SOURCE: Based on reports to the Banking Supervision Department.

Figure 6
Average period to final repayment on new loans for the purchase of residential properties, by indexing segment and interest rate track, total banking system, March 2008 to December 2013



SOURCE: Based on reports to the Banking Supervision Department.

capital requirement was imposed on credit for purchase groups,[10] on high LTV ratio housing loans, and on high PTI ratio housing loans. As a result, a continuing increase has been apparent in the average risk weights of outstanding housing loans. The estimated weighting ratio of new housing loan volume rose from an average of 46 percent in 2012 to 56 percent in 2013.

Credit loss allowance buffers in respect of housing loans: In March 2013, the Supervisor of Banks ordered a minimum group allowance of 0.35 percent of housing loans for which there is no allowance by extent of arrears or individual allowance. (Before this directive, the ratio was 0.22 percent).

The risk mitigation measures that were adopted were imposed by means of restrictions, some of which led to an increase in the cost of mortgages in the short term. However, the level of the interest rate on housing loans throughout the entire lifetime of the loan needs to be examined, taking into account parameters that affect the level of monthly repayments and the outstanding amount for repayment.[11]

The supervisory measures that were adopted succeeded in reducing the risks to both borrowers and the banks, by prescribing quantitative restrictions, higher levels of capital and allowances, requirements for stringent underwriting procedures and an increased level of disclosure to customers. Notwithstanding the measures that were adopted, households and the banking system are exposed to the risk posed by changing macroeconomic conditions. The Banking Supervision Department is monitoring developments in the housing credit market, and will take further measures if necessary.

[10] When (balance-sheet and off-balance-sheet) credit is extended to a purchase group that is planning to build ten or more housing units, the credit is classified as indebtedness of a corporation in the real estate industry.

[11] For example, although borrowers' move from a variable-rate track to a fixed-rate track increases the cost of the mortgage in the short term, if there were to be a rise in interest rates, an increase in the monthly repayment in a variable-rate track can be expected. Borrowers who were granted a mortgage where a substantial part of the loan is variable-rate and who did not take into account the risk inherent in this, could have difficulty in paying the mortgage during a period when the interest rate increased.

Table 1
The Banking Supervision Department's regulatory measures in the area of housing credit

<table>
<tr><th>Date</th><th>Description</th></tr>
<tr><td>18.8.2009</td><td>Variable-rate interest—qualitative directive
The banks were required to act with caution when marketing and granting variable-rate housing loans, and to thoroughly examine the customer's payment to income (PTI) ratio, including on the assumption that the level of the interest rate would rise.</td></tr>
<tr><td>25.3.2010</td><td>Credit for purchasing groups—capital requirement:
During construction and until its completion, this credit is to be classified as indebtedness of a corporation in the real estate industry (and not as "housing credit"). Accordingly, Risk Weighted Assets (RWA) will be assigned a weight of 100 percent in the calculation of capital adequacy.

Applicability—the financial statements for June 30, 2010 and thereafter.</td></tr>
<tr><td></td><td>Credit for purchasing groups—qualitative directives
Procedures were determined for dealing with purchasing groups, including the repayment ability of individual members.</td></tr>
<tr><td>11.7.2010</td><td>Loan to Value (LTV)—supplementary capital allowance in respect of housing loans:
A supplementary capital allowance at a rate of at least 0.75 percent in respect of outstanding housing loans which were granted from 1.7.2010, and on which the LTV ratio at the time when they were extended exceeded 60 percent.

Applicability—the financial statements for 30.9.2010 and thereafter.</td></tr>
<tr><td></td><td>Various risk characteristics (indexation type, purchase for investment purpose, high LTV, high PTI)—qualitative directives:
Re-examination of the housing credit portfolio and credit policy, including examination for the purpose of ascertaining that this policy conforms to the bank's risk appetite.</td></tr>
<tr><td></td><td>Loan to Value—capital requirement
<table><tr><th>Capital allocation</th><th>Criterion</th></tr><tr><td rowspan="3">If all the criteria are fulfilled

RWA = 100%</td><td>LTV > 60%</td></tr><tr><td>Variable-rate credit component ≥ 25%</td></tr><tr><td>Level of the loan ≥ NIS 800,000</td></tr></table>• There are exceptions to the directive.
• Applicability—loans approved from 26.10.2010.
• The guideline was revoked in a letter on 21.3.2013, when more stringent guidelines were issued.</td></tr>
</table>

3.5.2011 **Variable-rate interest—restriction**:
Variable-rate housing loans (loans on which the interest rate adjustment period is less frequent than every 5 years) were limited to 33.3 percent of the overall housing loan, apart from exceptions covered by the directive.

Applicability—loans for which agreement in principle was given from 5.5.2011.

Variable-rate interest—bank–customer directive
With respect to existing loans that have a greater than 33.3 percent unindexed variable-rate prime track component—the banks were required to send borrowers a written explanation of the manner in which a 1 percent increase in the prime rate will affect the monthly repayment.

1.11.2012 **Loan to Value—restriction (dependent on the type of buyer):**

Classification of home	Maximum LTV
Sole home	75%
Replacement home	70%
Investment home	50%

Investment home—a residential dwelling that is not a sole home or a replacement home.

- Apart from exceptions covered by the guideline.
- Applicability— loans for which agreement in principle was given from 1.11.2012.

21.3.2013 **Loan to Value—capital requirement**

LTV	RWA
LTV ≤ 45%	35%
45% < LTV ≤ 60%	50%
LTV > 60%	75%

- The restriction of 28.10.2010 was revoked.

Group allowance for credit losses:
A requirement for a minimum group allowance at a level of 0.35 percent of outstanding loans in respect of housing loans for which an allowance by extent of arrears or an individual allowance is not held.

Applicability—the financial statements from 30.6.2013.

19.8.2013 **Payment to Income (PTI) ratio—restriction:**

Restriction	PTI
Prohibited loan	PTI > 50%

Applicability— loans for which agreement in principle was given from September1, 2013.

PTI ratio—capital requirement:

RWA	PTI
100%	40% < PTI ≤ 50%

Applicability— loans for which agreement in principle was given from 1.9.2013.

Variable-rate interest—restriction:
The proportion of the variable-rate component (including variable-rate housing loans on which the interest rate adjustment period is less than 5 years) must not exceed 66.66 percent of the overall loan.
The proportion of the variable-rate component on which the interest rate adjustment period is less than 5 years must not exceed 33.33 percent of the overall loan.
This is apart from exceptions that are covered by the guideline.

Applicability— loans for which agreement in principle was given from 1.9.2013.

Period to final repayment—restriction:
The period to final repayment must not exceed 30 years.

Applicability—loans for which agreement in principle was given from 1.9.2013.

Box 1.2: Housing credit—stress test

1. General

The risk inherent in the housing credit portfolio has increased during recent years due to developments in the economic environment and in the housing market[1]—the low interest rate, the volume of mortgages granted and the sharp rise in home prices. These developments expose borrowers and the banking system to the risk that changes in the economic environment, such as a deterioration in the labor market or a rise in interest rates, will increase the debt burden and result in borrowers having difficulty in repaying their mortgage.

In view of these risks, the Banking Supervision Department conducted a stress test for estimating the credit losses which the housing credit portfolio is liable to incur under a stress scenario.[2] The Department also examined the portfolio's sensitivity to risk factors (an increase in the unemployment rate and in interest rates, a decrease in the borrower's income and housing prices, for example). The study was based on a comprehensive database relating to mortgages at the individual loan level. An examination of individual data makes it possible to relate to the entire distribution of the mortgage portfolio, whereas focusing on average data would conceal the significant risks at the tails of the portfolio. The scenario examined in the stress test included a negative impact on the labor market, a rise in interest rates and a decline in housing prices. The test results showed that 5.0 percent of mortgage takers in the sample would encounter repayment difficulties in this scenario,[3] in addition to the routine rate of arrears.[4] Major social implications are to be expected in a situation such as this.

This stress test is one of the tools for supporting the Banking Supervision Department's ability to monitor developments in the housing credit portfolio, to assess them, and to take action in order to mitigate the risks to borrowers and to the banks.

2. The stress scenario that was examined

The stress scenario was based on the recession of 2002, though somewhat more severe. The scenario is characterized by a significant negative impact on real activity as reflected by a large drop in GDP and private consumption, which badly affects the labor market,[5] concurrent with an increase in Israel's risk premium. The scenario depicts a severe but plausible situation, and is similar to the stress scenarios which other countries have examined. The principal variables of the scenario are as follows:

1 See Box 1.1

2 Credit losses were included in the uniform stress test which the Banking Supervision Department conducted in 2013. More details appear in Section 9, "Stress tests".

3 The test was based on certain working assumptions (part of them relating to the expected behavior of the banks and borrowers at a time of crisis), and these affected the quantitative results of the scenario.

4 As of December 31, 2013, 2.1 percent of housing loans were in arrears of over 6 months.

5 The macroeconomic parameters in this test are the same as the parameters in the stress test based on a uniform scenario (Section 9).

- Maximum Bank of Israel interest rate—6.7 percent
- Maximum unemployment rate—11.7 percent
- Decline in real income—8 percent
- Decline in housing prices (average decline for all regions)—20 percent

3. Methodology

A borrower who encounters difficulties in repaying a mortgage could lead to credit losses for the bank. We examined borrowers' sensitivity to changes in the macroeconomic situation and the probability that these changes will lead to difficulties in repaying the mortgage. The analysis related to each borrower individually and estimated the expected loss resulting from the materialization of the scenario according to the following equation:

loss = PD*LGD*EAD

loss = the loss to the banks
PD = probability of default
LGD = loss given default
EAD = exposure at default

The probability of default (PD) was determined with reference to each borrower's available income (monthly income minus the monthly mortgage payment) after the effects of the scenario. The increase in the unemployment rate and the decrease in real income affect borrowers' monthly income, and the rise in the interest rate affects the level of the monthly mortgage payment. When a borrower's available income, after the effect of the risk factors in the scenario, is inadequate to cover basic necessities, the borrower is recorded as a borrower in default,[6] that is, one who has difficulty in making the monthly mortgage repayment.

Loss given default (LGD) is defined as the ratio between the loan balance minus the value of collateral on realization, and the overall loan balance. This loss was affected by the decline in housing prices, by assumptions concerning the costs of rapid realization, and by assumptions concerning the banks' ability to reach a debt arrangement with the borrowers or sell the underlying asset.[7] Since in the crisis period it might be difficult to sell all of the apartments serving as collateral for borrowers in default and because only part of the borrowers will succeed in concluding an arrangement with the bank, we examined the extent to which the results are sensitive to the asset-realization parameter.

[6] We determined the minimum level of available income needed in order to cover basic necessities (such as food and clothing) with respect to the borrower's income level.

[7] We assumed that some of the borrowers in default would conclude a debt arrangement with the banks, due *inter alia* to the ability to continue paying from other sources. In a case such as this, the bank will not record a loss.

4. The findings

- The loss is very sensitive to assumptions regarding the proportion of arrangements reached with the banks and the realization percentages of the assets of borrowers who encountered difficulties. The proportion of arrangements and the realization percentages are significant in determing the actual rate of loss given default (LGD). We were unable to rely on past experience in order to determine in what percentage of cases the banks would conclude arrangements or realize properties. This is because to date, borrowers have not encountered difficulties on the scale expected in the test. Accordingly, we conducted a sensitivity analysis with reference to these parameters.
- An increase in unemployment affects the probability that mortgage recipients will enter into default to a greater extent than that in the event of a rise in the interest rate and a decrease in income, and contributed on average to over half of the default rates.[8]
- The population that is most sensitive to both an interest rate increase and a decrease in income is the population of borrowers whose PTI ratios exceed 40 percent. Generally, the default rates estimated in the test among this population are considerably higher than these rates among the other borrowers.
- Borrowers in the years 2009–10 mostly took loans in which a large part was granted with variable-rate interest.[9] Since they are more vulnerable to an interest rate change, they present higher default rates. The low interest rate in those years also contributed to high default rates among these borrowers, since the change in the interest rate is greater for them than for the other borrowers. An interest rate adjustment has less effect on borrowers who took loans in 2011 and thereafter. (This was after the part of the mortgage granted at variable-rate on which the interest rate adjustment period was less than 5 years had been restricted to a third of the overall mortgage).
- Defaulting borrowers who took mortgages in recent years led to high LGD rates because the value of their collateral rose to a moderate extent relative to properties that were purchased in previous periods. The amount of loss deriving from these borrowers is greater as well, because their properties are more expensive than those purchased in previous years (which required larger mortgages).
- Borrowers who took mortgages at an LTV exceeding 60 percent led to relatively high rates of loss given default. Since the price of the property has fallen because of macroeconomic conditions and due to the cost of rapid realization, the value of the collateral does not cover the bank's loss.

[8] This is because unemployment greatly reduces the household's income and therefore also its ability to repay the mortgage, and because in contrast to changes in the interest rate, it adversely affects all types of borrowers, that is, regardless of the characteristics of the loan (on the assumption that unemployment is distributed uniformly among the borrowers).

[9] The reference is to both unindexed and CPI-indexed loans.

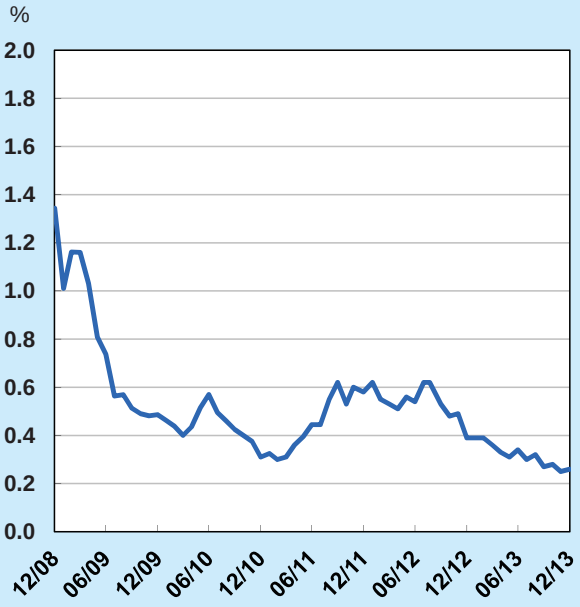
b. The quality of the credit portfolio

In 2013, the risk level of companies in the Israeli economy declined slightly against the background of a decline in sovereign risk, reflected in the contraction of CDS spreads,[24] and improvement in the domestic labor market. The low interest rate in the economy, however, encouraged firms to take risks that are liable to occur if the interest rate rises. Furthermore, several specific areas of activity, such as the construction and real-estate industry and leveraged credit, carry acute inherent risk that was reflected in, among other things, the involvement of certain firms in debt restructuring proceedings.[25]

The improvement in firms' credit risk was manifested in indicators from the capital market, indicators from financial statements, and other internal assessments. It should be noted that indicators based on financial statements obviously rely on backward-looking, and not necessarily forward-looking, data.

The EDF[26] and the yield spread of corporate bonds over government bonds narrowed in most industries (Figures 1.12 and 1.16). The contraction of spreads, however, also reflects the underpricing of risks in the corporate bond market. The share of loan loss provisions in total credit declined to only 0.25 percent (Figure 1.9).[27] The individual borrower allowance contracted during the review period, its share in total credit declining to 0.4 percent. The group allowance, [28] however, increased to 1.1 percent of credit (Figure 1.17). The upturn followed a requirement by the Supervisor of Banks, in March 2013, that a minimum 0.35 percent group allowance be kept for housing loans for which no allowance—either

Figure 1.16
EDF[a] of Israeli corporations, December 2008 to December 2013



[a] EDF (Expected Default Frequency) reflects the expected likelihood of default. The median EDF is calculated based on 120 corporations.

SOURCE: Based on Moody's–KMV.

[24] The CDS spread reflects sovereign default risk.

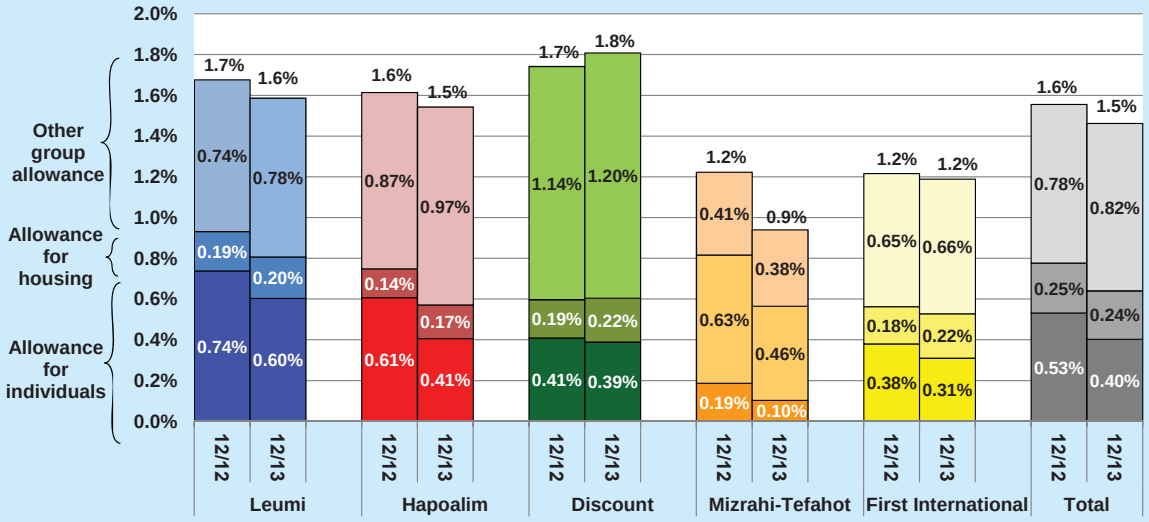
[25] The recommendations of a committee tasked with examining debt-restructuring proceedings in Israel were released in the committee's interim report in April 2014, and are expected to enhance certainty and give firms incentives to enter into such proceedings earlier.

[26] EDF—Expected Default Frequency—reflects the expected probability of default. The median EDF was calculated on the basis of data from 120 business firms.

[27] Notably, the loan loss provision data for 2011–13 are not fully comparable with earlier data due to implementation of the Measurement and Disclosure of Impaired Debts, Credit Risk and Allowance for Credit Losses Directive. This is because, among other things, the 2011–13 data include the effect of the "interest income in respect of problematic debts not previously recorded" item, which reduces the loan loss provision ratio by about 0.2 percent.

[28] The group allowance includes the allowance on account of housing credit.

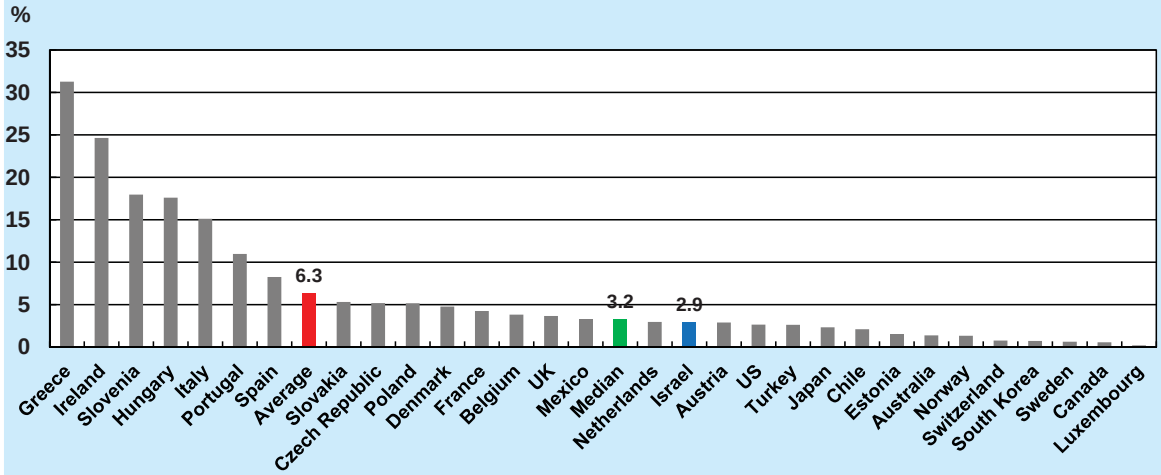
Figure 1.17
Allowance for credit losses to total credit by type of allowance: Allowance for individuals, allowance for housing[a], other group allowance, the five major banking groups, December 2012 and December 2013



[a] Including the allowance for housing calculated according to the depth of arrears.

SOURCE: Based on published financial statements.

Figure 1.18
International comparison of impaired credit and credit in arrears more than 90 days as a share of credit to the public, OECD countries[a], 2012 to 2013[b]



[a] Finland, Germany, New Zealand and Iceland were excluded due to a lack of data.
[b] Data for the UK as of June 2012. Data for Switzerland as of December 2012. Data for Japan and South Korea as of March 2013. Data for Italy, France, Spain and Poland as of June 2013. Data for Austria, Denmark, Slovenia, Portugal, Greece, Netherlands, the US, Canada, Slovakia, Ireland, Sweden, Turkey, Hungary and the Czech Republic as of September 2013. Data for Estonia, Luxembourg, Norway, Chile, Australia, Mexico and Israel as of December 2013.

SOURCE: Foreign countries–International Monetary Fund; Israel–Based on published financial statements.

Table 1.9

Indices of credit portfolio quality of the five major banking groups, 2007 to 2013

(percent)

	Year	Leumi	Hapoalim	Discount	Mizrahi Tefahot	First International	Five groups
Loan loss provision to total balance sheet credit to the public[a]	2007	0.20	0.25	0.44	0.31	0.33	0.28
	2008	1.01	0.68	0.67	0.44	0.39	0.72
	2009	0.74	0.93	0.87	0.39	0.44	0.75
	2010	0.26	0.46	0.69	0.44	0.18	0.41
	2011[b]	0.30	0.48	0.65	0.28	0.14	0.39
	2012	0.50	0.39	0.61	0.21	0.20	0.41
	2013	0.11	0.34	0.49	0.21	0.14	0.25
Net write-offs to total gross balance sheet credit to the public	2011	0.84	0.84	0.72	0.44	0.15	0.71
	2012	0.47	0.38	0.51	0.26	0.24	0.39
	2013	0.21	0.38	0.42	0.40	0.13	0.32
Allowance for credit losses to total balance sheet credit to the public	2010[c]	2.30	2.12	1.66	1.62	1.33	1.96
	2011	1.62	1.64	1.67	1.35	1.33	1.57
	2012	1.68	1.61	1.74	1.22	1.22	1.56
	2013	1.59	1.54	1.81	0.94	1.19	1.46
Impaired loans to total balance sheet credit to the public	2010[c]	3.82	4.71	4.68	1.53	1.88	3.74
	2011	2.77	3.44	4.74	1.34	1.59	2.95
	2012	3.01	3.23	4.55	1.28	1.61	2.91
	2013	2.36	3.05	3.26	0.89	1.43	2.37
Impaired loans and loans more than 90 days past due as a share of total balance-sheet credit to the public	2010[c]	4.13	5.06	5.38	2.90	2.31	4.29
	2011	3.26	3.74	5.19	2.57	2.02	3.49
	2012	3.54	3.79	5.11	2.55	2.11	3.57
	2013	2.94	3.54	3.71	1.70	1.87	2.94
Allowance for credit losses to impaired loans and loans more than 90 days past due	2010[c]	55.60	41.82	30.80	55.76	57.64	45.69
	2011	49.53	43.69	32.13	52.62	66.11	44.88
	2012	47.33	42.53	34.09	47.94	57.69	43.56
	2013	53.87	43.60	48.69	55.37	63.47	49.78

[a] Until December 2010, net credit to the public was used; since 2011, gross credit to the public has been used.

[b] Due to the implementation of the directive for the measuring and disclosure of impaired debt, credit risk and credit loss allowance, as of January 1, 2011, the figures for December 2011 cannot be fully compared with previous periods.

[c] Data calculated as of January 1, 2011 - after the implementation of the directive for the measuring and disclosure of impaired debt, credit risk and credit loss allowance.

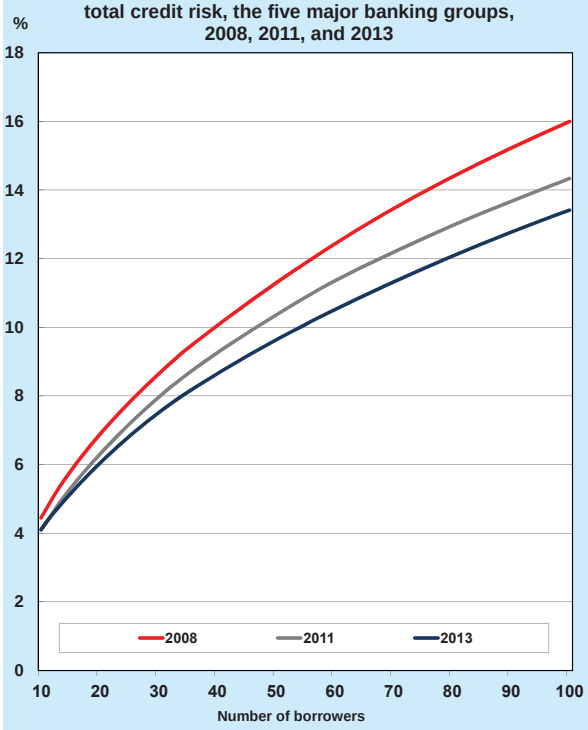
SOURCE: Banking Supervision Department based on published financial statements.

according to the extent of arrears or on an individual borrower basis—was kept. The improvement in credit quality was also reflected in the share of impaired and 90+ day past-due credit in total credit, representing the riskiest elements in problem loans. This indicator was 2.9 percent in December 2013—lower than the median among other OECD countries (Table 9 and Figure 1.18). Additionally, the coverage ratio,[29] which estimates banks' ability to absorb expected losses in the credit portfolio, improved to 50 percent (Table 9).

c. Concentration in the credit portfolio

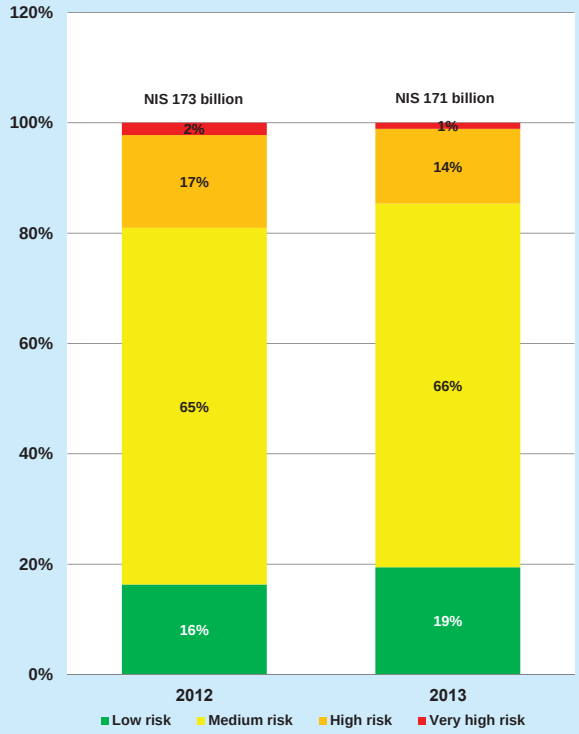
Israeli banks' credit portfolios are marked by relatively high borrower concentration, for reasons including the concentrated structure of ownership and control in the Israeli economy. The eventuation of concentration risk has major implications for banking corporations' profitability and capital. The Promotion of Competition and Reduction of Concentration Law, 5774-2013, enacted in December 2013, is expected to mitigate concentration in Israel.[30] In recent years, concentration in the bank credit portfolio has declined

Figure 1.19
Credit risk of the 100 largest borrowers[a] out of total credit risk, the five major banking groups, 2008, 2011, and 2013



[a] The large borrowers do not include banking corporations.
SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

Figure 1.20
Total credit risk of the 100 largest borrowers and distribution of their internal risk rating, the five major banking groups, 2012 and 2013



SOURCE: Based on reports to the Banking Supervision Department.

[29] Allowance for credit losses to impaired and 90+ days past due loans.

[30] The law imposes, *inter alia*, restrictions on control of multilayered business groups (or "pyramid structures," as they are called in the law). Under the statute, new pyramid structures will be limited to two levels and transitional provisions prescribe a reduction in the number of levels in existing complex pyramid structures. The law also set terms and limits on holdings by one controlling principal in a significant financial entity and a significant real corporation.

considerably due to measures taken by the Banking Supervision Department and the banking system to mitigate portfolio concentration risk (Figure 1.19).[31]

Within this framework, the banks reduced their exposure to large borrowers and large business groups while increasing the proportion of credit to retail establishments and small businesses. For example, credit to the ten largest business groups accounted for 10 percent of the credit portfolio and 147 percent of equity at the end of 2013, as against 11 percent and 168 percent, respectively, a year earlier. In addition, the share of credit to the hundred largest borrowers in terms of the credit portfolio and equity declined to 13 percent and 197 percent, respectively, during the year. Concurrently, the internal ranking of the hundred largest borrowers' credit risk shows that their credit quality improved (Figure 1.20). The falloff in business demand for credit also helps to explain the attenuation of credit portfolio concentration in 2013.

Outstanding bank credit risk on account of large borrowers in the banking system who also borrowed in the nonbank market was NIS 75 billion at the end of 2013,[32] 12 percent of the banks' outstanding business-related credit risk as against 14 percent a year earlier. Some 38 percent of the outstanding credit risk on account of these borrowers traces to the construction and real estate industry.

5. LIQUIDITY RISK

In 2013, as in past years, the Israeli banking system enjoyed relatively strong liquidity due to the composition of its high quality liquid assets and its structure of sources, made up largely of a stable core of public deposits and a smaller portion of short term wholesale funding. During the review year, however, depositor concentration increased, short term (up to one month) liquidity waned slightly—manifested in a decline in the supervisory model ratio[33]—and medium-term liquidity ratios (up to three months) were stable. In the corporations' short-term activity (up to one month), on the assets side short-term credit decreased, as did cash and deposits with the Bank of Israel and other commercial and central banks, while on the liabilities side, deposits increased, particularly large deposits for short terms.

The supervisory model ratio (total operations in NIS and foreign currency), which reflects short-term (up to one month) liquidity, declined from 1.61 in 2012 to 1.42 in 2013 (Table 10); core liquidity ratios,[34] measured to terms of up to three months, held steady (Table 11).

Deposit concentration in the banking system increased: the ratio of the twenty largest deposits to total deposits from the public to terms of up to one month increased from 14 percent in 2012 to 17 percent in 2013 (Table 10) and the share of large deposits (above NIS 50 million) in the total climbed from 27 percent

[31] In this context, the Banking Supervision Department in 2011 took steps to toughen the restrictions on banks' exposure to large borrowers and large business groups. Notably, in April 2014 the Basel Committee published a Framework for Measuring and Controlling Large Credit Exposures, to go into effect on January 1, 2019.

[32] Of this total, NIS 2.8 billion originates in borrowers whose bonds were traded in December 2013 at yields in excess of 9 percent.

[33] The supervisory model ratio—the ratio of liquid assets to short-term (up to one month) liabilities—was developed by the Banking Supervision Department to examine trends in banking corporations' liquidity levels. A value of 1 is the minimum that assures compliance with liquidity needs; it also allows latitudinal comparison to take place.

[34] "Core liquidity" is defined here as total cash and deposits with the Bank of Israel and other banks that originally mature in up to three months, plus total government bonds.

in 2012 to 31 percent in 2013. The proportion of institutional investors' deposits in total deposits from the public increased from around 10.5 percent in 2012 to around 12.6 percent in 2013.

In addition, we estimated the effect of a possible stress scenario—the immediate redemption of 10 percent of deposits of the public to terms of up to one month—on the supervisory model ratio. The results show that the system at large is resilient to shocks (Table 10). This finding was included in the regular estimations that the Banking Supervision Department performs to test the resilience of the banks and the banking system to the possibility of a liquidity shortage.

In February 2014, the Supervisor of Banks published a draft translation of the new Basel III framework on liquidity and established a professional working team to produce recommendations on the implementation of the framework in Israel. In the course of its efforts, the team held working meetings with representatives of the banking corporations and credit card companies and performed a QIS (Quantitative Impact Study) concerning the LCR (Liquidity Coverage Ratio).[35] The results of the study were submitted to the Banking

Table 1.10
The supervisory model ratio[a], stress scenario, and selected liquidity concentration indices[b], five major banking groups, 2011 to 2013

	2011	2012	2013
Supervisory model ratio (baseline scenario)	**1.58**	**1.61**	**1.42**
Minimum value of the supervisory ratio	1.41	1.38	1.04
Maximum value of the supervisory ratio	1.74	1.79	2.00
Supervisory model ratio after stress scenario of an immediate redemption of 10% of total public short-term deposits	**1.25**	**1.27**	**1.12**
Average change in baseline value[c]	0.34	0.34	0.29
Mximum change in baseline value[d]	0.37	0.39	0.44
Concentration and stability of deposits			
Deposits up to NIS 1 million as a share of total deposits	0.35	0.35	0.34
Deposits above NIS 50 million as a share of total deposits	0.27	0.27	0.31
The 20 largest deposits up to one month as a share of total deposits up to one month	0.12	0.14	0.17

[a] The supervisory model ratio was developed at the Banking Supervision Department, and is calculated as the ratio between liquid assets and liquid liabilities for a period of up to one month. This ratio serves to assess trends in the banking corporations' level of liquidity. A value of 1 is the minimum required to ensure meeting liquidity needs. The ratio also enables horizontal comparisons.

[b] The indices relate to activity in both Israeli and foreign currency (indexed and denominated).

[c] The average gap between the index value in the baseline scenario and its value after implementation of the scenario in each of the five major banking groups.

[d] The maximum gap between the index value in the baseline scenario and its value after implementation of the scenario.

SOURCE: Based on reports to the Banking Supervision Department.

[35] The LCR, developed by the Basel Committee to enhance the short-term resilience of banking corporations' liquidity profiles, indicates the quantity of HQLA (High-Quality Liquid Assets) that corporations should hold in order to withstand a significant stress scenario that lasts thirty calendar days. The LCR is composed of two elements. The first, on the numerator side, is the inventory of HQLA (High-Quality Liquid Assets), comprised of two levels of assets. Level 1 comprises high-quality assets that may be held in unlimited amounts; Level 2 is composed of assets that are limited to a maximum aggregate holding of 40 percent of the HQLA inventory. (This level is divided into two sublevels: 2A and 2B; at the latter level, the share of assets that may be held is limited to 15 percent.) The second element, on the denominator side, is the total net cash outflows, i.e., the expected total cash outflow less the expected total cash inflow in the stress scenario. The expected total cash outflow is calculated by multiplying the balances of different categories or types of balance-sheet and off-balance-sheet liabilities by their expected runoff or drawdown rates. The total expected cash inflow is calculated by multiplying outstanding contractual receivables by the rates at which they are expected to be received in the scenario, up to a cumulative 75 percent of the predicted total cash outflow.

Supervision Department in April 2014 and are being examined at the present writing, but an initial review shows that the Israeli banking system already meets the minimum requirements of the ratio and, in the aggregate, resembles the weighted average among European Union countries.[36] Notably, however, these are preliminary results and the levels shown originate in specific dispensations from the Supervisor and assumptions by the banking groups that participated in the survey. A final draft of the directive will be circulated after the survey results are fully analyzed and the banking system and others are consulted. In accordance with the schedule set forth in Basel III, the Israeli banking system is expected to implement the LCR gradually from January 2015 onward.

Examination of the composition of HQLA (High-Quality Liquid Assets)[37] indicates that the liquid assets of the domestic banking system consist almost exclusively of high-quality Level 1 assets.

Table 1.11
Selected liquidity indices, five major banking groups, 2007–13

	Year	Leumi	Hapoalim	Discount	Mizrahi-Tefahot	First International	The five groups
Ratio of liquid assets[a] to short-term liabilities[b]	2007	0.31	0.24	0.35	0.24	0.33	0.29
	2008	0.31	0.23	0.32	0.18	0.33	0.27
	2009	0.39	0.37	0.41	0.24	0.42	0.38
	2010	0.33	0.38	0.32	0.20	0.33	0.32
	2011	0.38	0.38	0.39	0.27	0.37	0.37
	2012	0.39	0.42	0.40	0.27	0.36	0.39
	2013	0.36	0.39	0.38	0.36	0.39	0.38
Ratio of liquid assets[a] to total assets	2007	0.17	0.15	0.20	0.13	0.23	0.17
	2008	0.17	0.15	0.17	0.10	0.23	0.16
	2009	0.23	0.23	0.24	0.13	0.29	0.23
	2010	0.19	0.23	0.21	0.12	0.24	0.20
	2011	0.22	0.23	0.25	0.15	0.26	0.23
	2012	0.24	0.26	0.25	0.14	0.27	0.24
	2013	0.23	0.25	0.25	0.17	0.29	0.24
Ratio of credit to the public to deposits of the public	2007	0.83	0.88	0.78	0.99	0.73	0.85
	2008	0.87	0.98	0.84	0.97	0.77	0.90
	2009	0.82	0.93	0.81	1.00	0.73	0.86
	2010	0.90	0.96	0.86	1.01	0.79	0.91
	2011	0.86	0.96	0.76	1.00	0.80	0.89
	2012	0.83	0.92	0.77	1.00	0.80	0.87
	2013	0.84	0.91	0.78	0.98	0.77	0.87

[a] Liquid assets include government bonds, as well as cash and deposits at the Bank of Israel and at banks with an original term to redemption of up to 3 months.

[b] Short-term liabilities include total deposits with an original term to redemption of up to 3 months.

SOURCE: Banking Supervision Department based on published financial statements.

36 "Report on impact assessment for liquidity measures under Article 509(1) of the CRR," EBA, December 2013.

37 Ibid.

6. MARKET RISKS

a. Interest rate risk

The five major banking groups' total exposure to interest rate risk increased in 2013 relative to previous years, in all indexation segments. Most of the groups were exposed to an interest rate increase in all segments, as in 2012.[38] The five groups' potential loss in the event of a maximum increase[39] in interest rates was 3.0 percent of fair value of capital,[40] as against 1.9 percent in 2012.[41] However, the extent of exposure to interest risk varies widely among the groups (Table 12). Even though interest risk exposures are typically smaller than those related to credit risk, the eventuation of an interest risk due to changes in interest rates is liable to result in immediate losses.

In the unindexed segment, most activity is based on floating rate interest that is indexed to the prime rate and relatively short maturities of assets and liabilities. Consequently, assets and liabilities in this segment are less sensitive to changes in interest rates than their counterparts in the CPI-indexed segment. Net positions in the unindexed segment increased in 2013[42] in most banking groups, and in many of the groups the duration of capital increased as well. Both parameters had an upward effect on the potential loss that the banking system would sustain in the event of an interest-rate change; a decline in the maximum interest rate in unindexed activity, in turn, had a slight offsetting effect. The potential loss in the unindexed segment occasioned by a maximum increase in interest rates was 1.1 percent of total fair value of system capital. This segment accounts for a large portion of total fair value of the five major banking groups' capital: 71 percent at the end of 2013, as against 66 percent a year earlier.

In the CPI-indexed segment, assets and liabilities are more sensitive to interest-rate changes than in other indexation segments, since here most assets and liabilities carry fixed interest and have medium to long terms to maturity. Net positions in the CPI-indexed segment increased in 2013 at most of the banking groups, causing potential losses in this segment to increase as well. All the banking groups were exposed to an increase in interest; the potential loss inflicted by a maximum increase in interest rates was 0.8 percent of total fair value of system capital.

In the foreign currency segment, most banking groups have been maintaining small net positions in recent years as a matter of policy. However, the ratio of the potential loss due to a maximum interest increase[43] to the net position was much higher in the foreign currency segment than in the domestic currency segments. One reason for this is that duration of capital was longer (in absolute terms) in the foreign currency segment than in the domestic currency segments among most banking groups. Notably, while a

[38] The data in the tables and the text relate to year-end; the analysis, takes developments during the year into account.

[39] The maximum change in interest rates is determined on the basis of monthly changes over the past seven years, assuming normal distribution and 99 percent significance. The calculation is also premised on the existence of a full positive correlation among interest rates in the various segments.

[40] The fair value of a bank's capital is equal to the difference between the fair value of assets and the fair value of liabilities in all indexation segments, plus the effect of futures transactions.

[41] The calculation is based on banking groups' board of directors' reports, which show how hypothetical changes in interest rates affect net fair value of the financial instruments of the bank and its consolidated firms.

[42] The net position in an indexation segment is equal to the difference between the fair value of assets and the fair value of liabilities in the segment, plus the effect of futures transactions.

[43] The exposure in the foreign currency segment is to interest rates in foreign markets.

Table 1.12

Exposure to changes in interest rates, five major banking groups, 2012 and 2013

(NIS million)

	Leumi		Hapoalim		Discount		Mizrahi-Tefahot		First International		The five groups	
	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013
Unindexed segment												
Net position in segment[a]	17,003	18,509	13,428	15,749	1,147	3,749	-612	1,090	3,997	3,973	34,963	43,070
The change in the fair value of the net position in the segment as a result of an interest rate change[b]												
1 percentage point increase	-439	-722	-26	52	-342	-358	291	220	-107	-156	-623	-964
1 percentage point decrease	485	794	81	-63	332	362	-333	-347	117	177	682	923
Maximum change in interest rates[c] (percentage points)	0.73	0.70	0.73	0.70	0.73	0.70	0.73	0.70	0.73	0.70	0.73	0.70
The change in the fair value of the net position in the segment as a result of the maximum change in the interest rate[d]												
Interest rate increase	-319	-504	-19	36	-248	-250	211	153	-78	-109	-452	-672
Interest rate decrease	352	554	59	-44	241	253	-242	-242	85	123	495	644
CPI-indexed segment												
Net position in segment[a]	1,456	3,789	5,885	6,944	1,954	123	7,029	6,447	367	819	16,691	18,122
The change in the fair value of the net position in the segment as a result of an interest rate change[b]												
1 percentage point increase	90	-81	-16	-139	-24	-93	-169	-151	-72	-71	-191	-535
1 percentage point decrease	-181	30	37	145	22	106	424	139	84	80	386	500
Maximum change in interest rates[c] (percentage points)	0.93	0.92	0.93	0.92	0.93	0.92	0.93	0.92	0.93	0.92	0.93	0.92
The change in the fair value of the net position in the segment as a result of the maximum change in the interest rate[d]												
Interest rate increase	84	-74	-15	-128	-22	-85	-157	-139	-67	-65	-178	-491
Interest rate decrease	-169	28	34	133	20	97	395	128	78	73	359	459
Foreign currency segment[e]												
Net position in segment[a]	-363	-1,845	28	-409	2,136	2,057	114	100	-253	-104	1,662	-201
The change in the fair value of the net position in the segment as a result of an interest rate change[b]												
1 percentage point increase	-130	-197	-36	-173	-310	-592	-96	-67	-15	-29	-587	-1,058
1 percentage point decrease	125	262	84	262	-38	460	131	70	21	41	323	1,095
Maximum change in interest rates[c] (percentage points)	0.63	0.65	0.63	0.65	0.63	0.65	0.63	0.65	0.63	0.65	0.63	0.65
The change in the fair value of the net position in the segment as a result of the maximum change in the interest rate[d]												
Interest rate increase	-81	-127	-23	-112	-194	-382	-60	-43	-9	-19	-367	-683
Interest rate decrease	78	169	53	169	-24	297	82	45	13	26	202	707
Total												
Total fair value of bank's total equity[f]	18,096	20,453	19,341	22,284	5,237	5,929	6,531	7,637	4,111	4,688	53,316	60,991
The change in the fair value of the bank's total equity as a result of an interest rate change[b]												
1 percentage point increase	-479	-1,000	-78	-260	-676	-1,043	26	2	-194	-256	-1,401	-2,557
1 percentage point decrease	429	1,086	202	344	316	928	222	-138	222	298	1,391	2,518
The change in the fair value of the bank's total equity as a result of the maximum change in interest rates[d] (percentage points)												
Interest rate increase	-316	-705	-56	-203	-465	-717	-6	-28	-154	-193	-997	-1,847
Interest rate decrease	262	751	146	258	238	647	235	-69	176	223	1,056	1,810
As a percent of the fair value of the bank's total equity												
Interest rate increase	-1.7	-3.4	-0.3	-0.9	-8.9	-12.1	-0.1	-0.4	-3.7	-4.1	-1.9	-3.0
Interest rate decrease	1.4	3.7	0.8	1.2	4.5	10.9	3.6	-0.9	4.3	4.8	2.0	3.0

[a] The difference between the fair value of assets and the fair value of liabilities, including the effect of futures transactions in each indexing segment.

[b] Based on published financial statements - directors report.

[c] The maximum change in the yield-to-maturity on *makam* (short term securities) for a year in the unindexed segment, on 3-year CPI-indexed bonds in the indexed segment and on the 1-year LIBOR in the foreign currency segment is derived from monthly changes over the past 7 years, on the assumption of a normal distribution and a significance level of 99 percent. We note that in calculating the maximum change in the yield-to-maturity, the redemption periods of bonds were set according to the average duration of the assets and liabilities in each segment.

[d] Based on published financial statements - directors report, and on the Banking Supervision Department's estimate of the maximum change in the interest rate. This calculation is an approximation, as it assumes linear behavior of interest rate risk.

[e] Including the foreign-currency-indexed segment.

[f] The total of net positions in the three indexing segments.

SOURCE: Banking Supervision Department based on published financial statements.

Table 1.13

Exposure to changes in the CPI and the exchange rate, the five major banking groups, December 2012 and December 2013

(NIS million)

	Leumi		Hapoalim		Discount		Mizrahi-Tefahot		First International		The five groups	
	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012	2011	2012
Unindexed segment												
Total assets (excluding futures transactions and options)	216,020	224,492	226,661	236,826	110,811	112,798	89,941	105,410	72,670	77,397	716,103	756,923
Total liabilities (excluding futures transactions and options)	177,449	179,667	202,802	210,271	100,587	102,447	92,205	102,445	63,061	63,810	636,104	658,640
Difference between assets and liabilities excluding the effect of futures transactions and options	38,571	44,825	23,859	26,555	10,224	10,351	-2,264	2,965	9,609	13,587	79,999	98,283
Difference between assets and liabilities plus effect of futures transactions and options	19,583	21,780	13,008	14,812	717	3,377	-246	1,512	3,935	3,930	36,997	45,411
The bank's total equity[a,b]	16,973	18,251	21,332	23,117	6,595	7,188	7,597	8,752	4,228	4,685	56,725	61,993
CPI-indexed segment												
Total assets (excluding futures transactions and options)	60,341	57,812	60,780	59,698	24,810	25,032	50,540	53,881	15,776	16,890	212,247	213,313
Total liabilities (excluding futures transactions and options)	55,847	56,130	50,539	46,737	20,732	20,392	35,296	37,513	15,316	16,520	177,730	177,292
Effect of futures transactions and options	-6,280	-2,441	-1,802	-4,064	-867	-3,420	-7,286	-9,125	29	490	-16,206	-18,560
Total position in the segment[c]	-1,786	-759	8,439	8,897	3,211	1,220	7,958	7,243	489	860	18,311	17,461
Maximum change in the CPI[d] (percent)	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Loss as a result of the maximum change in the CPI												
CPI increase	19	8	-	-	-	-	-	-	-	-	19	8
CPI decline	-	-	91	98	34	13	85	80	5	10	216	202
Foreign currency segment[e]												
Total assets (excluding futures transactions and options)	90,141	80,522	82,607	76,812	59,594	56,779	19,820	18,413	13,565	13,000	265,727	245,526
Total liabilities (excluding futures transactions and options)	116,233	109,114	95,375	93,211	67,301	64,582	25,205	28,994	19,406	22,272	323,520	318,173
Effect of futures transactions and options	25,268	25,822	12,653	15,807	10,374	10,394	5,270	10,578	5,645	9,167	59,210	71,768
Total position in the segment[c]	-824	-2,770	-115	-592	2,667	2,591	-115	-3	-196	-105	1,417	-879
Maximum change in the exchange rate[f] (percent)	7.0	6.9	7.0	6.9	7.0	6.9	7.0	6.9	7.0	6.9	7.0	6.9
Loss as a result of the maximum change in the exchange rate[g]												
Increase in the exchange rate (weakening of the shekel)	57	192	8	41	-	-	8	0	14	7	87	241
Decline in the exchange rate (strengthening of the shekel)	-	-	-	-	185	180	-	-	-	-	185	180
Total maximum loss to the bank's total equity as a result of indexation base risk[h]	**76**	**201**	**99**	**140**	**220**	**194**	**93**	**80**	**19**	**17**	**401**	**443**
As a percentage of the bank's total equity	0.5	1.1	0.5	0.6	3.3	2.7	1.2	0.9	0.4	0.4	0.7	0.7

[a] The difference between assets and liabilities in all segments includes the effect of futures transactions (excluding nonmonetary items), per Note 16 to the published financial statements.

[b] The bank's total equity is attributed (by definition) entirely to the unindexed segment, with the result that the nominal exposure to indexation bases occurs in the indexed segment and in the foreign currency segment.

[c] The difference between assets and liabilities in the segment includes the effect of futures transactions.

[d] The maximum change in the CPI derived from monthly changes in inflation expectations during the past 7 years, assuming a normal distribution and a significance level of 99 percent.

[e] Including foreign-currency indexed. The calculation of the banking corporations' exposure to foreign currency in this survey is based on the positions obtained from Note 16 to the financial statements. The positions presented do not take into account taxation effects, which the banking corporations may take into account when managing the exposure.

[f] The maximum change in the nominal shekel-dollar exchange rate, which is derived from monthly changes in the exchange rate over the past 7 years, assuming a normal distribution and a significance level of 99 percent.

[g] The change that will occur in the bank's position as the result of a maximum change in the shekel-dollar exchange rate.

[h] The total maximum loss as a result of indexation base risk is obtained by simple addition of the maximum losses as a result of risks in the indexed segment and the foreign currency segment, assuming that the maximum change will occur in the direction that causes the bank the maximum loss in each segment.

SOURCE: Banking Supervision Department based on published financial statements and Central Bureau of Statistics data.

strong positive correlation exists among interest rates in the domestic currency segments, the correlation between domestic currency interest and interest in markets abroad is weaker; therefore, the potential losses in this activity segment are not always aligned in intensity and direction with those in the domestic currency segments. In 2013, all the major banking groups were exposed to the risk inherent in an increase in interest; the potential loss occasioned by a maximum increase in interest was 1.1 percent of total fair value of system capital.

b. Indexation base risk

The banking system's total exposure to indexation base risk was slightly higher in 2013 than in 2012, largely because several banks increased their foreign currency positions. The potential loss brought on by maximum changes in the exchange rate and inflation[44] was NIS 443 million, 0.7 percent of the five groups' total capital (Table 1.13).

In the CPI-indexed segment, most of the large groups had asset surpluses in 2013, as in recent years, meaning that they were exposed to an unforeseen decline in the CPI. The CPI increased by 1.8 percent in 2013, approximating the average inflation expectations derived from the capital market during the year. Thus, the risk inherent in exposure to the CPI appears not to have eventuated.

In the foreign currency segment, the major banking groups' exchange rate exposure showed a mixed trend: it increased compared with the previous year in some groups and decreased in others. All major groups with the exception of Discount[45] were exposed to depreciation of the shekel because they had liability surpluses in this segment.[46] The shekel appreciated against the dollar by 7 percent in 2013, positively affecting most banking groups' profits from exchange rate differentials.

[44] The maximum change in inflation and in the exchange rate is determined on the basis of monthly changes that occurred, respectively, in inflation expectations and the nominal exchange rate of the shekel against the US dollar over the past seven years, assuming normal distribution and 99 percent significance.

[45] In 2012, Israel Discount Bank moved from negative positions in the foreign currency segment to positive positions, following a change in the accounting definition of the investment in IDB New York (as a result of the Supervisor of Banks Circular of September 14, 2012, regarding the currency of operations of representative offices operating abroad). As a result of the change, the hedging of the investment was cancelled, such that the ratio of capital to risk weighted assets would not be sensitive to changes in the exchange rate.

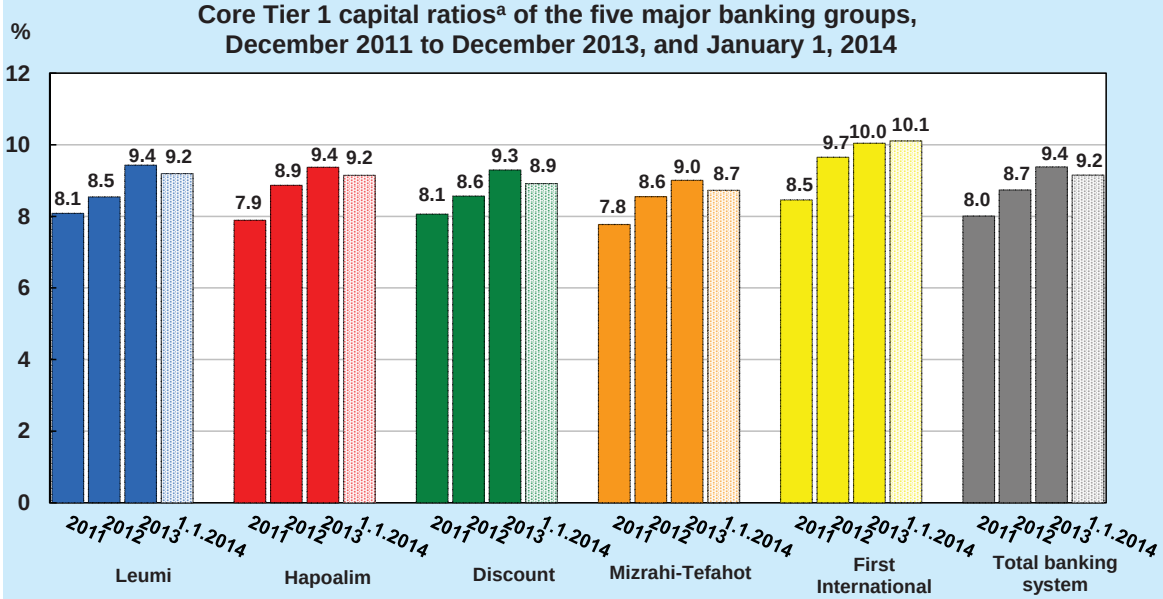
[46] The banking corporations' foreign currency exposures were calculated for this survey on the basis of the positions obtained from Note 16 to the financial statements. The positions shown below do not take into account the taxation effects that banking corporations may bear in mind when managing their exposures. Changes in the exchange rate have an impact on the effective tax rate, because exchange rate differentials between investments abroad are not taken into account in calculating the income basis for the purpose of calculating provisions for taxes, while exchange rate differentials in respect of financing sources are taken into account, resulting in the development of asymmetry in respect of exchange rate differentials. In calculating the scope of investments abroad, these changes may have a significant effect on tax provisions. Some banks hedge against tax exposure in respect of investments abroad.

7. CAPITAL ADEQUACY

In recent years, the Israeli banking system has been building up its capital as it implements the Supervisor's directives. Its core Tier 1 capital ratio has increased by 1.5 percentage points over the past four years, and it increased by 0.6 percentage points in 2013, ending the year at 9.4 percent, compared with 8.7 percent in December 2012 (Figure 1.21, Table 1.14). All banking groups increased their core Tier 1 capital in the review year, mainly due to greater retained earnings and reduced issuance of business credit, partly offset by the distribution of dividends by several banks. Credit risk assets increased by only 0.5 percent in the review year as part of a long-term trend in the composition of the assets portfolio: a decrease in business credit which is weighted at 100 percent, and an increase in credit to households, in particular for housing—activity in which the risk weighting is lower.[47] This development in the composition of assets led to an additional decline in the ratio of risk components to total components[48] (Table 1.15), although it remained high in international comparison (see below).

In recent years, Israel's banking system has been preparing for the adoption of the Basel Committee's capital adequacy recommendations (Basel III). In March 2012, the Supervisor of Banks published new targets for minimum core Tier 1 capital ratios, as follows: all banking corporations must attain a minimum

Figure 1.21
Core Tier 1 capital ratios[a] of the five major banking groups, December 2011 to December 2013, and January 1, 2014



[a] Data for 2011-2013 are in Basel II terms. Data for January 2014 are in Basel III terms, in accordance with the transition directives.

SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

[47] It should be noted that as part of the Supervisor of Banks' measures in regard to housing credit, the risk weights for some housing loans were increased. For details, see Box 1.1.

[48] Total risk components are risk-weighted total assets (balance-sheet and off-balance-sheet). Total components are total assets (balance-sheet and off-balance-sheet), without risk weighting.

core Tier 1 capital ratio of 9.0 percent by January 1, 2015; banking corporations with consolidated balance-sheet assets that are at least 20 percent of total balance-sheet assets in the banking system (Bank Leumi and Bank Hapoalim) must also attain a 10.0 percent minimum core Tier 1 capital ratio by January 1, 2017.

In June 2013, the Supervisor of Banks published directives for the implementation of Basel III regarding capital adequacy. The directives establish that all banking corporations must have a total capital ratio of 12.5 percent, and those required to meet a core Tier 1 capital ratio of 10 percent must hold total capital of 13.5 percent. The deadlines for meeting the total capital ratio requirement corresponds to the deadline for meeting the requirement relating to the core Tier 1 capital ratio (January 1, 2015, and January 1, 2017, respectively). Apart from total regulatory capital targets, fitness criteria were set for capital instruments classified as additional Tier 1 capital and as Tier 2 capital, as well as criteria for the classification of common shares in Tier 1 equity. In addition, adjustments to and deductions from supervisory capital were redefined, including reference to the handling of deferred taxes, minority interests, group credit loss allowances, and capital allocations for CVA (credit valuation adjustment) losses. Implementation of the directives was set for January 1, 2014. Importantly, by adopting the Basel III framework and setting the aforementioned deadlines as it did, the Banking Supervision Department established a conservative policy relative to the Basel III recommendations, due to the specific characteristics of the Israeli economy and the importance of the banks in Israel for the system at large.

Since January 1, 2014, the banks have been implementing the new Basel III framework directives in accordance with transitional provisions included in the directives. In the course of the transition, the banking system's core Tier 1 capital ratio declined by 0.2 percentage points. This ratio—called the Common Equity Tier 1 capital ratio in the new directives—was 9.2 percent on January 1, 2014 (Table 16). Pursuant to the adoption of the Basel III framework, two banking corporations are still below the common equity Tier 1 capital target of 9.0 percent.

In addition, the Supervisor of Banks intends to adopt new recommendations from the Basel Committee concerning capital assignments for credit exposures to central counterparties. At the present writing, the Banking Supervision Department is preparing to carry out a Quantitative Impact Study (QIS) of the effects of the capital adequacy recommendations on the banking system.

An international comparison indicates that the core capital ratios of Israel's banks are low by the standards of banking systems in other OECD countries. In this context, however, it is important to stress that Israel determines capital allocations for credit risks on the basis of the more conservative standard approach, as opposed to less conservative advanced approaches. The differences in approaches affect the weighting of risk assets and create discrepancies among banking systems in their ratios of risk assets to total assets (Figure 1.22). As the standard approach generally gives credit risk assets higher weights than the advanced approaches do, its use is expected to yield lower core Tier 1 capital ratios.[49] Given the limitations inherent in the use of weighted risk assets, Basel III emphasizes additional indicators for examination of the level and quality of capital, such as the leverage ratio. Therefore, when comparing Israel's banks with peers

[49] Abroad, a far-reaching debate has been taking place about the consistency of the approaches that banks use to weight their risk assets. Various institutions, including the BIS (Bank for International Settlements) and EBA (the European Banking Authority) have comprehensively tested the determinants of the interbank discrepancies in regard to risk assets. Their inquiry shows that some of the discrepancies originate in differences in the composition of assets and the banks' exposure to risks. There are, however, additional factors that affect risk assets, including inconsistency in applying advanced approaches toward capital allocation and differences in regulatory environments, such as the use of different approaches in the estimation of risk assets.

Table 1.14

Distribution of capital and capital ratios at the five major banking groups, December 2012 and December 2013

	Leumi		Hapoalim		Discount		Mizrahi-Tefahot		First International		Five groups	
	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013
	(NIS million)											
Equity[a]	25,228	26,765	27,057	29,310	12,134	12,538	9,252	10,335	6,772	7,120	80,443	86,068
Core capital[b]	24,312	26,263	26,323	28,421	10,814	11,499	9,145	10,217	6,516	6,852	77,110	83,252
Tier 1 capital[b]	24,312	26,263	28,745	30,890	12,562	13,282	9,145	10,217	6,516	6,852	81,280	87,504
Tier 2 capital[b]	17,978	15,007	17,801	16,341	6,862	5,663	5,129	4,569	3,573	3,357	51,343	44,937
Tier 3 capital[b]	-	-	-	-	-	-	-	-	-	-	-	-
Total capital base	42,290	41,270	46,546	47,231	19,424	18,945	14,274	14,786	10,089	10,209	132,623	132,441
	(NIS million)											
Total balance sheet	376,160	374,360	376,388	380,246	201,012	200,507	162,242	179,613	105,685	111,103	1,221,487	1,245,829
Total exposure[c]	475,306	477,704	538,207	548,971	253,310	251,632	213,575	233,836	132,116	137,971	1,612,514	1,650,114
Credit risk	253,895	247,548	269,948	276,763	120,686	117,138	98,736	105,411	59,734	60,461	802,999	807,321
Market risks	9,710	10,510	5,557	4,748	2,238	2,588	1,119	842	1,168	1,351	19,792	20,039
Operational risk	20,841	20,426	21,302	21,769	12,788	12,217	7,093	7,154	6,619	6,423	68,643	67,989
Total risk-weighted assets	284,446	278,484	296,807	303,280	135,712	131,943	106,948	113,407	67,521	68,235	891,434	895,349
	(Percent)											
Ratio of core capital to total exposure	5.1	5.5	4.9	5.2	4.3	4.6	4.3	4.4	4.9	5.0	4.8	5.0
Core tier 1 capital[d] ratio	**8.5**	**9.4**	**8.9**	**9.4**	**8.6**	**9.3**	**8.6**	**9.0**	**9.7**	**10.0**	**8.7**	**9.4**
Tier 1 capital ratio	8.5	9.4	9.7	10.2	9.3	10.1	8.6	9.0	9.7	10.0	9.1	9.8
Tier 2 capital ratio	6.3	5.4	6.0	5.4	5.1	4.3	4.8	4.0	5.3	4.9	5.8	5.0
Total capital ratio	**14.9**	**14.8**	**15.7**	**15.6**	**14.3**	**14.4**	**13.3**	**13.0**	**14.9**	**15.0**	**14.9**	**14.8**

[a] Including minority interest in accordance with the group's balance sheet.

[b] After deductions.

[c] Balance-sheet and off-balance-sheet balances after balance-sheet and off-balance-sheet offsets, after allowance for credit losses and excluding the effect of credit conversion coefficients and risk-weighting coefficients as defined in Basel II.

[d] The core tier 1 capital ratio of the Discount group does not include the deduction in respect of the group's investment in First International.

SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

Table 1.15
Main capital indices of the five major banking groups, December 2007 to December 2013
(percent)

	Year	Leumi	Hapoalim	Discount	Mizrahi-Tefahot	First International	Five Groups
Ratio of total risk-weighted assets to total assets[a]	2007	68.97	72.76	61.88	68.16	58.81	68.03
	2008	69.46	72.28	64.83	66.87	59.09	68.32
	2009[b]	64.17	67.88	60.56	67.15	54.44	64.12
	2009[c]	67.00	69.20	63.30	59.60	56.20	65.20
	2010	68.30	68.68	67.23	58.69	61.00	66.42
	2011	67.67	67.32	60.45	58.26	60.02	64.59
	2012	65.67	64.83	61.27	58.03	57.69	63.05
	2013	65.94	65.26	59.70	57.26	56.74	62.75
Impaired loans and unimpaired loans more than 90 days past due, net, to capital	2010[d]	18.19	30.49	41.70	18.89	11.00	25.32
	2011	17.10	21.92	37.86	18.31	7.51	21.18
	2012	18.15	20.41	33.22	18.70	9.05	20.48
	2013	12.42	17.94	17.40	10.26	6.69	14.19
Core tier 1 capital ratio	2009	8.33	7.66	6.99	8.01	9.16	7.91
	2010	8.43	8.04	7.60	7.91	8.04	7.99
	2011	8.08	7.89	8.07	7.77	8.46	8.01
	2012	8.55	8.87	8.57	8.55	9.65	8.74
	2013	9.43	9.37	9.30	9.01	10.04	9.38
	1.1.2014[e]	9.20	9.15	8.92	8.73	10.11	9.15
Equity to total balance-sheet assets (leverage ratio)	2009	6.79	6.65	5.32	5.52	5.90	6.25
	2010	7.19	7.13	6.01	5.62	6.12	6.67
	2011	6.46	6.76	5.44	5.36	5.93	6.19
	2012	6.71	7.19	6.04	5.70	6.41	6.59
	2013	7.15	7.71	6.25	5.75	6.41	6.91

[a] Total risk components are the total assets (balance sheet and off-balance-sheet), weighted by risk weights. Total components are the total assets (balance sheet and off-balance-sheet), without risk weighting.
[b] The ratio is calculated in accordance with Basel I rules.
[c] The ratio is calculated in accordance with Basel II rules. The risk components are calculated after reducing credit risk mitigation (CRM).
[d] The data are calculated to January 1, 2011 (following the implementation of the directive for the measuring and disclosure of impaired debt, credit risk and credit loss allowance).
[e] The data for January 1, 2014 are in Basel III terms, in accordance with the transition directives (Common Equity Tier 1 capital to risk assets).
SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

Table 1.16

Capital and risk assets according to Basel II and Basel III, five major banking groups, December 2013 and January 2014

	Leumi		Hapoalim		Discount[a]		Mizrahi-Tefahot		First International		Five groups	
	Basel II Dec 31, 2013	Basel III Jan 1, 2014	Basel II Dec 31, 2013	Basel III Jan 1, 2014	Basel II Dec 31, 2013	Basel III Jan 1, 2014	Basel II Dec 31, 2013	Basel III Jan 1, 2014	Basel II Dec 31, 2013	Basel III Jan 1, 2014	Basel II Dec 31, 2013	Basel III Jan 1, 2014
	(NIS million)											
Core Tier 1 capital/Common Equity Tier 1 capital	26,263	26,420	28,421	29,223	12,266	12,364	10,217	10,206	6,852	7,129	84,019	85,342
Total capital	41,270	40,757	47,231	46,874	18,945	19,624	14,786	15,056	10,209	10,425	132,441	132,736
Risk assets	278,484	287,048	303,280	319,331	131,943	138,541	113,407	116,913	68,235	70,508	895,349	932,341
Core Tier 1 capital/Common Equity Tier 1 capital ratio	**9.4**	**9.2**	**9.4**	**9.2**	**9.3**	**8.9**	**9.0**	**8.7**	**10.0**	**10.1**	**9.4**	**9.2**
Total capital to risk assets	14.8	14.2	15.6	14.7	14.4	14.2	13.0	12.9	15.0	14.8	14.8	14.2

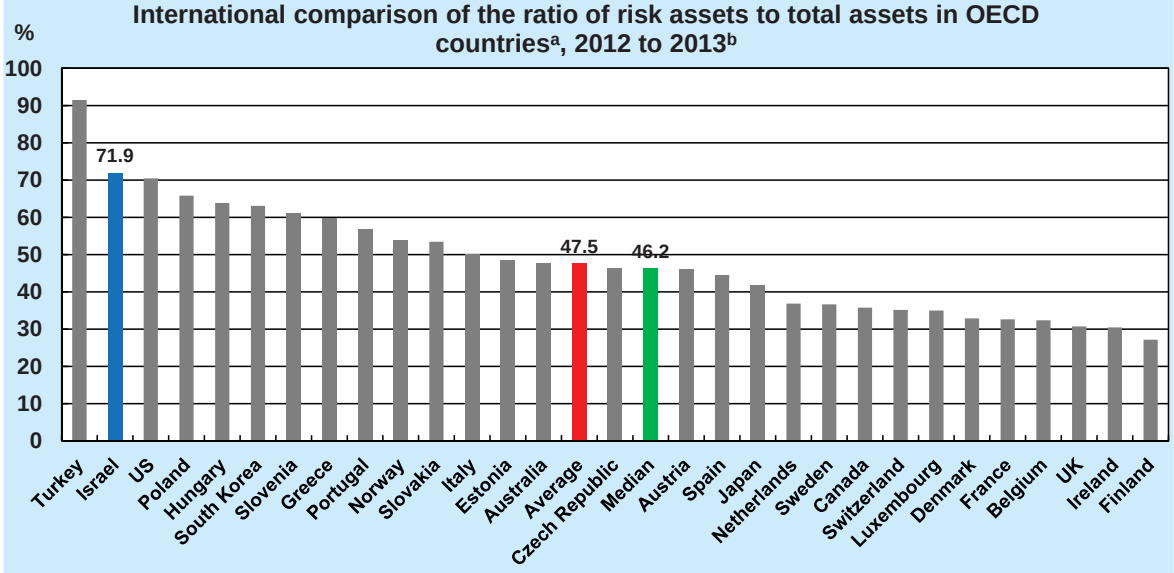
[a] The core capital and core capital ratio of Discount Group for December 2013 do not include the deduction in respect of the group's investment in First International Bank.

SOURCE: Published financial statements.

abroad in terms of capital, it can be seen that even though the domestic banking system has a low Tier 1 capital ratio, its leverage ratio is high (Figure 1.23).[50]

The ability of a bank's capital to absorb expected losses is reflected in the ratio of impaired credit plus net unimpaired 90+ day past-due credit to total equity. A low ratio indicates that capital is well able to absorb expected losses. The ratio of the banking system in Israel continued to decline in 2013 (Table 1.15) and appears to approximate the median of other banking systems in the OECD (Figure 1.24).

Figure 1.22
International comparison of the ratio of risk assets to total assets in OECD countries[a], 2012 to 2013[b]

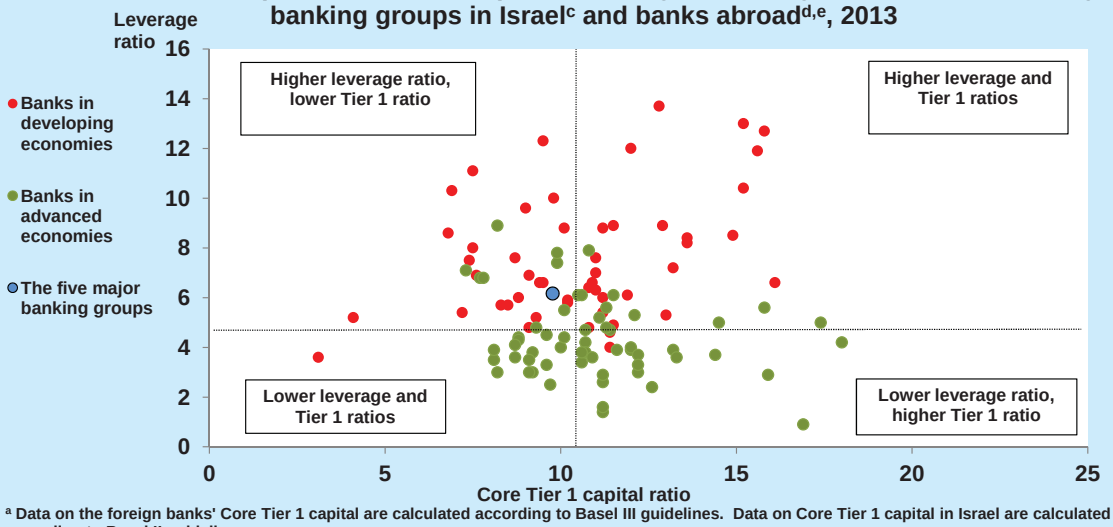


[a] Germany, Chile, Mexico, New Zealand and Iceland were excluded due to a lack of data.
[b] Data for the UK as of June 2012. Data for Switzerland as of December 2012. Data for Japan and South Korea as of March 2013. Data for Italy, France, Spain and Poland are accurate as of June 2013. Data for Austria, Denmark, Slovenia, Portugal, Greece, Netherlands, the US, Canada, Slovakia, Ireland, Sweden, Turkey, Finland, Hungary and the Czech Republic are accurate as of September 2013. Data for Estonia, Luxembourg, Norway, Australia, and Israel are accurate as of December 2013.

SOURCE: Foreign countries–International Monetary Fund; Israel–Based on published financial statements.

[50] The ratio of equity to total assets after goodwill, intangible assets, and deferred taxes are subtracted from capital and assets.

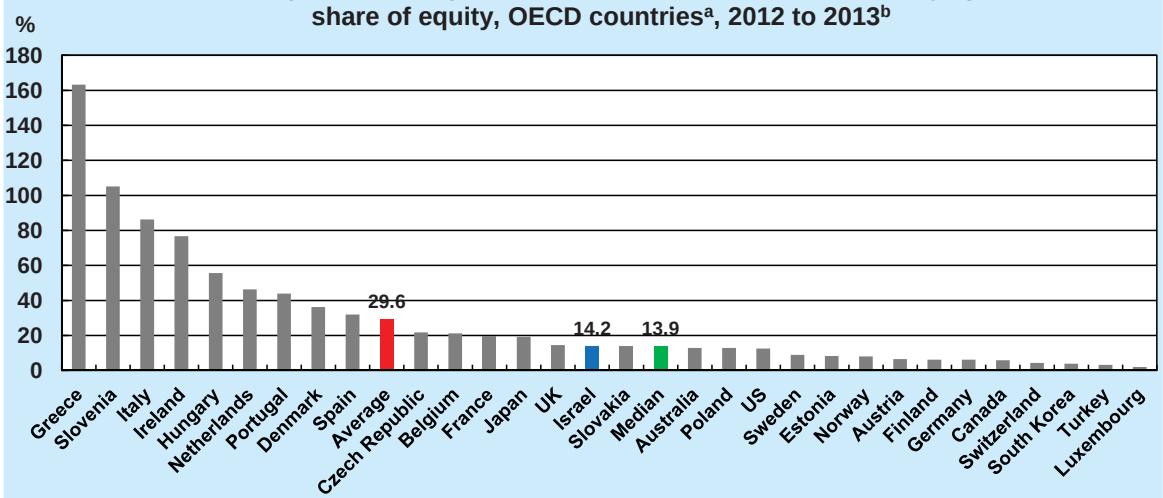
Figure 1.23
International comparison of Tier 1 capital[a] and tangible leverage ratios[b] of the five major banking groups in Israel[c] and banks abroad[d,e], 2013



[a] Data on the foreign banks' Core Tier 1 capital are calculated according to Basel III guidelines. Data on Core Tier 1 capital in Israel are calculated according to Basel II guidelines.
[b] The tangible leverage ratio is calculated as the ratio of equity to total assets. Goodwill, intangible assets and deferred taxes are deducted from equity and from assets.
[c] The figure for Israel includes the five major banking groups.
[d] The sample includes 113 large banks, and each bank has systemic importance in the country in which it is located.
[e] The countries included in the advanced economies category are: Australia, Hong Kong, Japan, South Korea, Singapore, Austria, Belgium, France, German, Italy, Ireland, Netherlands, Spain, Canada, the US, Denmark, Norway, Sweden, Switzerland and the UK. The countries included in the developing economoies category are: China, India, Russia, Turkey, Brazil, and Mexico.

SOURCE: International Monetary Fund Global Financial Stability Report (October 2013); Israel–based on published financial statements.

Figure 1.24
International comparison of impaired loans and loans more than 90 days past due as a share of equity, OECD countries[a], 2012 to 2013[b]



[a] Australia, Luxembourg, New Zealand and Iceland were excluded due to a lack of data. Mexico and Chile were removed due to outlier data.
[b] Data for the UK as of June 2012. Data for Switzerland as of December 2012. Data for Japan and South Korea are accurate as of March 2013. Data for Italy, France, Spain and Poland are accurate as of June 2013. Data for Austria, Denmark, Slovenia, Portugal, Greece, Netherlands, the US, Finland, Canada, Germany, Slovakia, Ireland, Sweden, Turkey, Hungary and the Czech Republic are as of September 2013. Data for Estonia, Norway and Israel are as of December 2013.

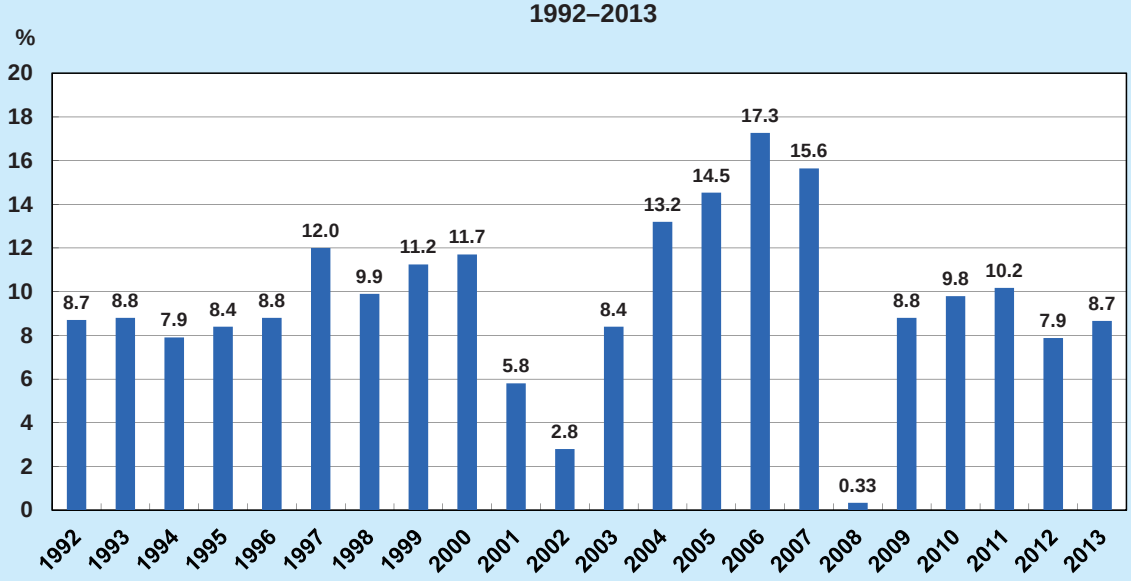
SOURCE: Foreign countries–International Monetary Fund; Israel–Based on published financial statements.

8. FINANCIAL RESULTS

a. Profits and profitability

Total net profit of the five major banking groups was NIS 7 billion in 2013, an increase of 19 percent from 2012. Return on equity was 8.7 percent, slightly below the long-term average (9.7 percent).[51] The increase in aggregate profits in 2013 followed a steep 15.4 percent decline a year earlier, and it does not reflect an improvement in the groups' business environment and business activity but rather, and mainly, specific developments during 2012 and 2013.[52] The increase in aggregate profits was reflected more clearly in the return on assets, which increased to roughly the average over the past decade (0.57 percent) as against 0.49 percent a year earlier (Table 17).

Figure 1.25
Return on Equity (ROE), after tax, of the five major banking groups, 1992–2013



SOURCE: Based on published financial statements.

Profits and profitability increased in 2013 despite the moderation of economic activity and the decline in the GDP growth rate, and notwithstanding the reduction in the Bank of Israel interest rate[53] and its low level. Though these developments do not explain changes in profits and profitability, they served as a basis for the creation of the profits and presented the banking groups with two challenges: reduction of business

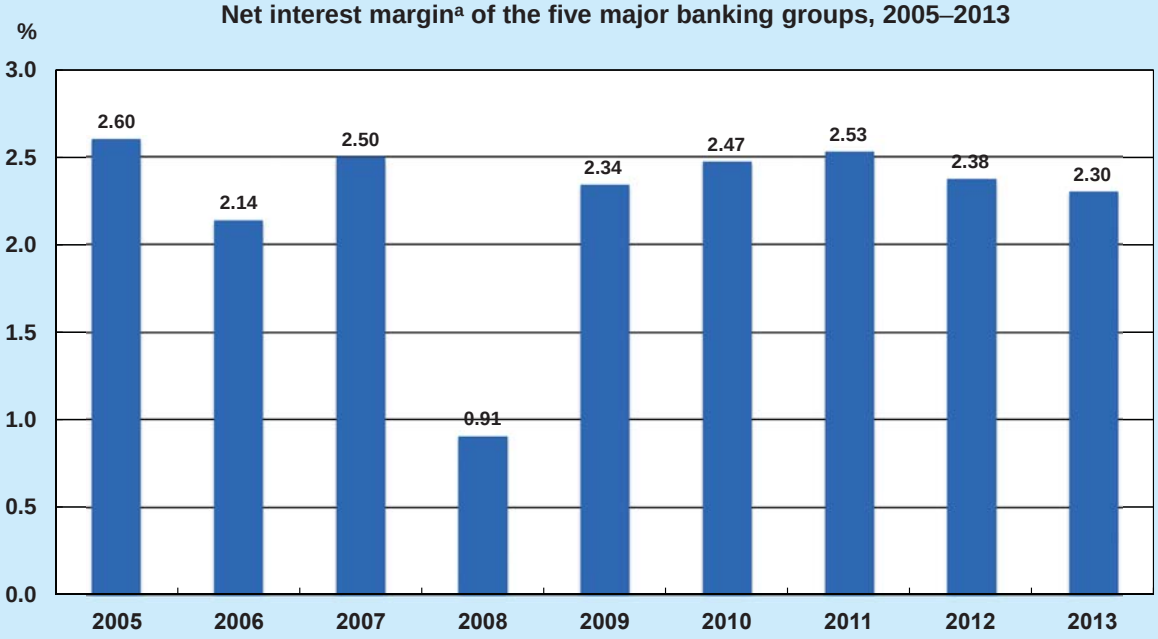
[51] The increase in ROE was more moderate in 2013 than in 2012 because the groups continued to increase their equity in order to meet the Supervisor's new capital targets.

[52] In 2012, the Leumi group sharply boosted its individual allowance for credit loss because several customers' condition deteriorated.

[53] The Bank of Israel interest rate was reduced this year in three ticks of 0.25 percentage point each (0.75 percentage points altogether); the rate ended the year at 1 percent.

opportunities in classic financial intermediation (issuing credit and taking deposits) in the business sector, and pressure toward the erosion of the net interest margin.[54] The first of these challenges was characterized by the slackening of demand for business bank credit and the continued growth of private banking activity (particularly in housing credit) and the diversion of assets to the capital market. The second challenge was marked by a moderate decline in net total interest margin, from 2.38 percent in 2012 to 2.30 percent in the review year (Figure 1.26) amid a milder decline in net interest income (around 1 percent). These decreases probably would have been more significant had the interest spread[55] in classic financial intermediation (issuing credit and taking deposits from the public) not widened (Table 1.18).

Figure 1.26
Net interest margin[a] of the five major banking groups, 2005–2013



[a] Net interest income to average interest-earning assets.
SOURCE: Based on published financial statements.

In addition to these factors, the groups' business results were favorably affected by developments in the bond and equity markets, foremost large-scale sales in the available-for-sale securities portfolio.

An examination of how these developments influenced each component of profit indicates that a slump in net interest income was partly offset by a growth in the credit-to-individuals portfolio—even though housing credit is typified by smaller interest spreads and even though the Bank of Israel rate was reduced during the year. The improvement in capital market returns in 2013, together with the growth of the securities portfolio, had an upward effect on noninterest financing income—partly through mark to market

[54] The net interest margin is the ratio of net interest income to net interest-bearing assets, expressed in percent.
[55] The interest spread is the difference (in percentage points) between the interest charged for credit and the interest paid on deposits.

adjustments but mainly by the sale of bonds and shares. On the operating end, the banking corporations' profits were affected by an increase in salaries and related expenses and stability in fee income.

(1) Net interest income declined slightly in 2013 by 1 percent, to NIS 25.2 billion (Table 1.17). The decline derived from the reduction of the Bank of Israel interest rate and occurred despite an increase in net interest income from classic intermediation activity—issuing credit and taking deposits. This increase was impacted by the net quantity effect and the net price effect (Table 1.19), which was reflected in a slight widening of interest rate spreads, from 3.29 percentage points in 2012 to 3.40 in the review year (Table 1.18). The spread widened despite the increase in the housing loan portfolio, which is marked by narrow interest margins, and despite the reduction in the Bank of Israel interest rate which reached a low level. It happened because the interest rate paid on the public's deposits eroded more severely (by 0.52 percentage point) than the rate charged for credit (0.41 percentage points)—for reasons including ample supply of sources. The effect of credit and deposit activity abroad was negative on both the quantity and the price sides, offsetting some of the positive contribution of domestic activity.

Net interest income was also negatively affected by the decline in interest income from activity in bonds and deposits with commercial banks. The main factor, however, was a NIS 900 million downturn in interest income on deposits with central banks (Table 1.18).

(2) Loan loss provisions declined steeply during the year, to NIS 2.1 billion (as against NIS 3.6 billion in 2012), despite a sharp increase in provisions in respect of housing credit (for reasons including the Supervisor's instruction, in February, to increase the group allowance for credit losses in this sector). The main reason was an abrupt decline in provisions for the financial services industry, which required a large loan loss provisions in 2012. The share of the allowance for credit loss out of total credit declined from 0.41 percent in 2012 to 0.25 percent in 2013; the indicator value ranged between 0.11 percent and 0.49 percent (Table 1.9).

(3) Noninterest income was greater in 2013 than in previous years: up by 8 percent, making a positive contribution to net profit (Table 17). Most of the growth came from sales of available-for-sale shares; and the level of noninterest income was high, stemming *inter alia* from sales of bonds from the available-for-sale portfolio in large sums (NIS 1.3 billion), though those bond sales were slightly smaller than in 2012. Other revenue from capital market activity was basically unchanged from 2012 (Table 17). Fees income edged upward by 0.5 percent even though fee income from banking services declined by 0.7 percent—the first decrease since 2009, occasioned chiefly by a 2 percent contraction in account management and credit services and contracts income (5 percent). Financing transaction fees surged by 10 percent (Table 1.20)—mainly due to the ongoing vigorous increase in homebuyers' guarantees.

(4) Total operating and other expenses increased slightly, by about 1.3 percent, to NIS 29.7 billion (Table 1.20) as growth in salaries and related expenses (3.2 percent) were somewhat offset by declines in salary expenses at overseas offices and in expenses related to voluntary severance.[56] Salary and related expenses increased despite the second straight year of downturn in employee posts (720 posts eliminated), reflecting an increase of 4.8 percent in cost per post (Table 1.21). Segmentation of headcount by salary

[56] The banking system's voluntary severance expenses spiraled in 2012, their share in total wage and related expenses ending the year at 1.9 percent as against 0.2 percent in 2011 and 0.4 percent in 2013. The spike in 2012 traced to the implementation of efficiency plans comprised of changes in organizational structure and headcount, including early retirement.

Table 1.17

Main items in consolidated profit and loss statements of the five major banking groups, 2011–13

(NIS millon, at current prices)

	Leumi				Hapoalim				Discount			
	2011	2012	2013	% change in 2013 compared with 2012	2011	2012	2013	% change in 2013 compared with 2012	2011	2012	2013	% change in 2013 compared with 2012
Interest income	14,283	13,507	12,134	-10.2	14,793	14,346	12,961	-9.7	8,413	7,847	6,822	-13.1
Interest expenses	7,176	6,099	4,777	-21.7	6,696	6,186	5,018	-18.9	3,796	3,388	2,572	-24.1
Net interest income	**7,107**	**7,408**	**7,357**	**-0.7**	**8,097**	**8,160**	**7,943**	**-2.7**	**4,617**	**4,459**	**4,250**	**-4.7**
Loan loss provisions	734	1,236	268	-78.3	1,202	987	874	-11.4	778	726	580	-20.1
Net interest income after loan loss provisions	**6,373**	**6,172**	**7,089**	**14.9**	**6,895**	**7,173**	**7,069**	**-1.4**	**3,839**	**3,733**	**3,670**	**-1.7**
Noninterest income	**4,175**	**4,774**	**5,517**	**15.6**	**4,991**	**5,477**	**5,721**	**4.5**	**2,937**	**3,257**	**3,519**	**8**
of which: Noninterest financing income	11	444	1,127	153.8	-213	255	480	88.2	98	352	632	79.5
of which: stocks	-12	0	669		55	90	140	55.6	141	80	137	71.3
bonds	441	520	155	-70.2	136	347	469	35.2	143	341	400	17.3
activity in derivative instruments	1,064	-673	-1,376		384	-315	-949		-156	-333	-577	
exchange rate differentials	-1,482	597	1,580	164.7	-799	114	818		-76	265	642	142.3
of which: Fees	4,116	4,199	4,188	-0.3	5,098	5,105	5,115	0.2	2,670	2,685	2,704	0.7
Total operating and other expenses	**8,341**	**9,100**	**8,933**	**-1.8**	**8,365**	**8,825**	**8,965**	**1.6**	**5,845**	**5,826**	**6,018**	**3.3**
of which: salaries and related expenses	5,061	5,290	5,174	-2.2	4,759	5,012	5,310	5.9	3,466	3,444	3,619	5.1
Pre-tax profit	**2,207**	**1,846**	**3,673**	**99.0**	**3,521**	**3,825**	**3,825**	**0.0**	**931**	**1,164**	**1,171**	**0.6**
Income tax provision	418	811	1,391	71.5	809	1,254	1,298	3.5	114	407	305	-25.1
After tax profit	**1,789**	**1,035**	**2,282**	**120.5**	**2,712**	**2,571**	**2,527**	**-1.7**	**817**	**757**	**866**	**14.4**
Net income attributed to shareholders	**1,891**	**931**	**1,947**	**109.1**	**2,746**	**2,543**	**2,580**	**1.5**	**847**	**802**	**874**	**9.0**
Capital for calculating ROE[a]	22,866	24,436	25,652	5.0	22,883	25,178	27,742	10.2	10,329	11,296	11,973	9.4
Total ROE (percent)	**8.27**	**3.81**	**7.59**		**12.00**	**10.10**	**9.30**		**8.20**	**7.10**	**7.30**	
Total ROA (percent)	**0.55**	**0.25**	**0.52**		**0.81**	**0.69**	**0.68**		**0.44**	**0.40**	**0.44**	
Net interest margin (percent)[b]	**2.35**	**2.27**	**2.24**		**2.76**	**2.43**	**2.52**		**2.67**	**2.43**	**2.39**	

Table 1.17 continued

Main items in consolidated profit and loss statements of the five major banking groups, 2010–12

(NIS millon, at current prices)

	Mizrahi-Tefahot				First International				Total for all groups			
	2011	2012	2013	% change in 2013 compared with 2012	2011	2012	2013	% change in 2013 compared with 2012	2011	2012	2013	% change in 2013 compared with 2012
Interest income	6,840	6,591	6,442	-2.3	4,096	3,787	3,322	-12.3	48,425	46,078	41,681	-9.5
Interest expenses	3,741	3,377	2,978	-11.8	1,919	1,537	1,135	-26.2	23,328	20,587	16,480	-19.9
Net interest income	**3,099**	**3,214**	**3,464**	**7.8**	**2,177**	**2,250**	**2,187**	**-2.8**	**25,097**	**25,491**	**25,201**	**-1.1**
Expenses in respect of credit losses	338	276	288	4.3	93	134	97	-27.6	3,145	3,359	2,107	-37.3
Net interest income after credit loss expenses	**2,761**	**2,938**	**3,176**	**8.1**	**2,084**	**2,116**	**2,090**	**-1.2**	**21,952**	**22,132**	**23,094**	**4.3**
Income not from interest	**1,509**	**1,573**	**1,499**	**-4.7**	**1,392**	**1,547**	**1,682**	**8.7**	**15,004**	**16,628**	**17,938**	**7.9**
of which: Financing expenses not from interest	18	95	14	-85.3	-94	150	200	33.3	-180	1,296	2,453	89.3
of which: shares	6	29	-1		-33	38	85	123.7	157	237	1,030	334.6
bonds	18	149	89	-40.3	131	164	174	6.1	869	1,521	1,287	-15.4
activity in derivative instruments	397	-62	-599		59	-50	-566		1,748	-1,433	-4,067	
exchange rate differentials	-409	-21	525		-251	-2	507		-3,017	953	4,072	
of which: fees	1,474	1,452	1,458	0.4	1,447	1,362	1,418	4.1	14,805	14,803	14,883	0.5
Total operating and other expenses	**2,667**	**2,786**	**2,957**	**6.1**	**2,816**	**2,791**	**2,825**	**1.2**	**28,034**	**29,328**	**29,698**	**1.3**
of which: salaries and related expenses	1,615	1,701	1,836	7.9	1,630	1,633	1,687	3.3	16,531	17,080	17,626	3.2
Before tax profit	**1,603**	**1,725**	**1,718**	**-0.4**	**660**	**872**	**947**	**8.6**	**8,922**	**9,432**	**11,334**	**20.2**
Deduction for tax on profits	522	599	592	-1.2	216	324	386	19.1	2,079	3,395	3,972	17.0
After tax profit	**1,081**	**1,126**	**1,126**	**0.0**	**444**	**548**	**561**	**2.4**	**6,843**	**6,037**	**7,362**	**21.9**
Net profit attributed to shareholders	**1,044**	**1,076**	**1,078**	**0.2**	**480**	**577**	**570**	**-1.2**	**7,008**	**5,929**	**7,049**	**18.9**
Capital for calculating ROE[a]	7,151	8,214	9,374	14.1	5,647	6,074	6,628	9.1	68,876	75,197	81,369	8.2
Total ROE (percent)	**14.60**	**13.10**	**11.5**		**8.50**	**9.50**	**8.60**		**10.18**	**7.89**	**8.66**	
Total ROA (percent)	**0.74**	**0.69**	**0.63**		**0.47**	**0.56**	**0.53**		**0.62**	**0.49**	**0.57**	
Net interest margin (percent)[b]	**2.28**	**2.16**	**2.16**		**2.51**	**2.48**	**2.38**		**2.53**	**2.38**	**2.30**	

[a] Capital for the purpose of calculating total ROE includes total capital resources minus the average balance of minority interest minus/plus the average balance of losses/profits that have yet to be realized from reconciliations to fair value of bonds for trading and losses/profits in respect of bonds available for sale, which includes shareholders equity.

[b] Net interest income to total assets that generate financing revenue.

SOURCE: Banking Supervision Department based on published financial statements.

Table 1.18
Average balances, income and expense rates, and interest rate gap in respect of assets and liabilities (NIS million, percent) the five major banking groups, 2013 and 2012

2013

Assets				Liabilities				
	Average yearly balance (NIS million)	Interest income	Income rate (%)		Average yearly balance (NIS million)	Interest expenses	Expense rate (%)	Interest rate gap
Credit to the public	780,582	36,337	4.66	Deposits of the public	820,429	-10,344	-1.26	3.40
Deposits at banks	23,840	264	1.11	Deposits from banks	16,272	-262	-1.61	-0.50
Deposits at central banks	104,461	1,091	1.04	Deposits from central banks	5	-	0	1.04
Bonds activity	177,587	3,799	2.14	Bonds	95,174	-5,576	-5.86	-3.72
Other assets[a]	8,199	190	2.32	Other liabilities[a]	10,111	-298	-2.95	-0.63
Total interest-bearing assets	1,094,669	41,681	3.81	Total interest-bearing liabilities	941,991	-16,480	-1.75	2.06
Net yield on interest-bearing assets (net interest margin)[b]	1,094,669	25,201	2.30					

2012

Assets				Liabilities				
	Average yearly balance (NIS million)	Interest income	Income rate		Average yearly balance (NIS million)	Interest expenses	Expense rate	Interest rate gap
Credit to the public	772,922	39,167	5.07	Deposits of the public	810,490	-14,425	-1.78	3.29
Deposits at banks	25,337	335	1.32	Deposits from banks	17,967	-444	-2.47	-1.15
Deposits at central banks	109,604	1,986	1.81	Deposits from central banks	-	-	-	1.81
Bonds activity	156,076	4,357	2.79	Bonds	94,658	-5,298	-5.60	-2.81
Other assets[a]	8,327	233	2.80	Other liabilities[a]	13,580	-420	-3.09	-0.29
Total interest-bearing assets	1,072,266	46,078	4.30	Total interest-bearing liabilities	936,695	-20,587	-2.20	2.10
Net yield on interest-bearing assets (net interest margin)[b]	1,072,266	25,491	2.38					

[a] Other liabilities and assets also include credit to the government and government deposits, and securities loaned or borrowed in repurchase agreements, among other things.

[b] The net interest margin is the ratio between net interest income and total interest-bearing assets. The spread is shown in percent.

SOURCE: Banking Supervision Department based on published financial statements.

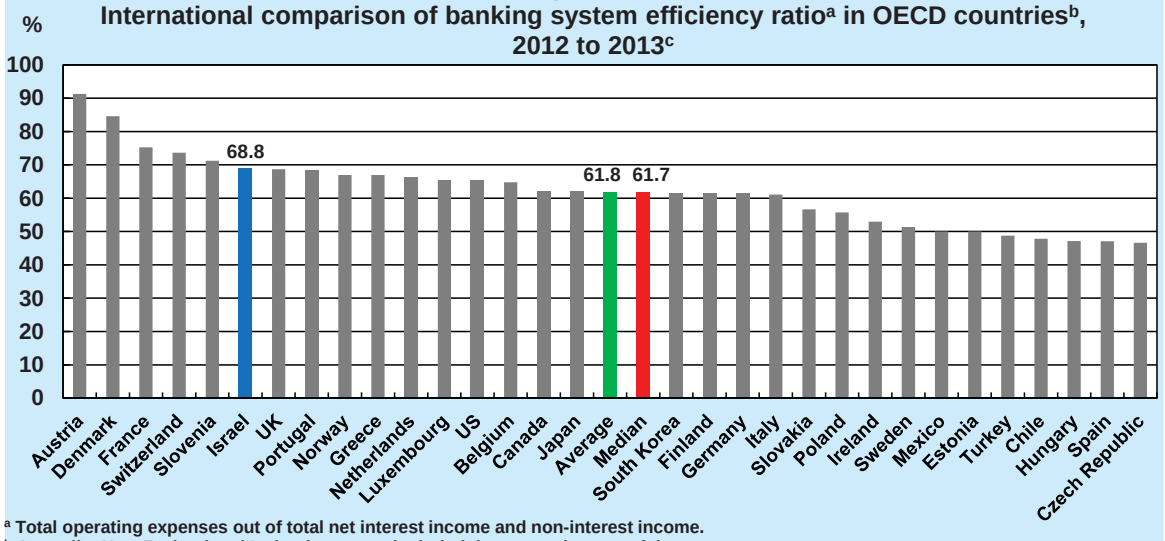
levels indicates that the decline in posts in 2013 occurred at low wage levels and in temporary posts and was partly offset by the creation of more posts that paid medium and high wages (Table 1.22).

b. Operating efficiency

The operating efficiency ratio,[57] of the five groups improved slightly in 2013, to 68.8 percent as against 69.6 percent a year earlier. The improvement in this ratio, like the trend in net profit, does not necessarily reflect an improvement in the groups' business activity; it originates in specific developments in the past two years. Most of the groups posted a small increase or stability in efficiency. **Average cost**[58] which is less affected by the groups' business results in a given year improved at most of the banking groups: the aggregate ratio fell from 2.45 percent in 2012 to 2.41 percent in the review year (Table 1.23).

The operating efficiency ratio and the share of total salary expenses in total operating and other expenses levels in 2012–13 indicate clearly that banking systems in other OECD countries surpass the Israeli system in operating efficiency. The average operating efficiency ratio among OECD countries was 61.8 percent in the review period (Figure 1.27) and wage expenditure out of total expenditure was 46 percent, as against 59.4 percent in Israel (Figure 1.28).

Figure 1.27
International comparison of banking system efficiency ratio[a] in OECD countries[b], 2012 to 2013[c]



[a] Total operating expenses out of total net interest income and non-interest income.
[b] Australia, New Zealand and Iceland were not included due to an absence of data.
[c] Data for the UK are as of June 2012. Data for Japan and South Korea are as of March 2013. Data for Italy, France, Spain and Poland are as of June 2013. Data for Austria, Denmark, Slovenia, Portugal, Greece, Netherlands, the US, Finland, Canada, Germany, Slovakia, Ireland, Sweden, Turkey, Hungary and the Czech Republic are as of September 2013. Data for Estonia, Luxembourg, Norway, Chile, Mexico and Israel are as of December 2013.

SOURCE: Foreign countries–IMF; Israel–based on published financial statements.

[57] The ratio of total operating and other expenses to total net interest income and noninterest income (cost to income).
[58] The ratio of total operating and other expenses to the average balance of assets.

Table 1.19

The effect of quantity[a] and price[b] on interest income and expenses
Israel and abroad, the five major banking groups, 2013 and 2012 (NIS million)

	2013						
	Assets			Liabilities			
	Quantity effect	Price effect	Net change	Quantity effect	Price effect	Net change	Contribution to net interest income
Credit to the public / deposits of the public in Israel	511	-3,056	-2,545	194	-4,125	-3,931	1,386
Credit to the public / deposits of the public abroad	-132	-153	-285	-17	-133	-150	-135
Total credit to the public / deposits of the public	379	-3,209	-2,830	177	-4,258	-4,081	1,251
Other interest-bearing assets / liabilities in Israel	234	-1,591	-1,357	-58	167	109	-1,466
Other interest-bearing assets / liabilities abroad	-11	-199	-210	-91	-44	-135	-75
Total other interest-bearing assets / liabilities	223	-1,790	-1,567	-149	123	-26	-1,541
Total interest income / expenses	602	-4,999	-4,397	28	-4,135	-4,107	-290
	2012						
	Assets			Liabilities			
	Quantity effect	Price effect	Net change	Quantity effect	Price effect	Net change	Contribution to net interest income
Credit to the public / deposits of the public in Israel	1,636	-4,012	-2,376	1,043	-2,928	-1,885	-491
Credit to the public / deposits of the public abroad	205	-28	177	36	-172	-136	313
Total credit to the public / deposits of the public	1,841	-4,040	-2,199	1,079	-3,100	-2,021	-178
Other interest-bearing assets / liabilities in Israel	836	-833	3	457	-1,195	-738	741
Other interest-bearing assets / liabilities abroad	141	-292	-151	9	9	18	-169
Total other interest-bearing assets / liabilities	977	-1,125	-148	466	-1,186	-720	572
Total interest income / expenses	2,818	-5,165	-2,347	1,545	-4,286	-2,741	394

[a] The change in quantity is calculated as the product of the change in the balance-sheet balance (current period versus previous year) and the price during the

[b] The change in price is calculated as the product of the change in price (current period versus previous year) and the balance-sheet balance for the same period in the previous year.

SOURCE: Banking Supervision Department based on published financial statements.

Table 1.20
Fees and other income, and operating expenses, the five major banking groups, 2011 to 2013

	Amounts			Distribution			Changes compared with previous year	
	2011	2012	2013	2011	2012	2013	2012	2013
	(NIS million, at current prices)			(Percent)			(Percent)	
1 Fees and other income								
Income from banking services								
Account management fees	3,038	3,072	3,005	20.0	20.0	19.4	1.1	-2.2
Credit cards	3,568	3,617	3,689	23.5	23.6	23.8	1.4	2.0
Credit services and contracts	1,224	1,290	1,230	8.1	8.4	7.9	5.4	-4.7
Foreign trade activity and special services	383	392	372	2.5	2.6	2.4	2.4	-5.1
Other fees[a]	1,486	1,478	1,485	9.8	9.6	9.6	-0.5	0.5
Total income from services	9,699	9,849	9,781	63.9	64.2	63.2	1.6	-0.7
Income from capital market activity								
From securities activity	2,874	2,720	2,677	18.9	17.7	17.3	-5.4	-1.6
Financial products[b] distribution fees	749	723	779	4.9	4.7	5.0	-3.5	7.8
Management, operational and trust fees for institutional investors	296	248	250	2.0	1.6	1.6	-16.2	0.8
Profits from severance pay funds	39	288	310	0.3	1.9	2.0	-	7.6
Total income from capital market activity	3,958	3,979	4,016	26.1	26.0	25.9	0.5	0.9
Fees from financing transactions	1,187	1,263	1,396	7.8	8.2	9.0	6.4	10.5
Other income[c]	340	241	292	2.2	1.6	1.9	-29.1	21.2
Total income from operating fees	**15,184**	**15,332**	**15,485**	**100.0**	**100.0**	**100.0**	**1.0**	**1.0**
2 Operating expenses								
Salaries and related expenses[d]	16,531	17,080	17,626	59.0	58.2	59.4	3.3	3.2
Of which: Salaries	10,717	10,725	11,172	38.2	36.6	37.6	0.1	4.2
Maintenance and depreciation of premises and equipment	5,499	5,827	5,810	19.6	19.9	19.6	6.0	-0.3
Amortization and write-down of intangible assets and goodwill	193	210	269	0.7	0.7	0.9	8.8	28.1
Other expenses	5,811	6,211	5,993	20.7	21.2	20.2	6.9	-3.5
Of which: Marketing and advertising	964	969	922	3.4	3.3	3.1	0.5	-4.9
Computer expenses	846	900	882	3.0	3.1	3.0	6.4	-2.0
Communications	638	645	642	2.3	2.2	2.2	1.1	-0.5
Insurance	127	116	116	0.5	0.4	0.4	-8.7	0.0
Office expenses	333	326	301	1.2	1.1	1.0	-2.1	-7.7
Professional services	881	827	764	3.1	2.8	2.6	-6.1	-7.6
Total operating expenses	**28,034**	**29,328**	**29,698**	**100.0**	**100.0**	**100.0**	**4.6**	**1.3**

[a] Includes mainly margin and collection fees on credit from the Finance Ministry, conversion and other differentials.

[b] As part of the Bachar Reform, the banks began to charge a "distribution fee". The ceiling on the distribution fee with respect to mutual funds amounts to 0.25 percent of assets in funds that invest mainly in low risk short-term investments, 0.80 percent of assets in equity funds, and 0.40 percent of assets in other funds. The ceiling with respect to provident funds and pension funds amounts to 0.25 percent of the assets in a fund.

[c] Includes profit from the realization of assets received in respect of the discharge of credit, management fees from related companies and other income.

[d] Includes payroll tax, severance pay, royalties, pension and national insurance.

SOURCE: Banking Supervision Department based on published financial statements.

Table 1.21
Salaries and related expenses of the five major banking groups, 2000 to 2013

(Reported amounts[a], at current prices)

Year	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)
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	7,898	207	3,681	96	11,579	303
2005	40,029	8,595	215	4,283	107	12,878	322
2006	42,200	9,561	227	5,354	127	14,915	353
2007	44,286	9,798	221	4,718	107	14,516	328
2008	46,628	9,015	193	5,705	122	14,720	316
2009	47,097	9,640	205	4,378	93	14,018	298
2010	47,818	10,336	216	5,280	110	15,616	327
2011	48,344	10,717	222	5,814	120	16,531	342
2012	48,010	10,725	223	6,355	132	17,080	356
2013	47,287	11,172	236	6,454	136	17,626	373
		Change compared with previous year (Percent)					
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	8.8	9.5	3.2	3.9	7.0	7.7
2005	4.9	8.8	3.8	16.4	11.0	11.2	6.1
2006	5.4	11.2	5.5	25.0	18.6	15.8	9.9
2007	4.9	2.5	-2.3	-11.9	-16.0	-2.7	-7.3
2008	5.3	-8.0	-12.8	20.9	14.5	1.4	-3.6
2009	1.0	6.9	6.2	-23.3	-23.8	-4.8	-5.7
2010	1.5	7.2	5.4	20.6	18.3	11.4	9.7
2011	1.1	3.7	2.8	10.1	9.1	5.9	4.6
2012	-0.7	0.1	0.5	9.3	10.0	3.3	4.1
2013	-1.5	4.2	5.8	1.6	3.0	3.2	4.8

[1] Until 2002, amounts are adjusted for the effect of inflation on the basis of the December 2003 index.

[2] The number of posts includes posts at subsidiaries abroad and at consolidated companies, translation of the cost of overtime and budgets for external personnel that were required to supplement current personnel and for the assimilation of projects.

[3] This item includes mainly severance pay, benefit payments, advanced study fund, pension, vacation, national insurance and payroll tax, other related expenses, voluntary retirement expenses and benefits deriving from the allocation of options to employees.

SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

Table 1.22
Number of employee posts and expenses by annual salary levels, the five major banking groups, 2012 and 2013

	2013		2012[a]			
	Number of employee posts	Salaries and related expenses (NIS million)	Number of employee posts	Salaries and related expenses (NIS million)	Yearly rate of change in number of employee posts	Yearly rate of change in salary expenses
Active employees at offices in Israel - yearly salary levels (NIS thousand)						
Up to 60	274	15	1,497	69	-81.7	-78.1
60 to 120	7,238	707	7,896	760	-8.3	-7.1
120 to 240	16,372	2,976	17,111	3,150	-4.3	-5.5
240 to 360	12,179	3,517	11,412	3,357	6.7	4.7
360 to 600	7,628	3,338	6,435	2,911	18.5	14.6
600 to 1,000	1,613	1,131	1,281	928	25.9	21.8
Above 1,000	356	580	351	600	1.4	-3.4
Total wage and related components attributed to active employees at offices in Israel	**45,660**	**12,262**	**45,982**	**11,776**	**-0.7**	**4.1**
of which: expenses for external employees, yearly salary levels (NIS thousand)	2,218	551	2,847	632	-22.1	-12.8
Up to 120	633	61	1,029	79	-38.6	-23.5
Above 120	1,586	491	1,818	553	-12.8	-11.3
Wage and related components not attributed to active employees at offices in Israel		**4,433**		**4,024**		
Bank employees at offices abroad	**3,085**	**1,447**	**3,193**	**1,775**	**-3.4**	**-18.5**
Salary expenses capitalized to assets	**-1,458**	**-517**	**-1,183**	**-470**	**23.2**	**10.0**
Total	**47,287**	**17,625**	**47,992**	**17,105**	**-1.5**	**3.0**

[a] There are slight gaps in the number of employee posts and in total wage expenses in 2012 compared to data from published financial statements.
SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

Table 1.23
Average cost[a] and efficiency ratio[b], five major banking groups, 2011–13

(percent)

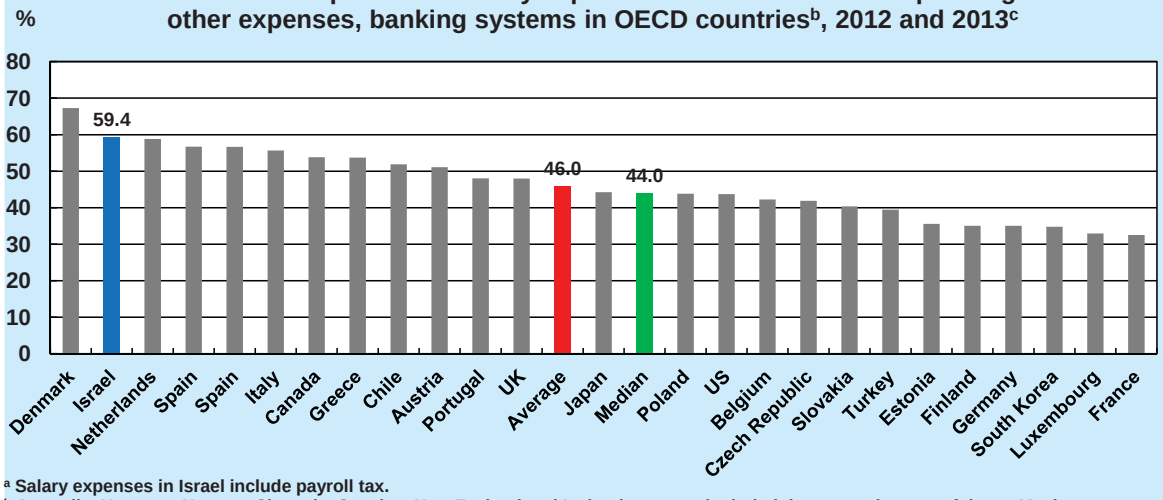
	Average cost			Efficiency ratio		
Bank	2011	2012	2013	2011	2012	2013
Leumi	2.40	2.45	2.38	73.9	74.7	69.4
Hapoalim	2.47	2.41	2.37	63.9	64.7	65.6
Discount	3.01	2.89	3.00	77.4	75.5	77.5
Mizrahi-Tefahot	1.88	1.78	1.73	57.9	58.2	59.6
First International	2.78	2.69	2.61	78.9	73.5	73.0
Average of the five major banking groups	**2.50**	**2.45**	**2.41**	**69.9**	**69.6**	**68.8**
Union	2.12	2.06	2.08	81.5	78.7	79.5
Bank of Jerusalem	2.06	2.14	2.23	74.8	73.9	78.7
Dexia Israel Bank	0.57	0.53	0.58	35.6	36.2	37.3
Total	**2.47**	**2.42**	**2.38**	**70.1**	**69.8**	**69.1**

[a] The ratio between total operating and other expenses and the average balance of assets.

[b] The ratio between total operating and other expenses and total net interest and noninterest income (cost to income).

SOURCE: Banking Supervision Department based on published financial statements.

Figure 1.28
International comparison of salary expenses[a] as a share of total operating and other expenses, banking systems in OECD countries[b], 2012 and 2013[c]



[a] Salary expenses in Israel include payroll tax.

[b] Australia, Hungary, Norway, Slovenia, Sweden, New Zealand and Iceland were not included due to an absence of data. Mexico was removed due to outlier data.

[c] Data for the UK are as of June 2012. Data for Switzerland are as of December 2012. Data for Japan and South Korea are as of March 2013. Data for Italy, France, Spain and Poland are as of June 2013. Data for Austria, Denmark, Portugal, Greece, Netherlands, the US, Canada, Slovakia, Ireland, Finland, Germany, Turkey and the Czech Republic are as of September 2013. Data for Estonia, Luxembourg, Chile and Israel are as of December 2013.

SOURCE: Foreign countries-IMF; Israel-based on published financial statements.

c. Activity segments[59]

Average outstanding credit to the five classic activity sectors[60] grew by 3 percent in 2013, to NIS 741 billion. The substitution of the household segment for the business segment became evident in the review year: the share of the household segment in total credit increased to 46 percent, from 42 percent in 2012, while the share of the business segment declined to 29 percent, from 33 percent, due to developments in the housing market, the moderation of demand for business credit, and the disintermediation process in recent years.

The actual risk in the small business segment, as reflected in the ratio of current loan loss provisions to total assets, was greater in 2013 than the typical level of activity in the retail segments (households and private banking) and even the business segments (Table 1.24). The potential risk, as reflected in the estimation of the ratio of risk weighted assets to total assets, yields a different picture: the risk exposure is greater in the business and commercial segments than in the household and private banking segments. The relatively low level of risk weighted assets in the small business segment more closely resembles that typical of the retail segments than that of the business segments.

Average cost in each activity segment gives a good indication of the discrepancy between the high cost of operations in the retail segments (households, private banking, and small business) and the low operating costs in the business and commercial segments. Retail segments are costly to run because they force the groups to maintain, manage, and operate a broad array of branches, entailing the deployment of large-scale human and physical resources.

Examination of performance in terms of return on risk weighted assets indicates that the small business segment was the most profitable, at 1.5 percent, as against 0.9 percent in the business segment and 0.4 percent in the household segment (Table 1.24).

[59] Due to the reclassification of balance of assets at the Discount group in 2013, the data for the review year are not comparable with those for the previous year. To contend with this issue, various adjustments were made.

[60] Business, commercial, small business, private banking, and household—by means of which the banking groups provide a range of financial products and services to their customers. Not included are the financial management segment and other.

Table 1.24

Performance indices by activity segments[a,b] at the five major banking groups (excluding Discount group)[c], 2012 and 2013

	Households segment		Private banking segment		Small business segment		Commercial segment		Business (Corporate) segment	
	2012	2013	2012	2013	2012	2013	2012	2013	2012	2013
Items and profit components (weights)	Distribution (percent)									
Average balance of assets	39	41	7	7	7	8	14	14	33	30
Average balance of risk assets	27	29	7	7	7	7	16	16	44	41
Net interest income	39	39	10	8	13	14	15	15	24	24
Noninterest income	38	37	23	22	12	13	10	11	17	17
Loan loss provisions	16	44	1	4	9	20	14	15	59	16
Operating and other expenses	46	47	19	19	12	13	12	11	11	11
Pre-tax profit	27	15	7	2	16	14	19	19	34	50
Net profit	26	14	8	2	16	14	15	18	35	52
Average balance of credit to the public	42	46	5	5	8	8	11	11	33	29
	Ratios (percent)									
Loan loss provision to total assets	0.2	0.2	0.1	0.1	0.5	0.6	0.4	0.3	0.7	0.1
Net interest income to total assets	2.8	2.5	3.8	3.0	4.9	4.6	3.0	2.9	2.1	2.1
Noninterest income to total assets	1.6	1.5	5.2	4.9	2.8	2.7	1.2	1.3	0.8	0.9
Total income[d] to total assets	4.4	4.0	9.0	7.9	7.6	7.3	4.2	4.2	2.9	3.1
	Ratios (percent)									
Average cost[e]	3.4	3.4	7.7	7.4	4.7	4.8	2.4	2.4	1.0	1.1
Efficiency ratio[f]	0.8	0.8	0.9	0.9	0.6	0.7	0.6	0.6	0.3	0.3
Return on risk-weighted assets[g]	0.8	0.4	0.9	0.2	1.8	1.5	0.8	0.9	0.6	0.9
Loan loss provision to total risk assets	0.2	0.4	0.1	0.1	0.5	0.7	0.4	0.2	0.5	0.1

[a] Each banking group defines the activity segments at its own discretion and in accordance with the characteristics and volume of its customers' activity. Generally, the households segment is comprised of private customers with low to medium financial wealth; the private banking segment is comprised of private customers with high financial wealth; the small business segment is comprised of commercial customers with a low volume of business activity; the commercial segment is comprised of business companies with a high volume of activity; the corporate segment is comprised of companies with high sales turnover and indebtedness.

[b] Not including the financial segment, the "other" segment, and reconciliations.

[c] The Discount group reclassified its assets among the activity segments this year, which does not allow for a comparison between periods. Therefore, the group's data was excluded this year and last year.

[d] Total income is calculated as the sum of net interest income and noninterest income.

[e] Calculated as the ratio of total operating and other expenses to the average balance of assets.

[f] Calculated as the ratio of total operating and other expenses to total income (net interest income and noninterest income).

[g] Calculated as the ratio of net profit to the average balance of risk assets.

SOURCE: Banking Supervision Department based on published financial statements.

9. STRESS TESTS

Macroeconomic stress test of the banking system based on uniform scenario, 2013–14

a. General

The Banking Supervision Department has been carrying out macroeconomic stress tests based on a uniform scenario on the banking system since 2012. The banking corporations are required to estimate the results of the scenario through various methodologies that they develop, while at the same time, the Banking Supervision Department conducts its own test on the same scenarios, applying a uniform methodology for all the banks.

This stress test methodology—supervisory authorities and banking corporations conducting the same stress test at the same time—is an accepted international standard. The test contributes to an understanding of risks facing the banking system in general and each bank on its own.

The characteristics of the stress test scenarios are set each year after analyzing the potential risks faced by the banking system and their development over the recent period, assessing the probability of the scenario occurring, studying the lessons learned from previous crises, and compiling the insights gleaned from stress tests conducted previously in Israel and abroad. The stress test scenario should be severe but plausible, and reflect the main risks to which the banking system is exposed at the current time.

Beginning with the current test, carried out in 2013–14, the Banking Supervision Department integrates the uniform stress test as a complementary element to the Supervisory Review and Evaluation Processes (SREP), and its integration includes both quantitative and qualitative aspects. In parallel, the banking corporations[61] are required to integrate it into their internal capital adequacy assessment processes (ICAAP). This is intended to utilize the testing process as an aid for evaluating the banking system's resilience, to ensure the existence of sufficient capital levels, to test the banks' capital planning, to set capital requirements and to take other measures as necessary—in accordance with best practices customary around the world. In addition, this process allows an examination of the banks' ability to conduct a uniform stress test based on statistical models and other methodologies, and supports the understanding of focal points of risk in the banking corporations while strengthening the supervisory dialogue with them.

The characteristics of the scenario and the results of the test conducted by the Banking Supervision Department are presented below.

b. The scenarios

The test was based on two scenarios—a base scenario and a stress scenario. The stress scenario this year was more severe than in the year before, and its parameters are calibrated to stress the main risk factors in the Israeli economy and in the banking system. The scenario horizon is 9 quarters, and the starting point is September 30, 2013.

1. **The base scenario:** The values of the variables in this scenario are based on the Bank of Israel's macroeconomic models, international institutions' projections of global developments, and other

[61] The five major banking groups (Leumi, Hapoalim, Discount, Mizrahi-Tefahot and First International) and two independent banks (Union and Bank of Jerusalem).

assessments regarding economic developments—all as of the date on which the scenarios were formulated (September 2013).

2. **The domestic stress scenario:** A macroeconomic scenario of a severe domestic recession with serious ramifications for the housing and real estate industry, as a result of a deterioration in the geopolitical situation. The scenario is based on the recession of 2002, though somewhat more severe, and is characterized by a downturn in the real economy together with an increase in Israel's risk premium. The downturn is reflected in a sharp decline in GDP and in private consumption, and a resulting serious negative impact on the labor market and the housing and real estate market. Asset prices on the capital market are also markedly affected. Figure 1.29 presents the development of the macroeconomic variables in each of the scenarios, and Table 1.25 presents an international comparison relating to the major variables of the scenarios conducted in other advanced economies.

c. The methodology and assumptions

The Banking Supervision Department conducted the uniform stress test based on assumptions accepted worldwide, including: during the course of scenario there is no change in asset balances and composition; the banks do not raise additional capital; and there is no option of accounting for the possible responses by the banks to the development of the crisis.

In order to carry out the stress test, the Banking Supervision Department estimated the effect of the scenario on the main sections in the income statement and balance sheet. In order to estimate the credit risk and its main focal points, the Banking Supervision Department used a combination of a range of models and methodologies which it developed for that purpose: satellite models for credit risk, and models based on data at the borrower level for the main focal points of risk, including credit to construction and real estate, leveraged credit, and housing credit. The methodologies, based on data at the borrower level, both challenge and complement the satellite models, specifically in cases where the satellite models fail to adequately capture all the risks. This is true in particular due to the unique characteristics of the Israeli economy, such as high concentration, and structural changes in risk factors. Likewise, the Banking Supervision Department calculated an estimation for the group allowance.

In addition to credit risk, the Banking Supervision Department took into account the effects of market risks, the effect of the exchange rate and the inflation rate, the effect of the implementation of Basel III, and other regulatory processes with effects on core capital, and other issues.

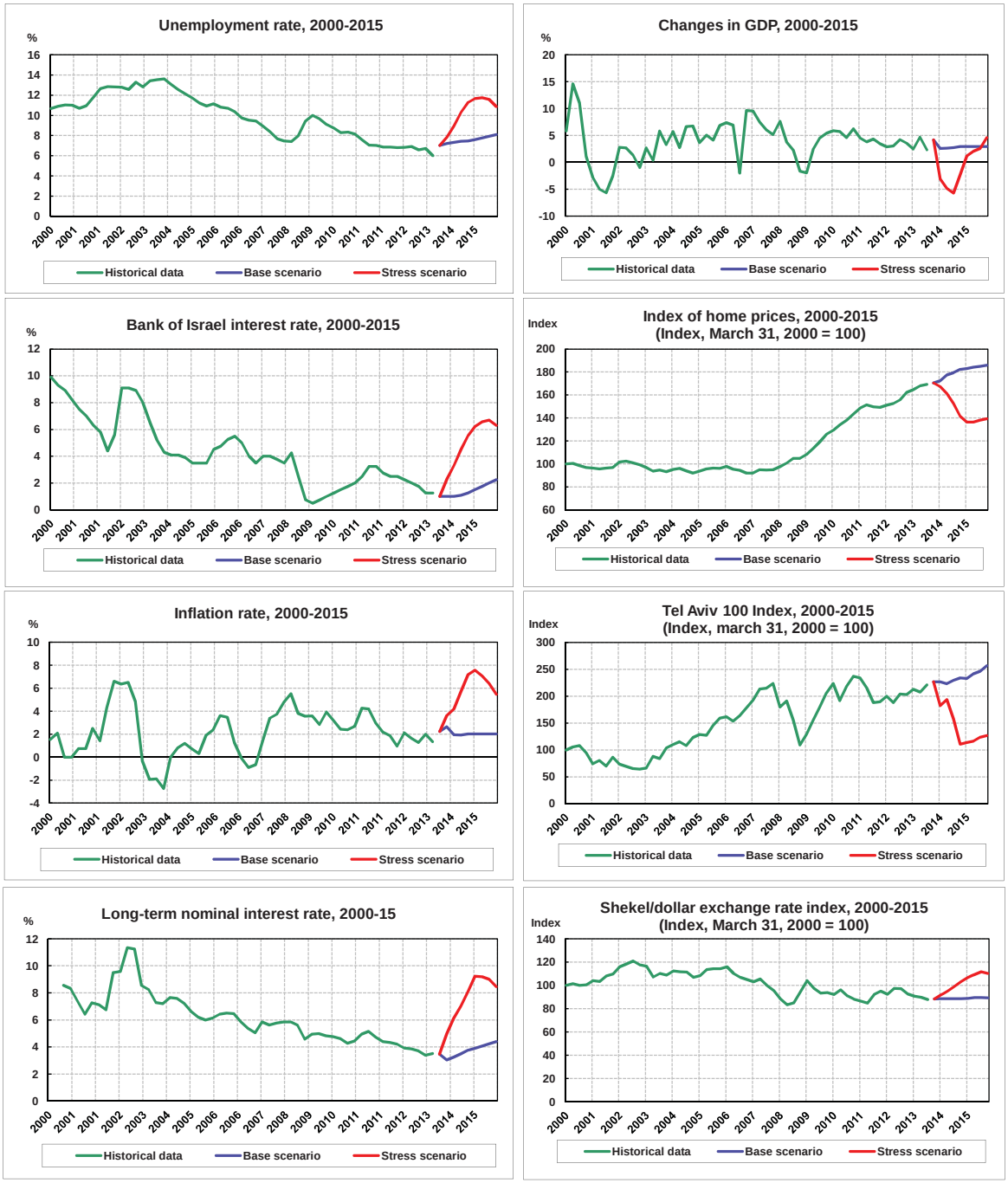
It should be noted that the uniform stress test does not include an analysis of the effect of the scenario on liquidity risk[62] and on operational risk; it also does not include related indirect consequences, such as withdrawals of deposits by nonresidents, lowered credit ratings for banks and a negative impact on investor confidence. The test focuses on the direct effect of the scenario on the credit portfolio, securities portfolio, and banks' profitability.

d. The findings

The results of the stress test indicate that a realization of the adverse domestic scenario would have a marked impact on the banking system, but no risk to its stability is expected. The immediate impact derives

[62] The Banking Supervision Department made a separate assessment of how various stress scenarios would affect liquidity risk in the banking system.

Figure 1.29
Historical Macroeconomic Data and Development of Scenarios, 2000–15



SOURCE: Historical data–based on Central Bureau of Statistics, Tel Aviv Stock Exchange; Base scenario and stress scenario data–Bank of Israel.

Table 1.25

Comparison of macroeconomic variables of a uniform stress test[a], Israel and selected economies

	Israel		US		Canada		UK		Europe	
Main macroeconomic variables	**Starting point**	**Stress scenario**	**Starting point**	**Stress scenario**	**Starting point**	**Stress scenario**	**Starting point**	**Stress scenario**	**Starting point**	**Stress scenario**
GDP - Maximum contraction[b] in the stress scenario		4.0%		3.7%		4.9%		3.5%		2.3%
Unemployment rate - Maximum level in the stress scenario	6.9	11.7	7.3	11.3	7.3	12.6	7.2	11.8	10.7	13.0
Monetary interest rate[c] - Maximum level in the stress scenario	1.25	6.7	0.0	0.1	1.1	0.3	0.5	4.2	-	-
Stock index - Maximum change of the leading index in each country		-50%		-50%		-32%		-28%		-20%
Home prices - Maximum change during the stress scenario		-20%		-25%		-33%		-35%		-12%

[a] Duration of the scenario: Israel and US - 9 quarters; UK and Europe - 3 years; Canada - 5 years.

[b] Duration of contraction in GDP: Israel and US - During one year; UK - During two years; Canada and Europe - During 3 years.

[c] Data regarding the ECB's monetary interest rate were not published in the stress scenario carried out in Europe. However, it was noted that the inter-bank short-term interest rates increase by 80 basis points.

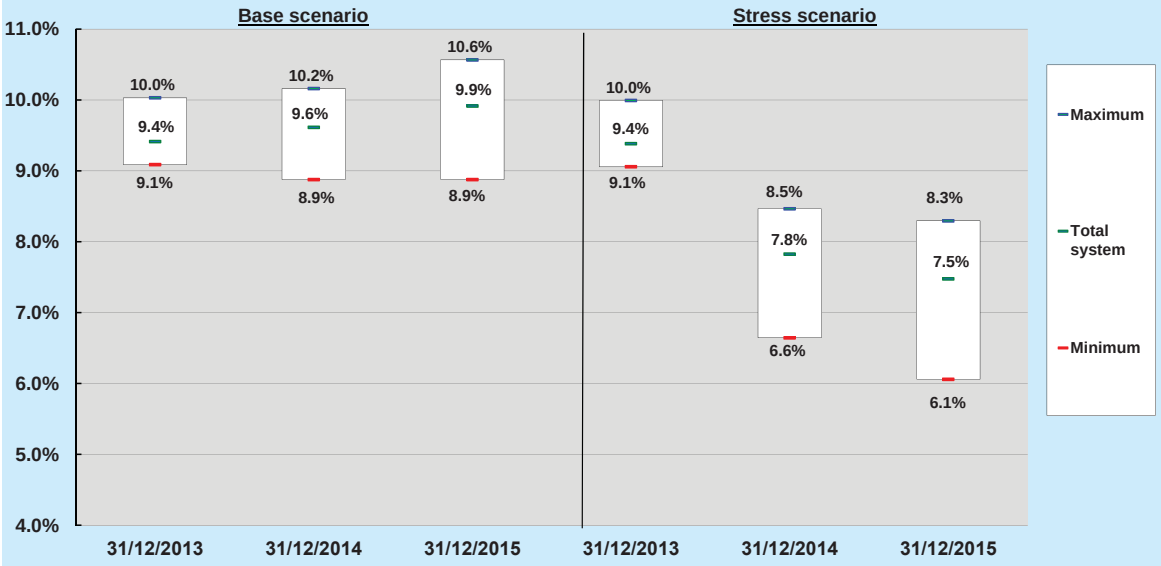
SOURCE: Israel - Bank of Israel; US - Federal Reserve; Canada - IMF FSAP; UK - Bank of England; Europe - European Banking Authority.

from exposure to credit risk and to market risk. The recession will make it difficult for business and private borrowers to meet their commitments, and the banks will record large losses in the credit portfolio, half of which originate from the housing, construction and real estate credit portfolio. The concentration in the Israeli credit market is also expected to make these losses more severe. Sharp increases in bond yields, and declines in the stock market, are expected to cause significant losses in the banks' securities portfolio which, in turn, will negatively impact profitability and erode capital. However, it should be noted that the stress test results do not take into account activities which the banks would likely take in order to reduce the negative impact of the scenario, such as selling stocks and bonds, and reducing credit volumes.

The negative impact to the profitability of the banking system could be significant and prolonged: A cumulative loss of more than NIS 3 billion and return on equity of -2.2 percent in 2014 and of -1.8 percent in 2015. The core capital ratio of the banking system will be negatively impacted, and would decline from 9.3 percent in September 2013 (the beginning of the scenario) to 7.5 percent at the end of the period (end of 2015). The core capital ratio at the banks will range from 6.1 percent to 8.3 percent—levels that attest to the stability of the system and to it having sufficient capital buffers to absorb serious macroeconomic shocks to the Israeli economy (Figure 1.30 and Figure 1.31).

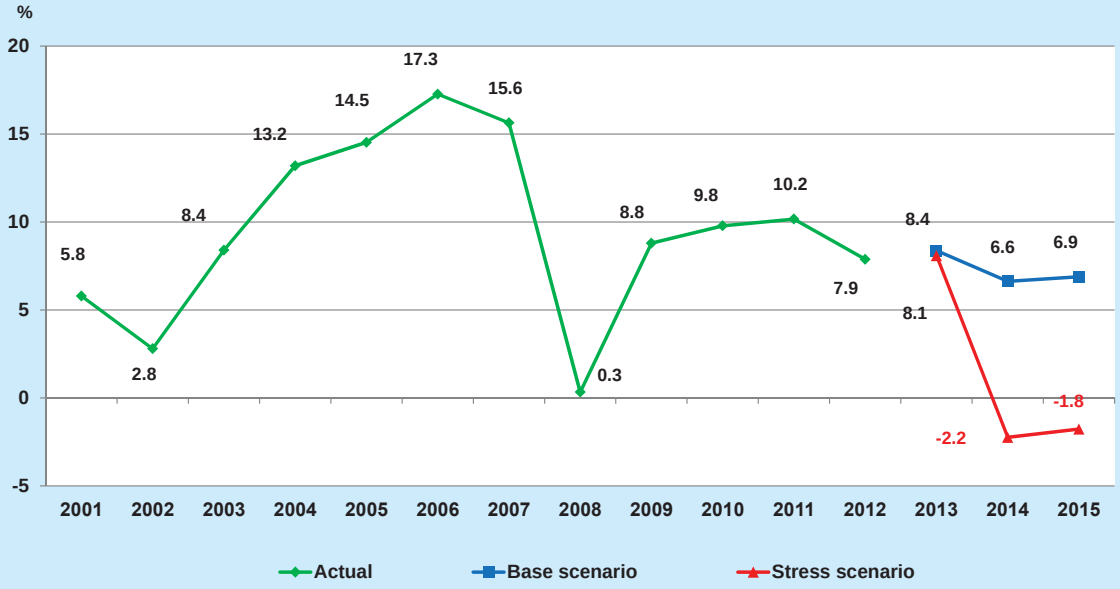
The most significant negative impact on bank profitability, as noted, derives from credit losses. During the two years of the adverse scenario occurring, banks would post credit losses of about NIS 27 billion (before tax), an annual loss rate of 1.6 percent, on average. About half of the loss, NIS 13 billion, derives from credit to the construction and real estate industry and from housing credit. Part of the credit losses comes with a lag (in the second year) and is liable to increase the severity of the crisis and to lead to an additional negative impact. With regard to the securities portfolio, the declines in value over the course of the scenario total about NIS 17 billion. However, it should be noted that 75 percent of the negative impact derived from the Israeli government bond portfolio, and this portfolio is negatively impacted primarily in respect of the increase in the interest rate and the increase in Israel's risk premium. While macroeconomic changes are reflected gradually in credit losses, market risks are realized immediately with the changes in market prices as a result of mark to market changes in bonds and a decline in equity values. The immediate and severe negative impact in the market is also liable to lead to chain reactions and related effects, such as a negative impact on investor confidence and a sharp decline in the valuation of bank shares and other shares, though, as noted, these were not examined in this scenario.

Figure 1.30
Development of core capital ratio: minimum and maximum values in the system and value in the total system, 2013-15



SOURCE: Based on reports to the Banking Supervision Department.

Figure 1.31
Development of the return on equity, the entire system, 2001-2015



SOURCE: Based on reports to the Banking Supervision Department.

Table A.1.1

Securities portfolio of the five major banking groups, December 2012 and December 2013[a]

		Leumi				Hapoalim				Discount[b]			
		2012		2013		2012		2013		2012		2013	
		Fair value / accumulated basis	Distribution	Fair value / accumulated basis	Distribution	Fair value / accumulated basis	Distribution	Fair value / accumulated basis	Distribution	Fair value / accumulated basis	Distribution	Fair value / accumulated basis	Distribution
		(NIS million)	(Percent)	(NIS million)	(Percent)	(NIS million)	(Percent)	(NIS million)	(Percent)	(NIS million)	(Percent)	(NIS million)	(Percent)
Bonds held to maturitiy	Israeli government bonds	-	-	-	-	56	0.1	-	-	3,250	7.1	3,738	9.0
	Foreign government bonds	-	-	-	-	-	-	-	-	30	0.1	-	-
	Israeli financial institutions	-	-	-	-	693	1.3	471	0.8	87	0.2	86	0.2
	Foreign financial institutions	-	-	-	-	-	-	-	-	75	0.2	64	0.2
	MBS, ABS	-	-	-	-	-	-	-	-	1,520	3.3	1,298	3.1
	Other bonds - Israeli	-	-	-	-	-	-	-	-	-	-	-	-
	Other bonds - foreign	-	-	-	-	-	-	-	-	2,026	4.4	1,988	4.8
	Total bonds held to maturity	**-**	**-**	**-**	**-**	**749**	**1.4**	**471**	**0.8**	**6,988**	**15.2**	**7,174**	**17.4**
Securities available for sale	Israeli government bonds	22,998	40.8	30,736	48.2	38,123	73.2	46,984	77.1	20,610	44.8	19,932	48.2
	Foreign government bonds	6,454	11.4	3,843	6.0	2,062	4.0	2,812	4.6	917	2.0	331	0.8
	Israeli financial institutions	323	0.6	105	0.2	276	0.5	404	0.7	729	1.6	628	1.5
	Foreign financial institutions	5,281	9.4	5,280	8.3	1,345	2.6	2,362	3.9	2,567	5.6	2,748	6.6
	MBS, ABS	5,049	9.0	7,346	11.5	-	-	-	-	9,754	21.2	6,724	16.3
	Other bonds - Israeli	1,039	1.8	721	1.1	2,902	5.6	1,559	2.6	705	1.5	693	1.7
	Other bonds - foreign	1,583	2.8	2,002	3.1	956	1.8	1,966	3.2	74	0.2	52	0.1
	Total bonds available for sale	42,727	75.7	50,033	78.5	45,664	87.7	56,087	92.1	35,356	76.9	31,108	75.3
	Total stocks available for sale	2,167	3.8	2,828	4.4	1,654	3.2	2,221	3.6	704	1.5	852	2.1
	Total securities available for sale	**44,894**	**79.6**	**52,861**	**82.9**	**47,318**	**90.9**	**58,308**	**95.7**	**36,060**	**78.4**	**31,960**	**77.3**
Securities for trading	Israeli government bonds	8,980	15.9	7,104	11.1	2,993	5.7	1,502	2.5	2,822	6.1	2,019	4.9
	Foreign government bonds	311	0.6	1,028	1.6	79	0.2	33	0.1	4	-	4	-
	Israeli financial institutions	129	0.2	327	0.5	-	-	-	-	19	-	2	-
	Foreign financial institutions	88	0.2	116	0.2	608	1.2	315	0.5	33	0.1	9	-
	MBS, ABS	358	0.6	279	0.4	-	-	-	-	53	0.1	50	0.1
	Other bonds - Israeli	707	1.3	409	0.6	8	-	11	-	18	-	89	0.2
	Other bonds - foreign	742	1.3	520	0.8	272	0.5	239	0.4	2	-	5	-
	Total bonds for trading	11,315	20.1	9,783	15.3	3,960	7.6	2,100	3.4	2,951	6.4	2,178	5.3
	Total stocks for trading	199	0.4	1,091	1.7	43	0.1	33	0.1	2	-	13	-
	Total securities for trading	**11,514**	**20.4**	**10,874**	**17.1**	**4,003**	**7.7**	**2,133**	**3.5**	**2,953**	**6.4**	**2,191**	**5.3**
	Total securities, all types	**56,408**	**100.0**	**63,735**	**100.0**	**52,070**	**100.0**	**60,912**	**100.0**	**46,001**	**100.0**	**41,325**	**100.0**

Table A.1.1 (continued)

Securities portfolio of the five major banking groups, 2012 and 2013[a]

		Mizrahi-Tefahot				First International				Five largest banking groups			
		2012		2013		2012		2013		2012		2013	
		Fair value / accumulated basis	Distribution	Fair value / accumulated basis	Distribution	Fair value / accumulated basis	Distribution	Fair value / accumulated basis	Distribution	Fair value / accumulated basis	Distribution	Fair value / accumulated basis	Distribution
		(NIS million)	(Percent)	(NIS million)	(Percent)	(NIS million)	(Percent)	(NIS million)	(Percent)	(NIS million)	(Percent)	(NIS millon)	(Percent)
Bonds held to maturity	Israeli government bonds	1,123	12.4	1,771	25.3	305	3.1	415	3.8	4,734	2.7	5,924	3.2
	Foreign government bonds	-	-	-	-	-	-	-	-	30	-	-	-
	Israeli financial institutions	-	-	-	-	49	0.5	69	0.6	829	0.5	626	0.3
	Foreign financial institutions	-	-	-	-	57	0.6	95	0.9	132	0.1	159	0.1
	MBS, ABS	-	-	-	-	-	-	-	-	1,520	0.9	1,298	0.7
	Other bonds - Israeli	-	-	-	-	288	3.0	243	2.3	288	0.2	243	0.1
	Other bonds - foreign	-	-	-	-	-	-	-	-	2,026	1.2	1,988	1.1
	Total bonds held to maturity	**1,123**	**12.4**	**1,771**	**25.3**	**699**	**7.2**	**822**	**7.6**	**9,559**	**5.5**	**10,238**	**5.6**
Securities available for sale	Israeli government bonds	4,700	52.0	3,017	43.1	4,552	46.7	5,113	47.3	90,983	52.5	105,782	57.6
	Foreign government bonds	95	1.1	82	1.2	372	3.8	501	4.6	9,900	5.7	7,569	4.1
	Israeli financial institutions	123	1.4	124	1.8	156	1.6	125	1.2	1,607	0.9	1,386	0.8
	Foreign financial institutions	394	4.4	224	3.2	1,244	12.8	1,345	12.5	10,831	6.3	11,959	6.5
	MBS, ABS	-	-	-	-	538	5.5	567	5.3	15,341	8.9	14,637	8.0
	Other bonds - Israeli	25	0.3	23	0.3	734	7.5	694	6.4	5,405	3.1	3,690	2.0
	Other bonds - foreign	168	1.9	109	1.6	40	0.4	67	0.6	2,821	1.6	4,196	2.3
	Total bonds available for sale	5,505	60.9	3,579	51.1	7,636	78.3	8,412	77.9	136,888	79.0	149,219	81.2
	Total stocks available for sale	119	1.3	98	1.4	451	4.6	356	3.3	5,095	2.9	6,355	3.5
	Total securities available for sale	**5,624**	**62.2**	**3,677**	**52.5**	**8,087**	**82.9**	**8,768**	**81.2**	**141,983**	**81.9**	**155,574**	**84.7**
Securities for trading	Israeli government bonds	2,291	25.3	1,552	22.2	830	8.5	1,059	9.8	17,916	10.3	13,236	7.2
	Foreign government bonds	3	-	-	-	-	-	-	-	397	0.2	1,065	0.6
	Israeli financial institutions	-	-	-	-	47	0.5	44	0.4	195	0.1	373	0.2
	Foreign financial institutions	-	-	-	-	50	0.5	37	0.3	779	0.4	477	0.3
	MBS, ABS	-	-	-	-	-	-	-	-	411	0.2	329	0.2
	Other bonds - Israeli	-	-	-	-	42	0.4	63	0.6	775	0.4	572	0.3
	Other bonds - foreign	-	-	-	-	-	-	4	-	1,016	0.6	768	0.4
	Total bonds for trading	2,294	25.4	1,552	22.2	969	9.9	1,207	11.2	21,489	12.4	16,820	9.2
	Total stocks for trading	-	-	-	-	1	-	2	-	245	0.1	1,139	0.6
	Total securities for trading	**2,294**	**25.4**	**1,552**	**22.2**	**970**	**9.9**	**1,209**	**11.2**	**21,734**	**12.5**	**17,959**	**9.8**
	Total securities, all types	**9,041**	**100.0**	**7,000**	**100.0**	**9,756**	**100.0**	**10,799**	**100.0**	**173,276**	**100.0**	**183,771**	**100.0**

[a] In this table, mortgage backed securities (MBS) issued by US government agencies (FNMA, FHLMC and GNMA) are included in the "MBS and ABS" item, whether or not a government guarantee exists for them.

[b] In the Discount Group, the asset backed and mortgage backed securities are primarily from US government agencies.

SOURCE: Banking Supervision Department based on published financial statements.

Table A.1.2
Principal housing loan market indicators, entire banking system, 2007–13

	2007	2008	2009	2010	2011	2012	2013
Year-end balance of housing loans (NIS million)	136,994	154,123	172,033	200,237	224,756	246,590	268,825
Rate of change		13%	12%	16%	12%	10%	9%
Year-end balance of loans for the purchase of residential property (NIS million)	122,210	138,491	155,843	180,145	203,960	223,519	245,371
Rate of change		13%	13%	16%	13%	10%	10%
Year-end balance of loans secured by a residential property[a] (NIS million)	14,784	15,632	16,191	20,093	20,796	23,071	23,455
Rate of change		6%	4%	24%	3%	11%	2%
Average monthly volume of new loans for the purchase of residential property (NIS million)	2,044	2,512	2,885	3,932	3,727	3,887	4,309
New loans granted in the fixed-rate indexed segment (NIS million)	740	448	336	464	490	584	598
New loans granted in the floating-rate indexed segment (NIS million)	452	776	678	1,229	1,476	1,618	1,418
New loans granted in the fixed-rate unindexed segment (NIS million)	20	14	22	70	183	396	638
New loans granted in the floating-rate unindexed segment (NIS million)	725	1,202	1,737	1,980	1,376	1,169	1,557
New loans granted in the floating rate foreign currency segment	100	60	110	189	200	116	96
Average weighted interest rate on loans for the purchase of residential property	4.6%	4.1%	2.2%	2.5%	3.3%	3.0%	2.8%
Fixed interest rate in the indexed segment	4.2%	3.8%	3.1%	2.6%	2.8%	2.4%	2.2%
Floating interest rate in the indexed segment	4.4%	3.7%	2.7%	2.2%	2.8%	2.6%	2.1%
Fixed interest rate in the unindexed segment	6.6%	7.1%	5.4%	5.5%	5.7%	4.8%	4.2
Floating interest rate in the unindexed segment	4.8%	4.4%	1.7%	2.6%	3.8%	3.4%	2.7%
Floating interest rate in the foreign currency segment	6.3%	5.0%	2.8%	2.8%	3.0%	3.0%	2.7%
Number of loans for the purchase of residential property granted to the public during December			7,904	8,380	5,677	7,958	7,890
Average loan size in shekels in the month of December			497,280	555,016	565,310	586,105	601,155

[a] Not for residential purposes.

SOURCE: Based on reports to the Banking Supervision Department.

Table A.1.3

Indices of concentration of the portfolio of credit to the public[a] of the five major banking groups, December 2007 to December 2013

	Year	Leumi	Hapoalim	Discount	Mizrahi-Tefahot	First International	The five major groups
Concentration by principal industries							
Herfindahl-Hirschman Index *(H)* of the concentration of the aggregate credit portfolio excluding credit to individuals[b,c]	2007	0.090	0.095	0.104	0.060	0.103	0.087
	2008	0.092	0.073	0.090	0.045	0.067	0.074
	2009	0.093	0.080	0.088	0.039	0.070	0.076
	2010	0.093	0.079	0.086	0.041	0.070	0.076
	2011	0.090	0.080	0.076	0.039	0.057	0.072
	2012	0.085	0.077	0.080	0.035	0.055	0.070
	2013	0.079	0.074	0.074	0.034	0.057	0.067
Herfindahl-Hirschman Index (H) of business credit portfolio concentration[d,e]	2007	0.184	0.173	0.169	0.199	0.190	0.174
	2008	0.190	0.170	0.168	0.184	0.172	0.172
	2009	0.199	0.171	0.173	0.189	0.177	0.177
	2010	0.205	0.175	0.173	0.197	0.177	0.181
	2011	0.205	0.175	0.171	0.208	0.168	0.183
	2012	0.207	0.172	0.165	0.210	0.170	0.183
	2013	0.204	0.169	0.170	0.228	0.175	0.183
Credit to individuals as percentage of total credit (percent)	2007	27.1	28.6	22.0	44.4	26.3	28.7
	2008	27.8	33.0	26.1	50.1	37.4	32.9
	2009	29.9	29.5	27.8	54.4	37.5	33.1
	2010	30.5	30.9	28.9	54.7	37.2	34.2
	2011	31.5	30.8	29.2	57.0	41.1	35.2
	2012	33.0	32.0	29.7	59.0	42.9	36.7
	2013	35.4	32.6	32.3	61.0	42.8	38.5
Share of credit for borrowers' activity abroad in total credit portfolio (percent)	2007	20.5	21.8	21.4	3.9	5.9	17.9
	2008	19.1	13.4	21.0	3.1	4.9	14.2
	2009	18.6	13.1	23.0	3.1	4.4	14.3
	2010	17.3	11.5	21.9	2.4	3.9	13.0
	2011	15.6	11.0	26.8	1.9	3.0	13.0
	2012	15.9	10.6	25.2	2.7	2.3	12.6
	2013	15.3	10.2	22.2	2.5	1.8	11.6
Concentration by borrower size							
Gini Index[f] of credit diversification by borrower size	2007	0.907	0.896	0.909	0.825	0.897	0.897
	2008	0.908	0.909	0.904	0.810	0.837	0.896
	2009	0.905	0.903	0.912	0.808	0.854	0.897
	2010	0.907	0.913	0.908	0.813	0.855	0.902
	2011	0.901	0.924	0.911	0.811	0.846	0.904
	2012	0.896	0.920	0.908	0.806	0.847	0.902
	2013	0.873	0.922	0.911	0.807	0.849	0.897
Share in total credit of credit granted to borrowers whose indebtedness exceeds NIS 40 million (percent)	2007	41.6	52.0	42.9	32.6	41.0	44.5
	2008	43.6	51.1	41.6	29.0	33.7	43.1
	2009	40.6	50.2	41.8	26.1	30.8	41.4
	2010	42.0	49.0	43.2	26.1	33.3	41.6
	2011	41.9	48.9	44.5	24.6	29.3	41.2
	2012	40.1	47.7	42.7	23.1	27.9	39.6
	2013	38.0	46.6	39.6	22.6	28.3	38.0
Share in group's total credit of credit granted to borrowers whose outstanding indebtedness exceeds 5% of the group's equity[g] (percent)	2007	6.1	8.8	7.4	10.2	15.9	
	2008	8.5	10.6	8.4	9.5	12.9	
	2009	5.2	11.6	9.4	7.5	10.6	
	2010	5.5	8.2	7.9	7.6	10.4	
	2011	5.6	8.4	13.0	5.2	9.1	
	2012	5.2	7.8	10.2	4.3	7.5	
	2013	5.6	6.5	9.2	3.9	7.0	

[a] On a balance-sheet and off-balance-sheet basis.

[b] This index is the sum of the squares of of the weights of credit in a specific industry (excluding credit granted to individuals) in total credit to the public (including credit granted to individuals). The index increases with an increase in concentration.

[c] The principal industries weighted in this index include the borrower's activity both in Israel and abroad.

[d] This index is the sum of the squares of of the weights of credit in a specific industry (excluding credit granted to individuals) in total credit to the public (excluding credit granted to private individuals).

[e] The principal industries weighted in this index include the borrower's activity in Israel only.

[f] The Gini Index expresses inequality in the distribution of credit by borrowers. The index increases with an increase in inequality.

[g] Plus minority interest.

SOURCE: Banking Supervision Department based on published financial statements.

Table A.1.4
Exposure to foreign countries, the five major banking groups, December 2013

(NIS million)

	Balance sheet exposure abroad			Net balance sheet exposure of overseas offices[a] of the banking corporation to local residents[b]	Total balance sheet exposure	Total balance sheet exposure to equity (%)	Total balance sheet exposure to assets (%)	Total off balance-sheet exposure[d]
	To governments[c]	To banks	To others					
US	5,970	11,928	15,961	27,186	61,045	75.89	5.00	25,724
UK	457	10,195	7,355	7,432	25,439	31.62	2.08	11,686
Germany	245	3,557	2,844	-	6,646	8.26	0.54	1,170
France	-	3,755	2,856	-	6,611	8.22	0.54	4,179
Switzerland	-	508	795	7,975	9,278	11.53	0.76	1,072
Belgium	427	129	144	-	700	0.87	0.06	183
Turkey	-	13	6	1,953	1,972	2.45	0.16	1,558
Netherlands	-	847	1,533	-	2,380	2.96	0.19	139
Italy	78	282	129	-	489	0.61	0.04	80
Spain	38	183	13	-	234	0.29	0.02	72
Portugal	-	-	2	-	2	0.00	0.0002	5
Ireland	-	4	182	-	186	0.23	0.02	211
Greece	-	-	-	-	0	0.00	0.00	1
Other countries	864	13,220	14,961	3,314	32,359	40.23	2.65	6,795
Total exposure to foreign countries	**8,079**	**44,621**	**46,781**	**47,860**	**147,341**	**183.16**	**12.07**	**52,875**
Exposures to Ireland, Greece, Portugal, and Spain, which were not included above.	-	74	510	-	584	0.73	0.05	54
Of which: Total exposure to LDCs[e]	334	1,666	3,170	3,154	8,324	10.35	0.68	3,437
Total exposure to Europe	**1,245**	**19,547**	**16,369**	**17,360**	**54,521**	**67.78**	**4.47**	**20,410**
***Of which:* Total exposure to Ireland, Greece, Portugal, and Spain**	**38**	**261**	**707**	-	**1,006**	**1.25**	**0.08**	**343**

[a] The banking corporation's offices in a foreign country.

[b] Net balance sheet exposure after deduction of local liabilities.

[c] Governments, official bodies, and central banks.

[d] Credit risk in off balance-sheet financial instruments, as calculated for the borrower indebtedness limit.

[e] Less developed countries - the countries classified by the World Bank as having low or medium revenue.

SOURCE: Banking Supervision Department based on published financial statements.

Table A.1.5

Current credit exposure to foreign financial institutions[a,b], five major banking groups, December 2013

(NIS million)

	Leumi		Hapoalim		Discount		Mizrahi-Tefahot		First International		Five groups, total	
Credit rating[c]	Total credit risk	Of which: Balance sheet credit risk	Total credit risk	Of which: Balance sheet credit risk	Total credit risk	Of which: Balance sheet credit risk	Total credit risk	Of which: Balance sheet credit risk	Total credit risk	Of which: Balance sheet credit risk	Total credit risk	Of which: Balance sheet credit risk
AAA to AA-	18,818	14,543	5,469	3,757	2,497	2,228	768	768	736	732	28,288	22,028
A+ to A-	1,909	1,784	8,134	7,443	5,736	5,569	1,464	1,462	2,266	2,229	19,509	18,487
BBB+ to BBB-	1,278	361	3,182	3,096	2,114	2,107	3	3	140	139	6,717	5,706
BB+ to B-	160	81	34	21	366	358	10	-	37	37	607	497
Below B-	1	1.00	1	1	-	-	-	-	-	-	2	2
Unrated	142	142	217	143	301	196	4	4	47	26	711	511
Total credit exposure to foreign financial institutions	**22,308**	**16,912**	**17,037**	**14,461**	**11,014**	**10,458**	**2,249**	**2,237**	**3,226**	**3,163**	**55,834**	**47,231**
Balance of problem debts	-	-	-	-	176	176	-	-	-	-	176	176
Share of exposure out of assets (%)	-	0.05		0.04		0.05		0.01		0.03		0.04
Share of exposure out of equity (%)	0.83	0.63	0.58	0.49	0.88	0.83	0.22	0.22	0.45	0.44	0.65	0.55

[a] Foreign financial institutions are: investment banks, broker/dealers, insurance companies, institutions and entities controlled by those institutions. Credit exposure does not include exposure to financial institutions which have clear and full government guarantees, and does not include investments in asset backed securities.

[b] Balance sheet credit: deposits in banks, credit to the public, fixed income investments, securities borrowed or bought in reverse repurchase agreements, and other assets in respect of instruments. Off balance-sheet credit: primarily guarantees and commitments to grant credit, including third-party indebtedness guarantees.

[c] External credit rating is based on ratings assigned by the Fitch, S&P, and Moody's credit rating agencies.

SOURCE: Banking Supervision Department based on published financial statements.

Table A.1.6
Risk Adjusted Return on Capital; the variance-covariance approach[a], by banking group, 2002–13

Year	R_f	Leumi	Hapoalim	Discount	Mizrahi-Tefahot	First International	Five groups
2002	4.81	-0.10	-0.17	-0.40	0.34	-0.53	-0.22
2003	4.89	0.21	0.40	-0.13	0.45	-0.02	0.28
2004	3.76	0.72	0.81	0.33	0.59	0.24	0.81
2005	2.97	0.84	1.01	0.22	0.84	0.65	0.96
2006	3.71	1.00	0.89	0.36	0.75	0.56	1.00
2007	3.19	0.83	0.60	0.48	0.90	0.73	0.83
2008	2.88	-0.10	-0.27	-0.01	0.50	0.00	-0.13
2009	1.51	0.37	0.20	0.40	0.47	0.67	0.41
2010	0.89	0.42	0.35	0.31	0.82	0.62	0.51
2011	1.34	0.30	0.40	0.34	1.03	0.56	0.50
2012	0.83	0.13	0.37	0.36	1.00	0.73	0.42
2013	0.25	0.36	0.41	0.45	1.10	0.74	0.56

[a] RAROC is calculated by the variance-covariance approach

$$RAROC = \frac{ROE - R_f}{2.33 \cdot \sigma_{ROE}}$$

where:

ROE = Return on equity

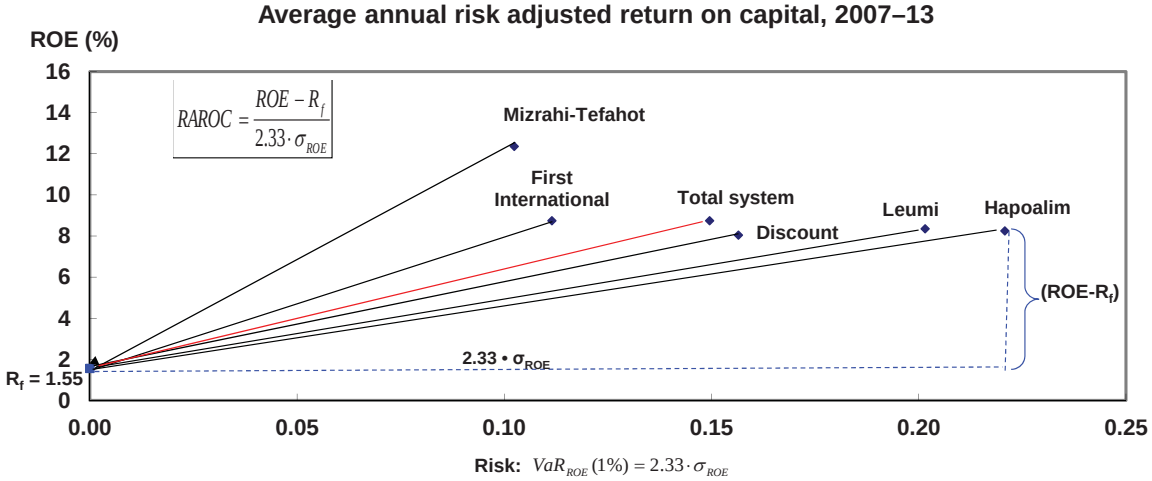
R_f = The risk-free interest rate; yield-to-maturity on 5-year (Galil) CPI-indexed government bonds during the last year.

σ_{ROE} = Standard deviation of ROE, calculated on the basis of quarterly ROE data for the past 7 years.

2.33 = Z value at a significance level of 99 percent.

SOURCE: Banking Supervision Department based on published financial statements.

Figure A.1.1
Average annual risk adjusted return on capital, 2007–13



R_f - Average annual risk-free interest rate for the period 2007 to 2013. This interest rate is based on the yield to maturity of 5-year (Galil) CPI-indexed bonds.

ROE - Average annual return on equity for the period 2007 to 2013.

σ_{ROE} - The standard deviation is based on the ROE for each quarter in the period 2007 to 2013 (so that the calculation was made on the basis of 28 observations)

SOURCE: Based on published financial statements.