

## CHAPTER 2

### DEVELOPMENTS IN THE BANKING SYSTEM

#### 1. GLOBAL AND DOMESTIC MACROECONOMIC DEVELOPMENTS<sup>1</sup>

##### a. The global economy

In 2011, the global economy's pace of recovery from the last economic crisis slowed, and the level of uncertainty rose. Advanced economies grew by 1.6 percent in 2011, a lower pace than in 2010, while the developing countries continued to grow, at a rapid rate of 6.2 percent. World trade grew by 6.9 percent, which is slower than in the previous year.

During the first quarter of 2011, the recovery from the global crisis continued and the European Central Bank even raised its interest rate. However, during the second quarter, growth slowed and remained weak for the rest of the year, particularly in Europe. During the second half of the year, the financial crisis in Europe worsened, due to the concerns regarding the ability of some countries to repay their debt, and concern of a deterioration in those countries' financial sectors, which their governments would have difficulty supporting. The close interrelationships between the financial institutions in Europe only increase the concern that a debt crisis in one of the countries would lead to a marked negative impact on the continent's financial sector. In view of the ties between European financial institutions and those in the rest of the world, the concerns regarding Europe's economy led to a downward revision of growth forecasts for countries outside Europe.

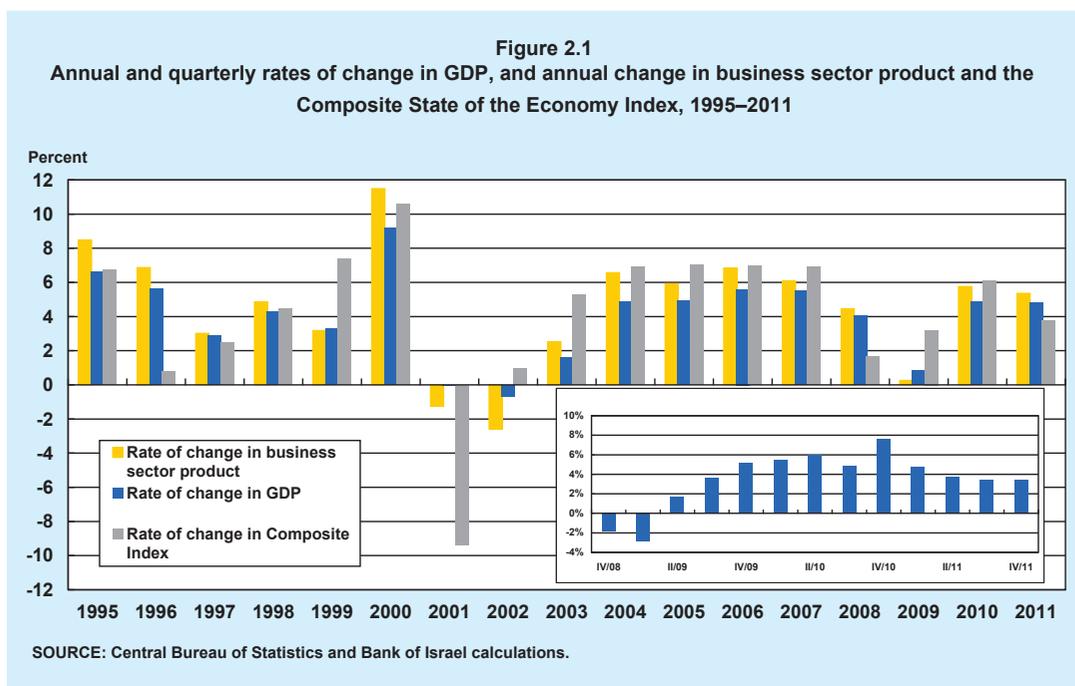
Interest rates in most of the advanced economy countries, and primarily the larger ones, are close to zero, and some of the central banks, among them the Fed and the ECB, are using other tools for monetary expansion, aside from the interest rate, and are providing banks with intermediate and long-term sources of financing. Significant yield differentials have appeared in the bond markets between countries that are perceived as risky and those considered safe havens, i.e., Germany, Japan and the US, with long-term interest rates in those countries at historic lows. This is in spite of the lowering of credit ratings of the US and Japan and the warning for Germany's rating.

Share prices fell in many countries and were characterized by high volatility, following the upward trend in 2009–10. This year, as in previous periods, the behavior of share indices differed between developed and developing countries—the MSCI index for developed economies fell by 7.0 percent while its Emerging Markets Index declined by 17.6 percent.

##### b. Israel's economy

Israel's economy grew by 4.7 percent in 2011, which was similar to the previous year and faster than the growth rates in advanced market countries (Figure 2.1). However, during the second half of the year, the rate of growth moderated, and the debt crisis in Europe was reflected in the downward revision of the growth forecast for the coming year, as occurred in most other countries.

<sup>1</sup> This section briefly describes the macroeconomic environment in which the banking system operated during the year being surveyed and the connection between this environment and the changes that occurred in the banking system during the year. For a more comprehensive survey of the macroeconomic trends during 2011 both locally and globally, see the Bank of Israel Annual Report for 2011: [http:// www.boi.gov.il/deptdata/mehkar/doch11/eng/doch11e/htm](http://www.boi.gov.il/deptdata/mehkar/doch11/eng/doch11e/htm).



The rapid growth in Israel was reflected in the labor market, which this year again was characterized by high demand for labor and a drop in unemployment to 5.6 percent<sup>2</sup>, its lowest level since 1983. This was accompanied by an increase of 4 percent in the nominal wage per employee post. The increase was almost entirely offset by inflation, primarily at the beginning of the year, so that the real wage grew by much less. During the second half of the year, the rate of inflation moderated and reached an annual rate of 2.2 percent, which is close to the middle of the target range.

Monetary policy during the course of the year responded to changes in the level of economic activity and to inflation. At the beginning of the year, the interest rate was raised continuously to a level of 3.25 percent, in reaction to an increase in prices and in inflation expectations. The Bank of Israel then stopped raising the interest rate due to fears of a crisis in Europe and signs of an economic slowdown, together with a moderation in the rate of inflation and in expectations of inflation, and in October it began lowering the interest rate, which reached 2.5 percent in February 2012.

The appreciation trend of the shekel, which reflected the more rapid growth in Israel relative to the advanced economies, ended during the second half of the year and the nominal effective exchange rate reflected a depreciation of 3.6 percent in 2011.<sup>3</sup> The depreciation in the second half of the year was a result of, among other things, moderation in exports and deterioration in the current account. It was also due to the reduced level of activity of foreign residents in the shekel market, which can be attributed to the regulatory measures adopted at the beginning of the year<sup>4</sup> and the reassessment by foreigners of the

<sup>2</sup> Starting from January 1, 2012, the method of estimation was changed. According to the new method, the rate of unemployment was 6.9 percent in 2011.

<sup>3</sup> The average for December 2011 compared to the average for December 2010.

<sup>4</sup> The reporting and reserve requirements for transactions in foreign currency derivatives, as well as the cancellation of the tax exemption on foreigners' profits from *makam*.

risk in investing in the Israeli economy. The Bank of Israel reduced its purchases of foreign currency in 2011, and since August it did not intervene in the foreign exchange market.

The surplus in the current account of the balance of payments, which was a feature of the last seven years, closed this year. The transition to a balanced current account reflected the rapid quantitative growth in imports, a more moderate increase in exports and a significant deterioration in the terms of trade, which was primarily the result of the increase in raw material prices.

Fixed capital formation grew by 16.2 percent this year. This rapid growth encompassed both investment in industries and residential construction, which reacted to the sharp increase in home prices in recent years and the policy measures adopted to increase the supply of land for construction.

The Bank of Israel also adopted macroprudential measures this year in the mortgage market, in order to reduce the risk to the stability of the financial system, in view of the continuing rapid increase in home prices at the beginning of the year and the increased volume of new mortgages. These steps, together with measures adopted by the government, significantly slowed the rate of increase in home prices, and during the final months of the year home prices even fell, for the first time<sup>5</sup> following a continuous uptrend since the end of 2007, which raised prices by about 60 percent.

Private consumption, which is the main source of demand by households for non-housing credit, increased by 3.6 percent this year, with an increase of more than 7 percent in the consumption of durable goods and an increase of 3.2 percent in non-durables consumption. The increase in private consumption was supported by a low real interest rate and a low rate of unemployment. However, the rate of increase slowed markedly starting from the second quarter of the year, due to the effect of price declines in the capital market that reduced the public's financial wealth.

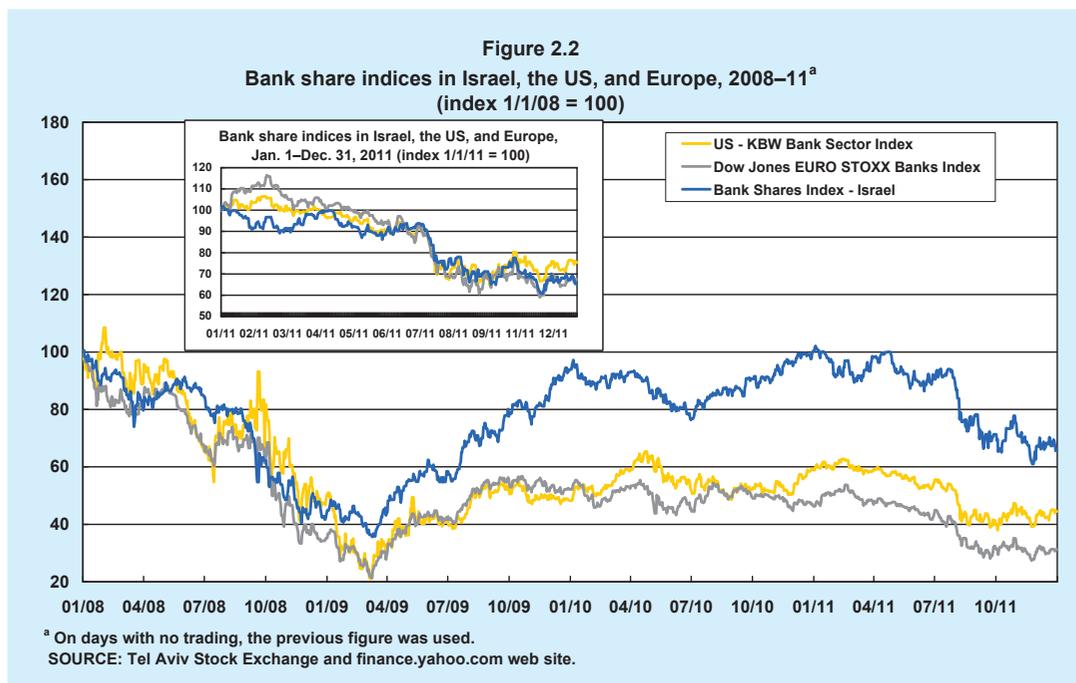
Following two years of positive results, the situation in the domestic financial market was negatively affected by global developments and the increase in geopolitical risk in the region in 2011. The Tel Aviv 100 Index declined by about 20 percent in 2011 from the high it reached at the beginning of the year. The Bank Shares Index—which reflects investors' evaluations of the banks' profitability and resilience—declined, along the lines of similar indices in the US and Europe (Figure 2.2.).

The long-term real interest rate on government bonds, which serves as a benchmark for the cost of financing in the business sector, remained almost unchanged in 2011. Nonetheless, the business sector's cost of financing rose in the bank and non-bank markets due to the increase in the risk premium, as can be seen from the increased spread between the interest rate charged on bank credit and that paid on the public's bank deposits, and corporate bond spreads. Starting in the second quarter of the year, corporate bond spreads rose for all ratings and industries, particularly in the real estate industry and the investment and holding industry, to which the business groups belong. At the same time, the number of corporations that entered into debt restructuring proceedings, about 60 percent of which are in the construction industry, again began to rise. The proportion of the business groups within total debt entering a debt restructuring deal was about 40 percent.

The non-financial business sector raised about NIS 25 billion in 2011 through the issue of bonds, which is similar to the amount raised in 2010. Total net issues (gross issues less redemptions) totaled NIS 7.7 billion, in contrast to about NIS 3.6 billion in 2010. During the second half of the year, the pace of issues slowed, reaching a complete halt at the end of the year. In 2011, there was a clear preference for the issues of high-rated companies (AA and above) and their proportion of total issues rose significantly

<sup>5</sup> Except for a cumulative price decline of 0.4 percent in October and November 2008.

to 62 percent, compared to 44 percent in 2010. At the same time, the proportion of unrated issues reached 7 percent. This trend was even more pronounced during the second half of the year, during which the proportion of issues rated AA and above reached about 72 percent.

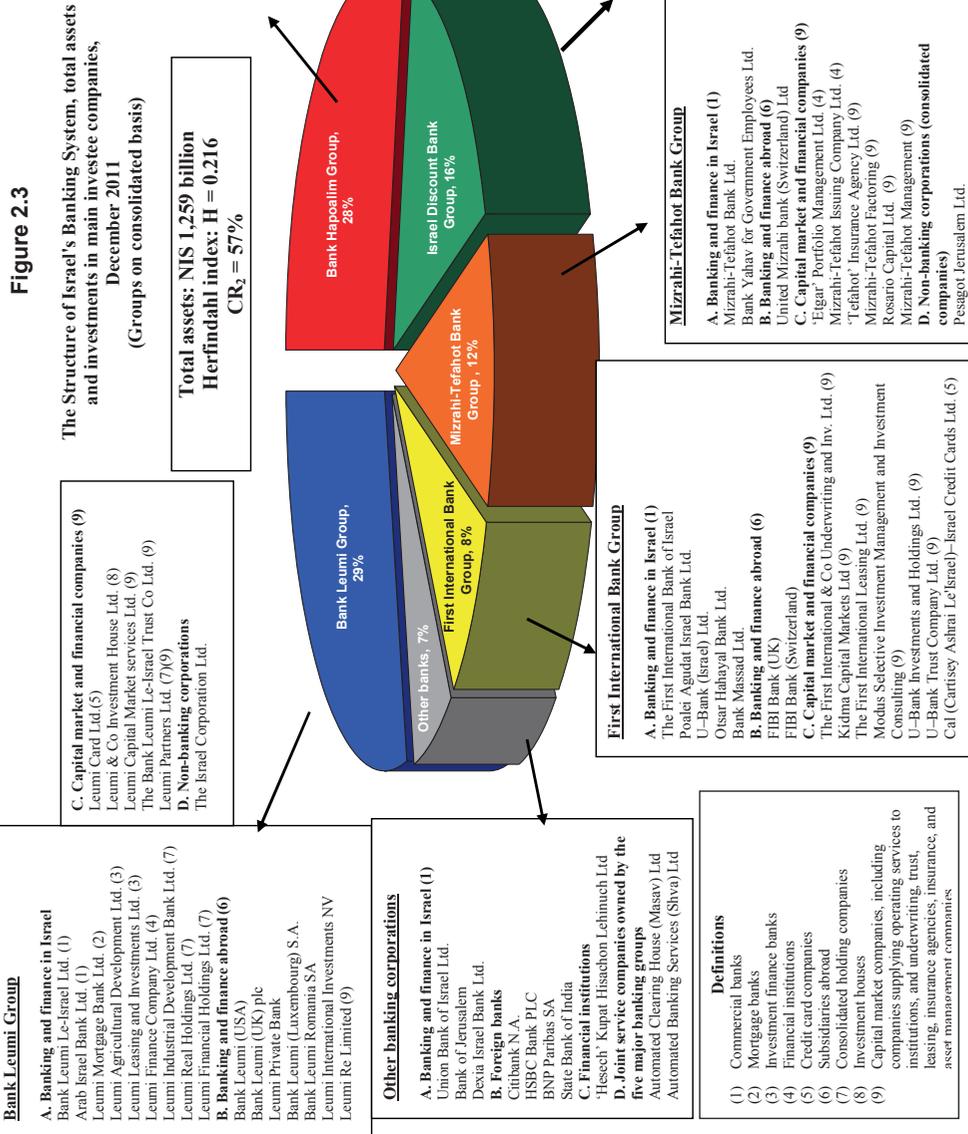


## 2. THE STRUCTURE OF THE ISRAELI BANKING SYSTEM

### a. Description of the system

The Israeli banking system consists of five major banking groups—Leumi, Hapoalim, Discount, Mizrahi-Tefahot and First International—which combined hold about 93 percent of the system’s total assets, and three small independent banks—Union Bank, Bank of Jerusalem and Dexia Israel Bank (Figure 2.3). In addition, there are four branches of foreign banks operating in Israel (although they are part of the banking system, their scope of operations is negligible<sup>6</sup> and they do not constitute a competitive threat to Israeli banks). The banks provide a full range of banking services (“universal banking”) through

<sup>6</sup> The four branches belong to four foreign banks: BNP Paribas, HSBC, Citibank and State Bank of India. Their proportion of credit provided is limited, both in absolute terms (about 0.7 percent of total credit provided by the banking system) and relative to their assets (representing about 23 percent of the value of their assets). They are more active with respect to deposits and account for about 2 percent of the banking system’s total deposits. BNP Paribas Bank intends to close its branch in Israel, while Barclays opened a branch in Israel in August 2011.



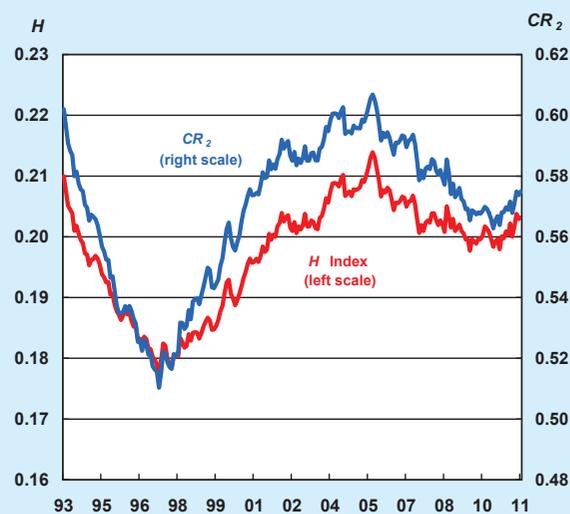
commercial banks, mortgage banks<sup>7</sup> (most of which are located in the branches of the commercial banks), overseas branches of Israeli banks, credit card companies, financial institutions and joint service companies (Table 2.1 and Figure 2.3). There are also representatives of foreign financial institutions operating in Israel but they are not considered to be part of the banking system since they do not provide credit or accept deposits.

In addition to classic banking intermediation activity, the banks are involved through subsidiaries in areas that complement their commercial banking services, such as credit card activity (which has grown in recent years), activity in the capital market (custody services, providing pension and investment advice, and buying and selling of securities in Israel and abroad) and leasing.

In recent years, the banks have been required to reduce their activity in the areas of provident funds and advanced training funds as a result of regulatory changes, in particular the implementation of the Bachar Committee's recommendations.

The local banking system is thus characterized by a high level of concentration, primarily as a result of the small number of large banks, which have a wide national distribution of 1,186 branches (Table 2.1). These, together with an up-to-date and secure communication system and Internet services, provide most of the banking services to both the business and household sectors. In addition to the national network of branches, there are 4,029 ATMs for cash withdrawal and 2,240 other machines that provide information and enable the self-service execution of financial transactions and other banking instructions. At the same time, most of the banks operate manned telephone services, through which bank transactions can be executed during most hours of the day (even after regular banking hours). The large Israeli banks also operate abroad through branches and subsidiaries

**Figure 2.4**  
The Herfindahl-Hirschman ( $H$ )<sup>a,c</sup> Index and the Market Share Index for the two largest banks ( $CR_2$ )<sup>b,c</sup> - total banking system, 1993–2011



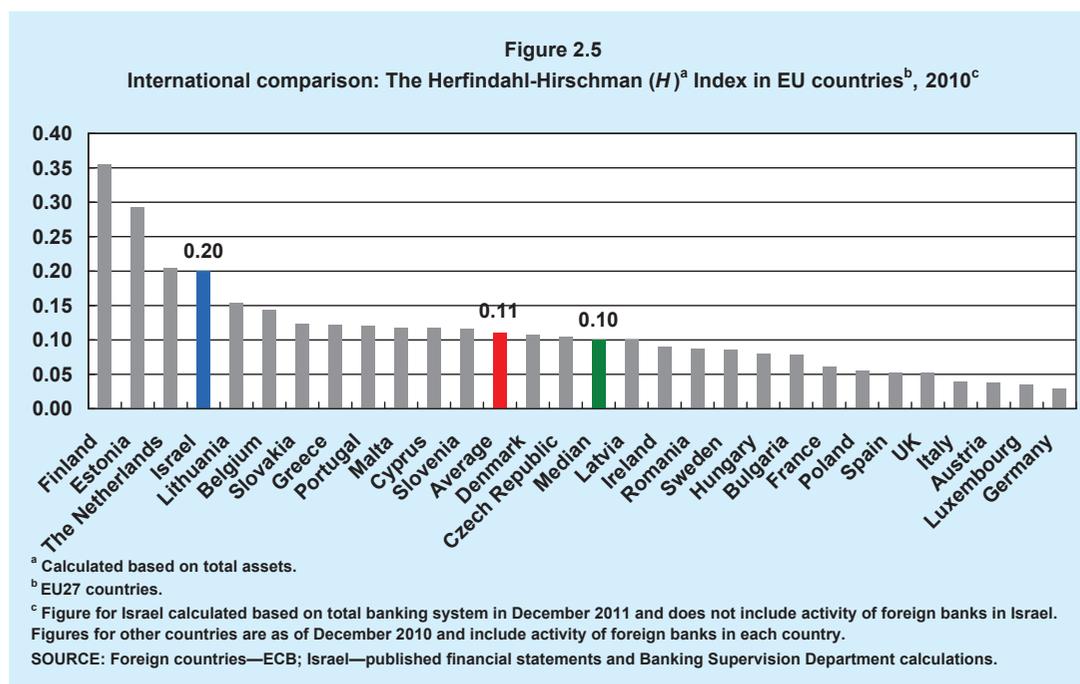
<sup>a</sup>  $\sum_{i=1}^n \left( \frac{y_i}{y} \right)^2 = H$  = The Herfindahl-Hirschman Index of industry concentration, where  $y_i$  = output of bank  $i$  (unindexed shekel credit) and  $y$  = the industry's output.  
<sup>b</sup>  $CR_2$  = The market share of the two largest banks in the system (Leumi and Hapoalim).  
<sup>c</sup> Calculated from unindexed local currency credit.  
 SOURCE: Published financial statements, reports to the Banking Supervision Department, and Banking Supervision Department calculations.

<sup>7</sup> During the last decade, most of the mortgage banks have been merged or acquired and their activity has been assimilated within that of the acquiring or merging commercial bank. The main motive for this has been the exploitation of synergetic advantages along with savings in administrative costs, overhead, etc. Discount Bank announced its intention of merging into it the activity of Discount Mortgage Bank. The conditions for the merger were achieved and the merger is expected to be complete by the end of June 2012. Similarly, Bank Leumi's Board of Directors announced in January 2012 that it intends to merge Leumi Mortgage Bank within it, a process that will be complete by the end of 2012. Once this occurs, the merger process of mortgage banks operating in Israel will be complete.

(representative offices), although the activity of Israeli banks abroad<sup>8</sup> has not managed to create large and stable profit centers, despite their widespread distribution and the significant level of investment in them. Attempts by Israeli banks to penetrate markets abroad have not been particularly successful, and the proportion of assets in foreign branches out of total assets of the banking system is declining.

### b. Concentration of the banking system

The concentration of the banking system, which is one of the factors that determine its level of competitiveness, is generally measured by two indicators: the Herfindahl-Hirschman Index (H), which is calculated here for unindexed bank credit (which accounts for about two-thirds of the total credit of the commercial banks), and CR<sub>2</sub> which measures the market share of the two largest banks (Leumi and Hapoalim) in total unindexed shekel credit. Concentration according to the H Index stood at 0.20 at the end of 2011, essentially unchanged from its level at the end of 2010, with a slight and gradual decline since the beginning of 2006. A similar picture, i.e., a stable level of concentration in the system this year with a gradual decline since the beginning of 2006, is obtained from the CR<sub>2</sub> index which stood at about 56.5 percent in 2011, close to its level at the end of 2009 (Figure 2.4). An international comparison of the Herfindahl Index according to the assets of individual banks shows that the level of concentration in the Israeli banking system is significantly higher than the average for the reference group (Figure 2.5).



<sup>8</sup> These foreign branches are located primarily in the European capitals, near the important global financial centers. In addition, there are a number of branches in developing countries.

**Table 2.1**  
**Banking system structure and the share of banks' investments in total equity, December 2011<sup>a</sup>**

Bank	Share of total assets	Share of total bank credit	Total assets	Credit to the public	Total deposits	Equity	Investment by large banks in (Percent)			Investment by large banks in consolidated companies in Israel as a share of their equity	Number of branches <sup>b</sup>	Number of employee posts <sup>c</sup>
							banks in small banks, mortgage banks, and credit card companies as a share of their equity	banking subsidiaries abroad as a share of their equity	Investment by large banks in banking subsidiaries abroad as a share of their equity			
<b>The five major banking groups</b>												
Leumi	29.1	29.0	365,854	241,320	279,404	23,628	18	18	10	258	13,559	
Hapoalim	28.3	29.6	356,688	246,495	256,417	24,127	6	10	0.5	310	13,827	
Discount <sup>d</sup>	16.1	14.0	202,491	116,383	153,368	11,115	45	27	0.7	243	10,240	
Mizrahi-Tefahot	11.9	14.3	150,246	119,328	119,236	8,054	6	3	0.2	158	5,405	
First International	8.0	7.8	101,127	64,978	81,387	6,289	32	9	6	164	5,253	
<b>Total for the five major banking groups</b>	<b>93.4</b>	<b>94.8</b>	<b>1,176,406</b>	<b>788,504</b>	<b>889,812</b>	<b>73,213</b>				<b>1,133</b>	<b>48,284</b>	
<b>The independent banks</b>												
Union Bank of Israel Ltd.	3.1	2.7	38,915	22,868	31,158	1,986	none	none	negligible	28	1,256	
Bank of Jerusalem Ltd.	0.9	1.1	11,483	9,058	9,065	645	none	none	none	17	440	
Dexia Israel Bank Ltd. <sup>e</sup>	0.6	0.7	8,130	5,722	3,591	641	none	none	none	1	44	
<b>Total for the independent banks</b>	<b>4.6</b>	<b>4.5</b>	<b>58,527</b>	<b>37,648</b>	<b>43,813</b>	<b>3,272</b>				<b>46</b>	<b>1,740</b>	
<b>Total of foreign bank branches</b>	<b>1.9</b>	<b>0.7</b>	<b>24,323</b>	<b>5,625</b>	<b>19,714</b>					<b>7</b>		
<b>Total for banking system</b>	<b>100.0</b>	<b>100.0</b>	<b>1,259,256</b>	<b>831,778</b>	<b>953,340</b>	<b>76,485</b>				<b>1,186</b>	<b>50,024</b>	

<sup>a</sup> Financial data for the banking groups is on a consolidated basis. Investments in affiliated companies are presented on an equity basis. Only major investments were included.

<sup>b</sup> Does not include mortgage banks (about 14 branches).

<sup>c</sup> On a monthly average basis.

<sup>d</sup> Includes investment in a large affiliated banking company (First International).

<sup>e</sup> Previously "Bank Otzar Hashilton".

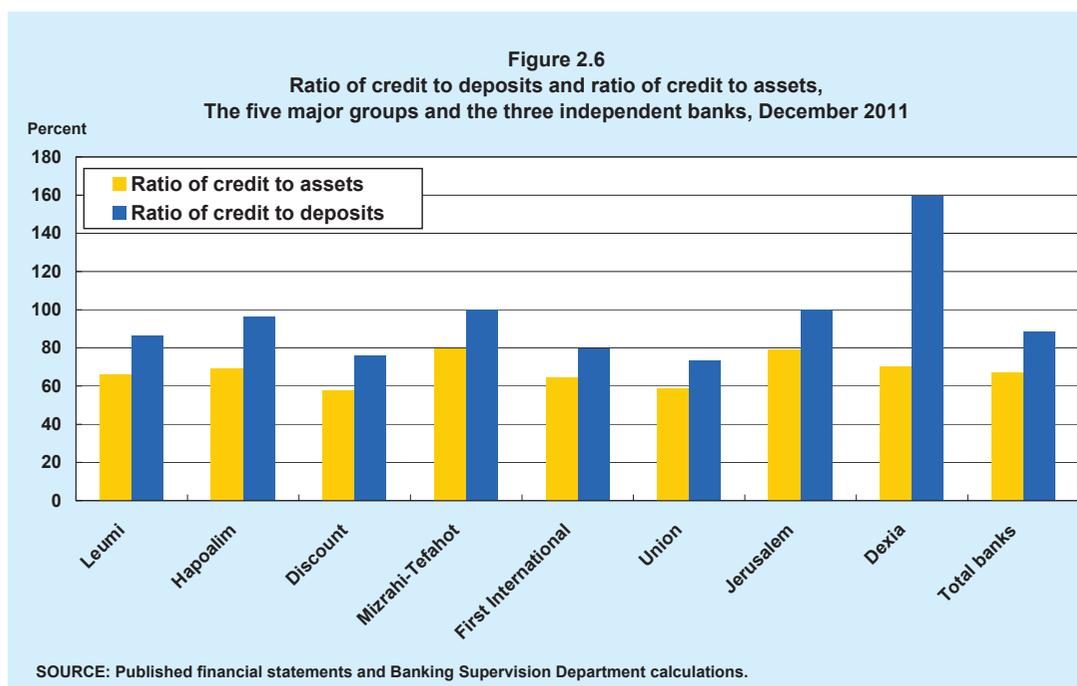
**SOURCE: Published financial statements, reports to the Banking Supervision Department, and Banking Supervision Department calculations.**

## 3. BALANCE-SHEET AND OFF-BALANCE-SHEET ACTIVITY

The total balance sheet of the Israeli bank corporations<sup>9</sup> increased this year by NIS 113 billion and totaled about NIS 1,235 billion at the end of the year, representing a growth rate of 10 percent. The increase in the balance sheet this year was a result of three main developments: the sharp increase in cash and deposits (35 percent), the growth in total net credit to the public (7 percent) and the depreciation of the shekel relative to the dollar (Table 2.2).

The changes this year did not affect the conservative structure of the banking system's balance sheet, which relies primarily on the classic activities of providing credit and accepting deposits. As in the past, balance sheet credit accounted this year for a relatively high share of total assets (67 percent), and the ratio of balance sheet credit to the public to total deposits of the public was relatively low but stable, with the figure this year at 90 percent (Figure 2.6)—a result of the banks' large and solid deposit base. Deposits are Israeli banks' main source of financing for their activity, unlike in other countries, where banks have more diversified sources of financing.

Total cash and deposits at banks increased this year by about NIS 47 billion, which represents an increase of 35 percent. Despite the large variation, the increase encompassed almost all the banks, and most of them increased their liquidity surpluses, following the decline during the previous year. This occurred in light of the recent increase in uncertainty in the global and domestic markets and was also due to the preparations for implementing the new capital requirements of Basel III. The increase in this item was primarily the result of the increase in cash and deposits at central banks (40.6 percent) and the remainder was due to an increase in deposits at commercial banks (10.6 percent).



<sup>9</sup> Includes the five major banking groups (Leumi, Hapoalim, Discount, First International and Mizrahi-Tefahot) and the three independent banks (Igud, Jerusalem and Dexia), but not the branches of foreign banks in Israel.

**Table 2.2**  
**Balance sheet of the Israeli banking system,<sup>a</sup> 2008–11**

	At current prices				Rate of change during 2011 (Percent)	Distribution			
	2008	2009	2010	2011		2008	2009	2010	2011
	(NIS million)					(Percent)			
<b>Assets</b>									
Cash and deposits at banks	125,978	160,785	135,648	182,944	34.9	11.9	14.8	12.1	14.8
<i>Of which:</i>									
Cash <sup>b</sup>	83,326	126,958	110,686	155,748	40.7	66.1	79.0	81.6	85.1
Deposits at commercial banks	40,028	32,412	23,814	26,338	10.6	24.9	20.2	17.6	14.4
Securities	137,475	150,871	154,358	154,528	0.1	12.9	13.9	13.8	12.5
<i>Of which:</i>									
Securities provided as collateral to lenders			13,388	13,538	1.1			8.7	8.8
At fair value			31,781	46,291	45.7			20.6	30
Securities borrowed or bought under agreements to resell	1,435	3,488	3,429	3,021	-11.9	0.1	0.3	0.3	0.2
<b>Credit to the public<sup>c</sup></b>	765,808	757,501	809,217	839,237					68
Allowance for credit losses <sup>c</sup>	33,380	35,540	35,469	13,084					1.1
Net credit to the public	732,428	721,960	773,748	826,152	6.8	68.9	66.3	69.0	66.9
<i>Of which:</i>									
Unindexed local currency	359,772	386,192	435,412	466,654	7.2	49.1	53.5	56.3	56.5
Local currency indexed to the CPI	189,136	178,120	186,375	195,068	4.7	25.8	24.7	24.1	23.6
Foreign-currency indexed and denominated	183,024	156,804	150,904	163,668	8.5	25.0	21.7	19.5	19.8
<i>Of which:</i> In dollars	125,597	103,459	103,856	115,133	10.9	68.6	66.0	68.8	70.3
Non-monetary items	496	844	1,057	763	-27.8	0.1	0.1	0.1	0.1
Credit to governments	2,283	2,973	2,379	2,910	22.3	0.2	0.3	0.2	0.2
Investments in subsidiary and affiliated companies	4,538	4,480	4,141	4,430	7.0	0.4	0.4	0.4	0.4
Premises and equipment	13,554	13,856	13,862	13,783	-0.6	1.3	1.3	1.2	1.1
Intangible assets	1,500	1,311	1,029	1,120	8.8	0.1	0.1	0.1	0.1
Assets in respect of derivative instruments	32,831	16,516	22,372	31,070	38.9	3.1	1.5	2.0	2.5
Other assets <sup>d</sup>	10,502	12,273	10,851	14,975	38.0	1.0	1.1	1.0	1.2
<b>Total assets<sup>d</sup></b>	<b>1,062,524</b>	<b>1,088,513</b>	<b>1,121,817</b>	<b>1,234,933</b>	<b>10.1</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Liabilities and equity</b>									
Deposits of the public	820,401	836,803	847,077	933,625	10.2	77.2	76.9	75.5	75.6
<i>Of which:</i>									
Unindexed local currency	412,952	434,957	473,083	538,690	13.9	50.3	52.0	55.8	57.7
Local currency indexed to the CPI	101,302	99,822	95,056	95,417	0.4	12.3	11.9	11.2	10.2
Foreign-currency indexed and denominated	305,572	301,215	277,826	298,639	7.5	37.2	36.0	32.8	32
<i>Of which:</i> In dollars	223,853	212,810	204,048	222,005	8.8	73.3	70.7	73.4	74.3
Deposits from banks	20,428	18,980	15,832	20,203	27.6	1.9	1.7	1.4	1.6
Deposits from governments	3,536	3,649	3,431	3,236	-5.7	0.3	0.3	0.3	0.3
Securities lent or sold under agreements to repurchase	9,002	8,718	8,619	8,447	-2.0	0.8	0.8	0.8	0.7
Bonds and subordinated notes	66,725	78,710	88,862	100,061	12.6	6.3	7.2	7.9	8.1
Liabilities in respect of derivative instruments	37,227	21,404	28,772	36,298	26.2	3.5	2.0	2.6	2.9
Other liabilities <sup>d</sup>	44,203	51,578	54,683	56,578	3.5	4.2	4.7	4.9	4.6
balance sheet credit instruments			784	1,445	84.2			0.1	0.1
<b>Total liabilities<sup>d</sup></b>	<b>1,001,522</b>	<b>1,019,842</b>	<b>1,047,275</b>	<b>1,158,448</b>	<b>10.6</b>	<b>94.3</b>	<b>93.7</b>	<b>93.4</b>	<b>93.8</b>
Minority interest	1,759	1,837	1,759	1,696	-3.6	0.2	0.2	0.2	0.1
Shareholders equity <sup>d</sup>	59,243	66,834	72,783	74,789	2.8	5.6	6.1	6.5	6.1
<b>Total liabilities and equity<sup>d</sup></b>	<b>1,062,524</b>	<b>1,088,513</b>	<b>1,121,817</b>	<b>1,234,933</b>	<b>10.1</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

<sup>a</sup> On a consolidated basis. The five major banks (Leumi, Hapoalim, Discount, First International and Mizrahi-Tefahot), Union Bank, Bank of Jerusalem

<sup>b</sup> Including deposits at the Bank of Israel.

<sup>c</sup> In light of the implementation of the reporting to the public directive, "Measurement and disclosure of impaired debts, credit risk, and allowance for credit losses", figures for 2011 are not comparable to figures from previous years.

<sup>d</sup> In light of the implementation of the guidelines from the Supervisor of Banks on "Financial reporting of employee rights", figures for 2010 and 2011 are not comparable to figures from previous years.

**SOURCE: Published financial statements and Banking Supervision Department calculations.**

Total net balance sheet credit to the public increased this year by NIS 52 billion (7 percent). The growth in net credit was a direct continuation of the previous year's trend and included all the banks, apart from the Discount Bank group, which showed a drop of about 1.9 percent. The main increase in credit this year occurred along with growth in the deposits of the public, which constituted the main source of financing for the increase. The trend in balance sheet credit over the course of the year was characterized by high rates of increase during the first three quarters and a more moderate rate in the fourth, the result of rapid growth in GDP at the beginning of the year and its leveling off after that. Credit to industries and to individuals grew at relatively high rates (7 percent and 10 percent, respectively). The increase in credit to individuals was a continuation of the trend during the last five years and was primarily the result of an increase in housing loans. An examination of the breakdown of credit to the various sectors in the economy indicates a continuation of the upward trend in the share of credit to individuals, which constitutes about 40 percent of total bank credit, and a decline in the share of credit to industries, which constitutes about 50 percent.

An examination of credit by indexation segments indicates that the increase encompassed all of them, and in particular unindexed shekel credit, which grew by NIS 29 billion.

Another factor that contributed this year to the growth in the banks' balance sheets was the depreciation of the shekel relative to the dollar. This factor was important this year, since the scope of the banks' activity in foreign currency is relatively large (about 23 percent of total assets), particularly in dollars (which accounts for about 74 percent of total activity in foreign currency).

The securities portfolio was little changed this year and totaled NIS 155 billion. This followed a deliberate increase last year of holdings in held to maturity and available for sale government bonds. The change in the composition of the securities portfolio this year (an increase in the proportion of government bonds from 65 percent to 71 percent and a decrease in the proportion of bonds of foreign financial institutions from 13 percent to 9 percent) may be an indication of a change in banks' risk preferences and a tendency toward low-risk assets.

On the liabilities side, the increase in the total deposits of the public (10 percent) was particularly notable, as was the increase in bonds and subordinated debt notes (13 percent). The increase in deposits was mainly the result of growth in the unindexed shekel segment and the foreign currency segment, which represented a continuation of the long-term trend (in the unindexed sector, as a result of the low rates of inflation in Israel during the past decade). As on the assets side, the depreciation of the shekel against major foreign currencies (particularly the dollar) had a major effect on liabilities, since deposits in foreign currency represent about 32 percent of total deposits. Foreign currency deposits increased this year, in light of the depreciation of the shekel and despite the relative stability in these deposits at foreign branches and subsidiaries abroad. The share of bonds and subordinated debt notes in the total balance sheet continued to grow this year and totaled about 8 percent, a continuation of debt instruments' upward trend in the last four years (Table 2.2).

The banks' off-balance-sheet activity in derivatives grew this year by 7.7 percent and totaled about NIS 1.69 trillion. The activity of the banking corporations in interest rate contracts grew this year (33.5 percent), as it did last year, which was partly due to the need to hedge their interest rate risk (Table 2.3). The increase in derivatives activity reflects the increase in operational risk that arises from the complexity of legal contracts, the dependence on computer infrastructures, etc. Despite the growth in derivatives

activity, the banks reported<sup>10</sup> a decline in total credit risk due to these instruments. This decline was entirely the result of the reduction in total off-balance-sheet credit risk due to these instruments, as calculated for purposes of the limitations on the indebtedness of a borrower.<sup>11</sup>

**Table 2.3**  
**Distribution of the balance of derivative instruments,**  
**Israeli banking system,<sup>a</sup> 2011 compared with 2010**  
(NIS million)<sup>b</sup>

	By type of instrument		Rate of change compared with 2010	By type of transaction		Rate of change compared with 2010	
	2010	2011		2010	2011		
Interest-rate contract	539,440	719,932	33.5	Hedging derivatives <sup>d</sup>	21,258	18,322	-13.8
Exchange rate contract	805,393	811,759	0.8	ALM derivatives <sup>d,e</sup>	1,129,307	1,316,474	16.6
Other contracts <sup>c</sup>	225,599	158,992	-29.5	Other derivatives <sup>f</sup>	419,867	355,887	-15.2
<b>Total</b>	<b>1,570,432</b>	<b>1,690,683</b>	<b>7.7</b>	<b>Total</b>	<b>1,570,432</b>	<b>1,690,683</b>	<b>7.7</b>

<sup>a</sup> Includes the five major banks and the independent banks (Union, Jerusalem and Dexia).

<sup>b</sup> In notional principal terms, at current prices.

<sup>c</sup> Contracts in respect of shares, commodity contracts and other contracts.

<sup>d</sup> Excluding credit derivatives.

<sup>e</sup> Derivatives constituting part of the bank's assets and liabilities, for which hedging ratios were not designated.

<sup>f</sup> Including credit derivatives and currency swaps.

**SOURCE: Published financial statements and Banking Supervision Department calculations.**

#### 4. THE CREDIT PORTFOLIO AND CREDIT RISK

##### a. Main developments in the bank credit portfolio<sup>12</sup>

In 2011, the total credit portfolio<sup>13</sup> of the five major banking groups grew by only 3 percent, to about NIS 1,200 billion in gross terms. This increase was a result of the growth in outstanding private credit (particularly housing loans) and outstanding credit to the construction and real estate industry, and

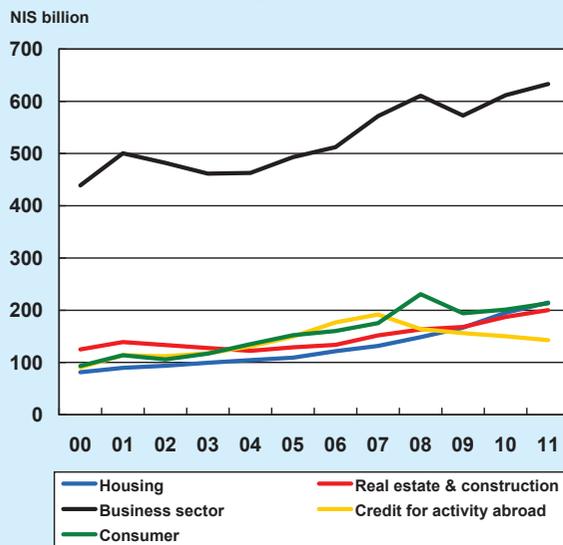
<sup>10</sup> Financial Statements, Note 18 – Contingent liabilities and special contracts.

<sup>11</sup> Off-balance-sheet credit risk due to derivatives for the purpose of the limit on a borrower's indebtedness reflects Basel II's view of the risk implicit in these instruments.

<sup>12</sup> The changes in the banks' credit portfolio in this section include total balance sheet credit to the public, the public's investment in bonds, other assets in respect of derivative instruments and the credit risk in off-balance-sheet financial instruments, as calculated for the purpose of the limit on a borrower's indebtedness. The analysis is based on the data of the five major banking groups. As a result of the implementation of the directive for "Measurement and Disclosure of Impaired Debts, Credit Risk and Credit Loss Allowance", starting from January 1, 2011, total credit of this type is presented in gross terms; however, changes in total credit relative to the corresponding period in the previous year are calculated in net terms. In this way, the effect of accounting write-offs carried out on January 1, 2011 for debts with a provision attached to them was neutralized.

<sup>13</sup> Total credit portfolio includes total balance sheet credit to the public, investment in corporate bonds, other assets in respect of derivative instruments, and credit risk from off-balance-sheet financial instruments, as calculated for the purpose of the limit on a borrower's indebtedness.

**Figure 2.7**  
Outstanding credit<sup>a</sup>, five major banking groups, 2000–11

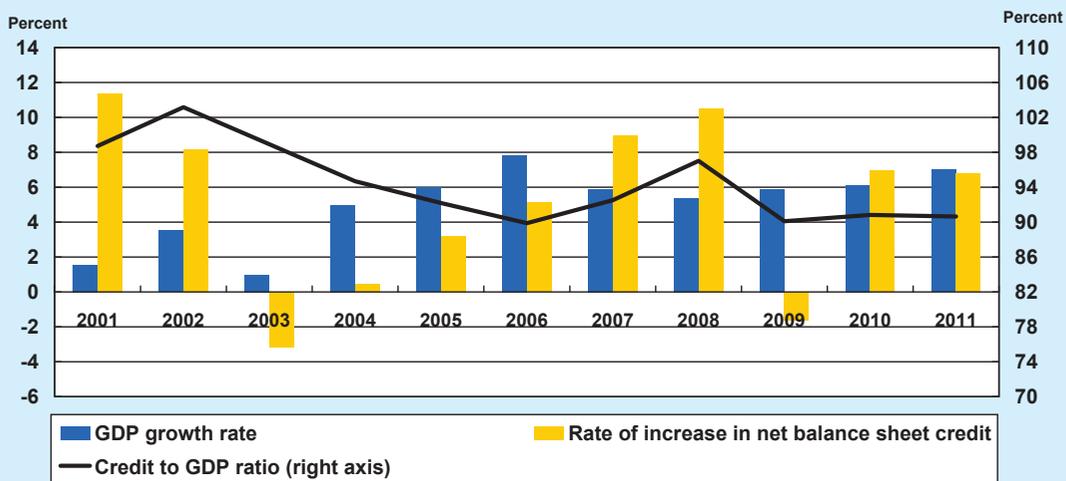


<sup>a</sup> Credit to the business sector, credit to real estate and construction, housing credit, and other consumer credit are only in respect of activity in Israel. Credit in respect of activity abroad includes credit to the business sector and consumer credit. Credit to the business sector includes credit to the real estate and construction sector.  
SOURCE: Published financial statements and Banking Supervision Department calculations.

the weakening of the shekel relative to other currencies (Table 2.4, Figure 2.7). At the same time, outstanding credit due to borrowers whose main activity is located abroad declined. The increase in the credit portfolio was reflected primarily in the growth of balance sheet credit, which was similar to the nominal growth in GDP (7 percent), so that the ratio of balance sheet credit to GDP remained basically unchanged and stood at 91 percent at the end of the year being surveyed (Figure 2.8, Table 2.2).

Total bank credit to the business sector increased this year by only 2 percent, as there was an increase in credit to the construction and real estate industry and to the trade industry and a decline in credit to the financial services industry (Table 2.4). As a result of the price declines in the capital markets and the slowdown in growth of domestic activity during the second half of the year, the risk of companies increased and their repayment ability was weakened. This increase in risk was reflected in, among other things, wider spreads on bonds of all ratings

**Figure 2.8**  
Nominal GDP annualized growth rate, rate of increase in balance sheet credit to the public<sup>a</sup>, and credit to GDP ratio<sup>a</sup>, the five major banking groups, 2001–11



<sup>a</sup> By net credit.  
SOURCE: Published financial statements, Central Bureau of Statistics, and Banking Supervision Department calculations.

**Table 2.4**  
**Distribution of outstanding credit to the public by principal industries, the five major banking groups, December 2010 and December 2011**

Principal industries	Balance-sheet credit to the public <sup>b</sup>																				
	Total credit to the public <sup>a</sup>						Balance-sheet credit to the public <sup>b</sup>														
	Net Balance <sup>c</sup>		Gross Balance		Distribution of credit balance <sup>d</sup>		Change in credit balance <sup>e</sup>		Net Balance <sup>c</sup>		Gross Balance		Distribution of credit balance <sup>d</sup>		Change in credit balance		Impaired loans to total balance-sheet credit		Loan-loss provision to total balance-sheet credit		
2010	2011	2010	2011	2010	2011	(Percent)	(Percent)	2010	2011	2010	2011	(Percent)	(Percent)	2010	2011	(Percent)	(Percent)	2010	2011	(Percent)	(Percent)
<b>Business sector</b>	<b>611,750</b>	<b>625,100</b>	<b>633,065</b>	<b>52.8</b>	<b>52.6</b>	<b>2.2</b>	<b>381,131</b>	<b>398,985</b>	<b>406,950</b>	<b>49.4</b>	<b>49.2</b>	<b>4.7</b>	<b>4.3</b>	<b>0.41</b>	<b>0.50</b>						
Agriculture	7,082	7,468	7,573	0.6	0.6	5.5	5,592	6,023	6,128	0.7	0.7	7.7	2.9	0.20	-0.75						
Manufacturing	115,626	115,780	117,629	10.0	9.8	0.1	64,488	70,270	72,119	8.4	8.7	9.0	4.7	0.52	0.00						
Construction and real estate	187,216	197,057	200,192	16.2	16.6	5.3	106,188	108,875	112,010	13.8	13.5	2.5	5.9	0.63	1.42						
<i>Of which: Purchase groups</i>	8,804	10,751	10,760	0.8	0.9	22.1	2,685	3,216	3,225	0.3	0.4	19.8	0.0	0.00	0.06						
Electricity and water	10,411	13,878	13,929	0.9	1.2	33.3	5,970	6,948	6,999	0.8	0.8	16.4	0.9	0.07	0.13						
Commerce	69,605	76,542	77,431	6.0	6.4	10.0	51,372	57,302	58,191	6.7	7.0	11.5	2.7	0.59	0.50						
Tourism <sup>f</sup>	13,848	14,344	14,584	1.2	1.2	3.6	11,743	12,484	12,724	1.5	1.5	6.3	11.7	-0.66	-0.53						
Transport and storage	19,362	19,483	19,611	1.7	1.6	0.6	14,422	15,251	15,379	1.9	1.9	5.7	1.4	-0.63	0.06						
Communications and computer service	25,530	27,073	27,277	2.2	2.3	6.0	18,099	18,010	18,214	2.3	2.2	-0.5	2.0	-0.26	-0.88						
Financial services	106,928	97,763	98,579	9.2	8.2	-8.6	61,058	61,535	62,351	7.9	7.5	0.8	4.4	0.49	0.31						
Other business services	35,097	34,881	35,300	3.0	2.9	-0.6	25,431	25,851	26,270	3.3	3.2	1.7	1.6	0.57	0.70						
Public and community services	21,045	20,831	20,960	1.8	1.7	-1.0	16,768	16,436	16,565	2.2	2.0	-2.0	2.2	0.10	0.27						
<b>Private individuals</b>	<b>396,151</b>	<b>423,708</b>	<b>427,883</b>	<b>34.2</b>	<b>35.5</b>	<b>7.0</b>	<b>288,869</b>	<b>314,542</b>	<b>318,717</b>	<b>37.4</b>	<b>38.5</b>	<b>8.9</b>	<b>0.4</b>	<b>0.29</b>	<b>0.18</b>						
<i>Of which: Housing loans</i>	195,088	212,620	214,712	16.8	17.8	9.0	182,761	204,088	206,180	23.7	24.9	11.7	0.0	-0.03	0.02						
Non-housing loans	201,063	211,088	213,171	17.4	17.7	5.0	106,108	110,454	112,537	13.7	13.6	4.1	1.2	0.84	0.48						
<b>Borrowers' activity abroad</b>	<b>150,102</b>	<b>141,021</b>	<b>142,841</b>	<b>13.0</b>	<b>11.9</b>	<b>-6.0</b>	<b>101,718</b>	<b>100,332</b>	<b>102,152</b>	<b>13.2</b>	<b>12.3</b>	<b>-1.4</b>	<b>4.7</b>	<b>0.75</b>	<b>0.51</b>						
<b>Total</b>	<b>1,158,003</b>	<b>1,189,829</b>	<b>1,203,789</b>	<b>100.0</b>	<b>100.0</b>	<b>2.7</b>	<b>771,718</b>	<b>813,859</b>	<b>827,819</b>	<b>100.0</b>	<b>100.0</b>	<b>5.5</b>	<b>2.9</b>	<b>0.41</b>	<b>0.38</b>						

<sup>a</sup> Includes outstanding credit to the public, investment in corporate bonds, other assets in respect of derivative instruments and credit risk in off-balance-sheet financial instruments, as calculated for the purpose of borrower indebtedness restrictions.

<sup>b</sup> Includes investments in corporate bonds.

<sup>c</sup> The net balance for December 2011 is calculated by subtracting the allowance for credit losses from the the gross credit balance.

<sup>d</sup> In December 2011, the distribution is based on gross credit.

<sup>e</sup> Changes in the credit balance are based on net credit.

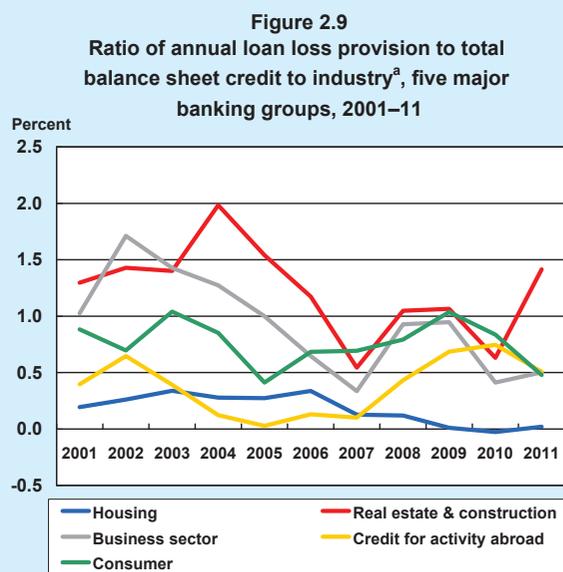
<sup>f</sup> Hotels, food services, and hospitality.

SOURCE: Published financial statements and Banking Supervision Department calculations.

and an increase in the number of companies that required a debt restructuring deal for their bonds. Nevertheless, the level of risk of companies remained low relative to its level during the crisis in 2008.

Leveraged credit includes transactions that are characterized by a level of financial leverage that significantly exceeds the industry norms. These transactions include, among others, credit for acquisition of means of control of a corporation, which totaled about NIS 24 billion at the end of 2011. The level of risk from credit for acquisition of means of control of a corporation rose this year, as a result of the fall in share prices, which led to a drop in the value of shares that serve as collateral against this type of credit. Another type of leveraged credit transaction involves holding companies. Following the negative developments in the capital markets, the yield spread widened between government bonds and the bonds of investment and holding companies. This phenomenon is evidence of the capital market's increased assessment of risk regarding the repayment ability of these companies, which makes it more difficult for them to issue new debt. This in turn raises the risk from the exposure of the banks to these companies.

The largest exposure of the banks among the various industries of the economy is to the construction and real estate industry, which accounts for about 32 percent of the banks' business credit. The outstanding credit to this industry grew by about 5 percent in 2011 although its rate of growth slowed during the course of the year (Table 2.4). The high exposure of the banking system to the construction and real estate industry is reflected in the fact that most of the banks are near the industry indebtedness limit of 20 percent—above which, indebtedness is considered a deviation from the generally accepted bounds. The companies in this industry have a high level of risk, which rose even further this year. Thus, the ratio of annual loan loss provision to total credit to the industry rose significantly, from 0.6 percent in December 2010 to 1.4 percent in December 2011, while for the business sector as a whole the ratio stood at only 0.5 percent (Figure 2.9). In addition, the internal rating of credit risk for the large borrowers in the industry<sup>14</sup> remained higher on average than in other industries (Figure 2.10). For further details on credit to the construction and real estate industry, see Box 2.1.

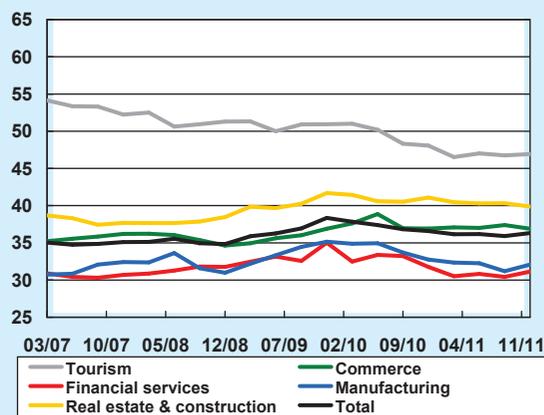


<sup>a</sup> Credit to the business sector, credit to real estate and construction, housing credit, and consumer credit are only in respect of activity in Israel. Credit in respect of activity abroad includes corporate credit and credit to individuals. Credit to the business sector includes credit to the real estate and construction industry.  
SOURCE: Published financial statements and Banking Supervision Department calculations.

<sup>14</sup>The banks rank the credit risk of companies whose total indebtedness exceeds NIS 20 million as part of their reporting to the Banking Supervision Department. Since the rating scales used by the banks are not uniform, we have constructed, for the purposes of this survey, a uniform rating scale for the five major banking groups, with values ranging from 0 to 100. (A rating from 0-36 indicates a low level of risk, 37-57 indicates an intermediate level and 58-100 indicates a high level.) A lower value indicates higher-quality credit.

About one half of the supply of credit to the business sector is from non-bank sources, which totaled about NIS 348 billion in December 2011 (Figure 2.11). During the course of the year, the business sector raised a net amount of NIS 7.6 billion through the issue of bonds in the local market. A similar amount was raised through direct long-term lending to businesses by institutional investors. Starting from the second quarter of the year, spreads between corporate and government bonds widened on bonds of all ratings. With the wider spreads, the volume of new corporate bond issues declined sharply, reaching a complete halt at the end of the year, and at the same time the number of companies that required a debt restructuring deal for their bonds rose, as they were unable to repay their debts. The funding difficulties experienced by companies in the non-bank financing channel during the second half of the year indicate the importance of the banking system as the main provider of credit to the business sector, which

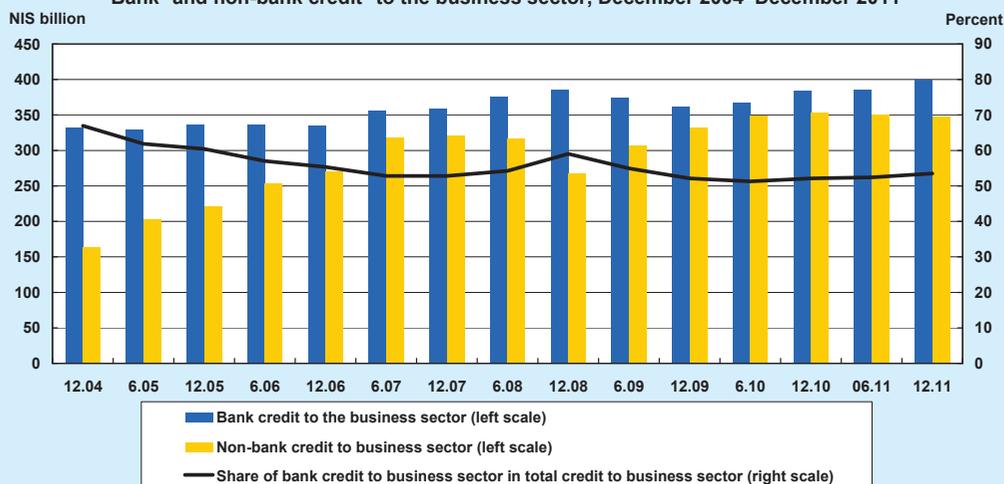
**Figure 2.10**  
Average credit risk rating<sup>a</sup> by principal industries at the five major banks, 2007–11



<sup>a</sup> The banking corporations rank the credit risk of companies whose outstanding indebtedness exceeds NIS 20 million within the context of reports to the Banking Supervision Department. Since the rating scales reported by the banks differ from bank to bank, for the purposes of this review we constructed a standard rating scale for all five major banking groups, with values ranging from 0 to 100. (Credit ratings of 0-36 denote low risk, 37-57 medium risk, and 58-100 high risk). The lower the reported value, the higher the quality of the company's credit.

SOURCE: Reports to the Banking Supervision Department, and Banking Supervision Department calculations.

**Figure 2.11**  
Bank<sup>a</sup> and non-bank credit<sup>b</sup> to the business sector, December 2004–December 2011



<sup>a</sup> Total banking system.

<sup>b</sup> Credit estimate is from the viewpoint of lenders as listed on their books: Value of credit is calculated as bank credit after allowance for credit losses; tradable bonds are by market value; and non-tradable bonds by fair value.

SOURCE: Bank of Israel.

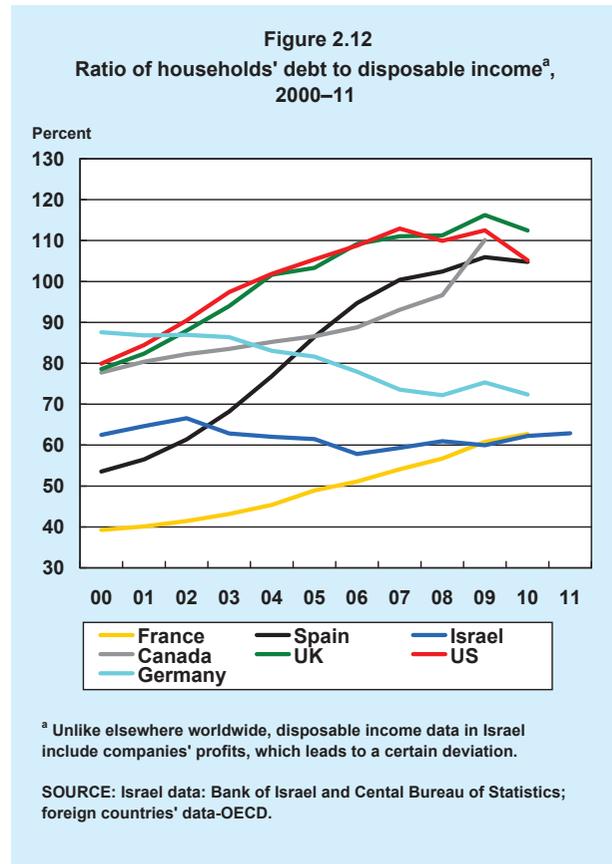
supports the economy's ongoing activity and growth. Furthermore, due to the high degree of concentration in credit, and since the banks' large borrowers are also the large borrowers in the non-bank credit market, the increase in the non-bank credit risk of these companies leads indirectly to an increase in risk to the banks due to their exposure to these companies.

Outstanding private credit grew by 7 percent in 2011 and its weight in total credit reached 36 percent in December 2011 (Table 2.4). The trend in credit to households during the course of the year was not uniform. During the first half of the year, the rapid growth that characterized previous years continued, while the rate of growth slowed significantly during the second half of the year. Despite the accelerated growth in credit to households in recent years, there has been no major change in the debt burden, which serves as an indicator of borrowers' repayment ability. The debt burden is reflected in the ratio of credit provided to individuals to disposable income, a ratio which remains low relative to other Western countries (Figure 2.12).

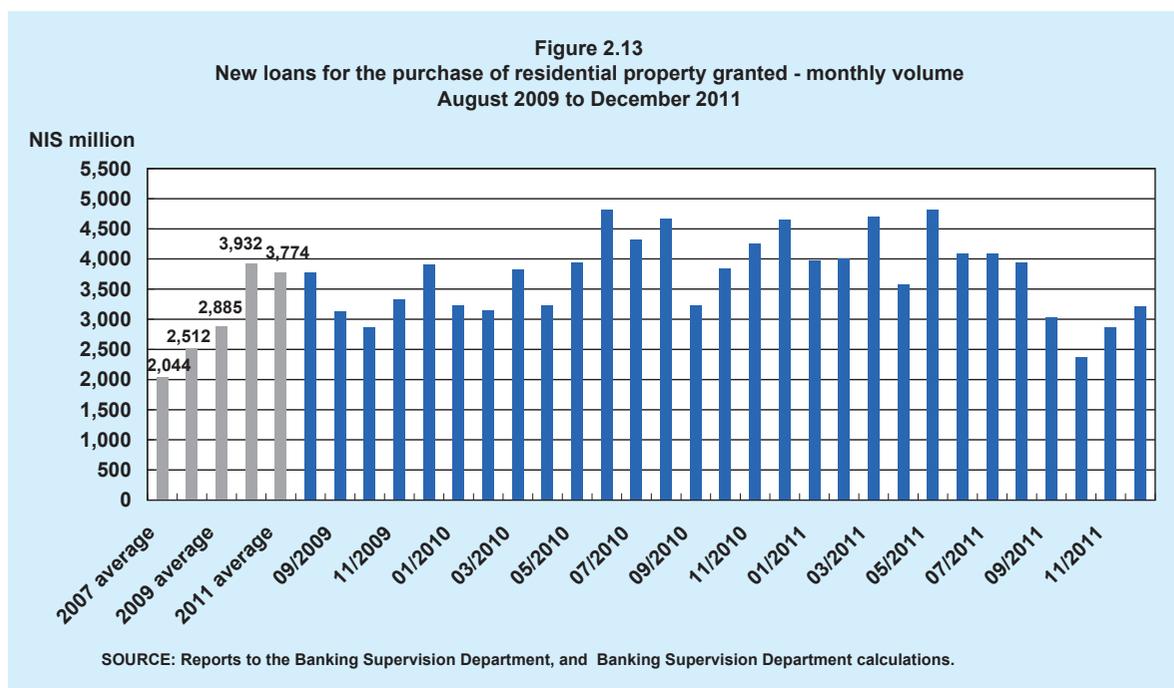
About one-half of the credit to households is made up of consumer credit (which does not include housing loans). This type of credit grew this year by a rate of 5 percent, which is similar to last year. However, the moderation of growth in household consumption during the second half of the year led to a decline in the rate of growth in this type of credit (Table 2.4).

Total outstanding credit from housing loans grew by 9 percent in 2011 and totaled about NIS 215 billion in gross terms (Table 2.4 and Figure 2.7). During the first half of the year, the high level of growth in new mortgages continued, while during the second half of the year the volume of new mortgages fell significantly, both in number and in value (Figure 2.13 and Table A.2.2). The drop in the volume of mortgages is the result of lower demand for homes, which can be viewed against the background of continuing intervention by regulators. Thus, for example, the Supervisor of Banks published a directive in May 2011 that limits, to one-third, the variable-rate component<sup>15</sup> of a housing loan provided by a bank.

In Israel, the average loan-to-value ratio (LTV) and payment to income ratio are lower than those generally found in other Western countries. Thus, the average LTV for housing loans provided between



<sup>15</sup> A loan whose interest rate can change within five years following its date of approval.



April and December 2011<sup>16</sup> was about 55 percent, and the average payment to income ratio was about 33 percent. Furthermore, on average only about 5 percent of new housing loans during this period had LTV of more than 60 percent and a payment to income ratio of more than 50 percent of the borrower's income. Nonetheless, there are other implicit risks in the mortgage market, primarily in view of the rapid growth in the mortgage portfolio in recent years.

### Box 2.1: Credit to the construction and real estate industry

Construction and real estate is one of the most central industries with respect to real and financial economic activity in Israel. An upward trend in home prices since the beginning of 2008 led to a cumulative increase of 60 percent in home prices by the end of 2011, a result of increased demand for housing and the slow adjustment of supply. This situation led to fiscal and monetary policy measures that brought about some decline in home prices during the last quarter of 2011, for the first time in many years.

In reaction to the increase in home prices in recent years, the construction industry has experienced a surge in activity and in 2011 its output increased at an annual rate of 9 percent. This

<sup>16</sup> Based on data reported to Banking Supervision starting from April 2011.

growth has led to a cumulative increase of about 30 percent in the exposure of the banks to the construction and real estate industry during the last four years, which has been reflected in the steady increase in the proportion of the industry's risk within total business credit risk, from 27 percent in December 2007 to 32 percent in December 2011. During the second half of the year, as a result of the drop in demand for homes, the rate of growth in credit to the industry fell, and in December 2011 the total exposure of the banks to the industry totaled about NIS 200 billion (Figure 2.7).

The experience of other countries indicates that crises in the banking system often develop as a result of the exposure of banks to the real estate industry and to housing credit. This is accompanied by growth in the volume of mortgages and the acceptance of real estate assets as collateral for loans that are not necessarily housing loans. In addition, a positive correlation has been found between mortgages and credit to the real estate industry. International experience has also shown that the assessments of risk implicit in the exposure to the construction and real estate industry and in the concentration of this industry are underestimated. In Israel, the level of risk implicit in credit to the construction and real estate industry is high, due to the high proportions of credit to the industry and of housing credit, which together account for about one-third of the banks' credit portfolio, and the sharp increase in these types of credit in recent years.

As part of the Banking Supervision Department's effort to deal with the risk of industry concentration, a limit was set on the total indebtedness of an industry to a bank, such that it should not exceed 20 percent of the public's total indebtedness to that bank (the industry-specific indebtedness limit). The large exposure of the banking system to the construction and real estate industry is reflected in the fact that at most banks, credit to the industry is near the industry-specific indebtedness limit.

An analysis of the risk of credit to the construction and real estate industry shows that the ratio of loan loss provision to total credit to the industry was 1.2 percent on average during the last decade, compared to 0.9 percent for the business sector as a whole (Figure 2.9). Further evidence of the high level of risk in the industry is provided by the high internal rating of borrowers' credit risk relative to other industries (Figure 2.10).<sup>1</sup>

In recent years, some of the banks' borrowers in the industry who are active in real estate have used the non-bank credit market in order to raise large amounts of funds and in this way they have managed to significantly increase their leverage. Currently, these companies account for about 18 percent of total bank credit to the industry and most of them are among the largest companies in the economy. Moreover, the yields on their bonds are high relative to other industries and they rose even higher during the second half of the year. About NIS 5 billion of total bank credit to the industry was provided to borrowers whose bonds traded at yields of more than 12 percent in December 2011, which provides further evidence of the high level of risk due to some borrowers.

<sup>1</sup> See footnote 14 above.

## b. Quality of the credit portfolio

### (1) Developments in the quality of the credit portfolio in 2011

The increased severity of the economic crisis in Europe and the economic uncertainty in the US during the second half of 2011 negatively affected the financial markets and increased global economic and financial uncertainty. These developments, together with the geopolitical situation in the Middle East, have been reflected in an increase in the risk of companies in the Israeli economy, which can be seen in the increased EDF for non-financial companies<sup>17</sup> and the wider spread between corporate and government bonds. Nonetheless, the level of risk has remained significantly lower than during the crisis in 2008 (Figures 2.14 and 2.15).

These negative developments have not been reflected in the internal rating of the credit risk of large borrowers in the economy<sup>18</sup> (Figure 2.10) or in the ratio of loan loss provision to total

balance sheet credit in gross terms, which stood at the historically low rate of only 0.39 percent in 2011<sup>19</sup> (Table 2.5). In relation to this, it is important to mention that provision for credit loss—an indicator of the quality of the credit portfolio—should appropriately reflect the expected loan losses in the credit portfolio, even if they have not yet been identified, by means of a group provision.

This year, the ratio of total risk weighted assets to total assets<sup>20</sup> declined, as a result of the change in the composition of assets among the five major banking groups, the increased proportion of cash and deposits, which is characterized by a low level of risk, and the decline in the proportion of credit to the public, which is characterized by a high level of risk (Table 2.5).<sup>21</sup>

### (2) Implementation of the Directive for Impaired Debts in 2011

Starting January 1, 2011, the banks began implementing the directive for “The Measurement and Disclosure of Impaired Debts, Credit Risk and Allowance for Credit Losses” (hereinafter: the Directive). As a result, the banks recorded a loan loss provision in the amount of NIS 5.5 billion at the beginning of

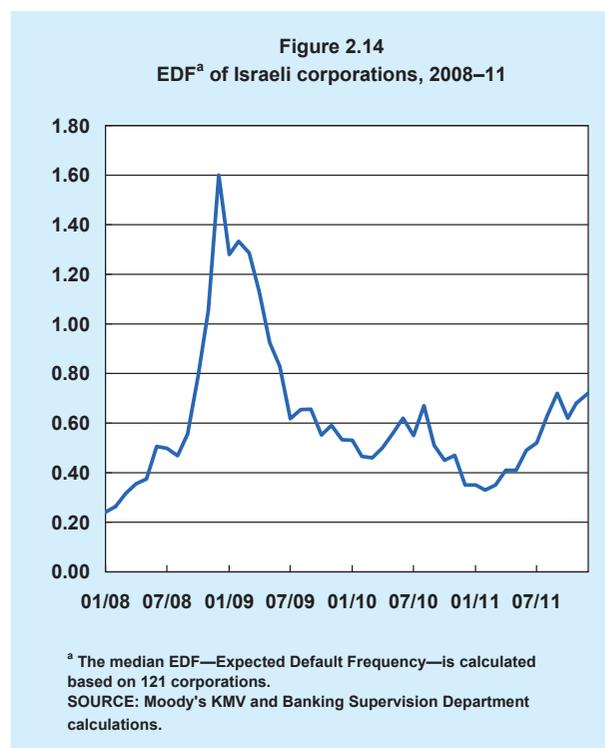
<sup>17</sup> Expected Default Frequency. Moody's computes this probability using the theoretical Merton model and adjusting for actual default events.

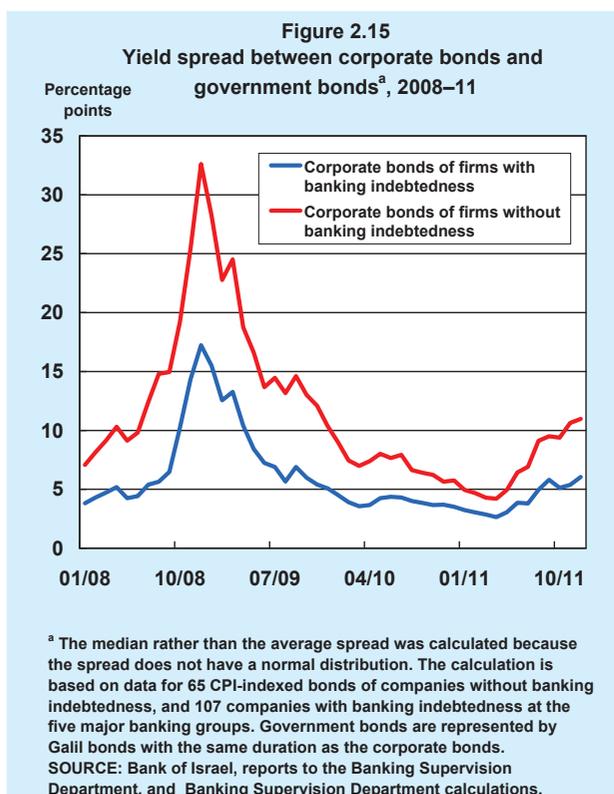
<sup>18</sup> See footnote 14 above.

<sup>19</sup> It should be mentioned that following the implementation of the directive for “The Measurement and Disclosure of Impaired Debts, Credit Risk and Allowance for Credit Losses”, the data for expenses due to credit losses are not fully comparable to that for previous periods, starting from January 1, 2011.

<sup>20</sup> The total risk assets are (balance sheet and off-balance sheet) assets, weighted by risk weights. Total assets are total (balance sheet and off-balance sheet) assets without risk weighting.

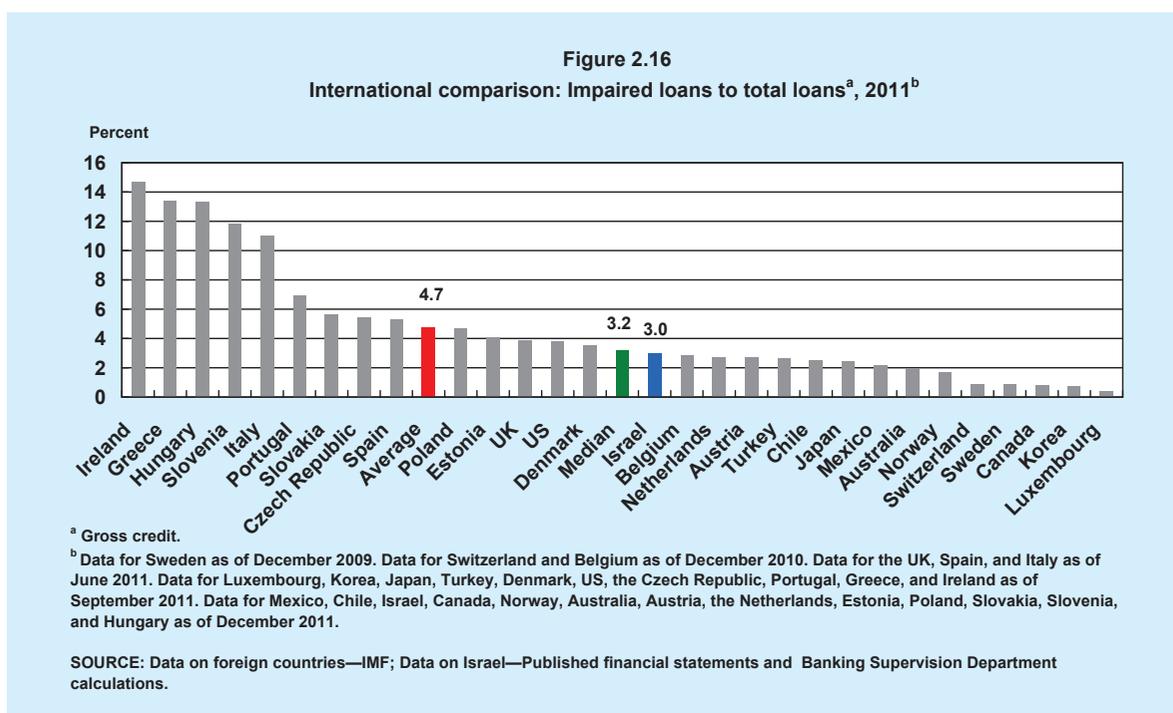
<sup>21</sup> For further discussion of changes in the balance sheet, see Section 3.





2011, which was charged to equity and reduced it by about 4 percent. In addition, the banks recorded significant write offs of loans, for part of which NIS 24 billion had previously been included in allowances.

The Directive introduced accounting rules for determining individual allowance for credit losses and for group allowance for credit losses. Thus, the ratio of loan loss provision to total balance sheet credit on an individual basis was 0.21 percent in December 2011 and the ratio of provisions due to loan losses on a group assessment basis was 0.18 percent. In addition, the definitions and classification of problem loans were changed. In December 2011, the problem loans (balance sheet and off-balance sheet) of the five major banking groups was NIS 42 billion and the proportion of impaired loans within total problem loans was about 60 percent. As a result of the Directive, the Banking Supervision Department began a



**Table 2.5**  
**Indices of credit portfolio quality of the five major banking groups, December 2005 to December 2011**

	(percent)						
	Year	Leumi	Hapoalim	Discount	Mizrahi Tefahot	First International	Five groups
Ratio of total risk-weighted assets to total assets <sup>a</sup>	2005	67.9	71.9	60.0	67.3	61.4	67.3
	2006	67.0	72.2	59.8	66.6	61.3	66.9
	2007	69.0	72.8	61.9	68.2	58.8	68.0
	2008	69.5	72.3	64.8	66.9	59.1	68.3
	2009 <sup>b</sup>	64.2	67.9	60.6	67.1	54.4	64.1
	2009 <sup>c</sup>	67.0	69.2	63.3	59.6	56.2	65.2
	2010	68.3	68.7	67.2	58.7	61.0	66.4
	2011	67.7	67.3	60.4	58.3	60.0	64.6
Loan loss provision to total balance sheet credit to the public <sup>d</sup>	2005	0.79	0.66	0.79	0.45	0.62	0.69
	2006	0.51	0.53	0.63	0.44	0.42	0.52
	2007	0.21	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	0.25	0.44	0.66	0.43	0.17	0.39
	2011 <sup>e</sup>	0.30	0.48	0.66	0.28	0.14	0.39
	2011	0.84	0.84	0.72	0.44	0.15	0.71
Allowance for credit losses to total balance sheet credit to the public	2010 <sup>f</sup>	2.3	2.1	1.7	1.6	1.3	2.0
	2011	1.6	1.6	1.7	1.4	1.3	1.6
Impaired loans to total balance sheet credit to the public	2010 <sup>f</sup>	3.8	4.7	4.7	1.5	1.9	3.7
	2011	2.8	3.4	4.7	1.3	1.6	3.0
Allowance for credit losses <sup>g</sup> to impaired loans to the public	2010 <sup>f</sup>	53.5	41.7	31.2	52.1	62.6	44.8
	2011	50.9	43.1	31.1	48.1	74.5	44.2
Impaired loans net of provision to capital	2010 <sup>f</sup>	24.2	35.9	48.3	17.6	14.3	30.2
	2011	21.4	29.0	46.6	17.5	11.4	26.4

<sup>a</sup> Total risk-weighted assets are (balance-sheet and off-balance-sheet) assets, weighted by risk weights. Total assets are total (balance-sheet and off-balance-sheet) assets without risk weighting.

<sup>b</sup> The ratio is calculated in accordance with Basel I principles.

<sup>c</sup> The ratio is calculated in accordance with Basel II principles. Risk assets are calculated after deduction of credit risk (CRM).

<sup>d</sup> Until December 2010, net credit to the public was used; since 2011, gross credit to the public has been used.

<sup>e</sup> Due to the implementation of the Impaired Debt Directive as of January 1, 2011, the figures for December 2011 cannot be fully compared with previous periods.

<sup>f</sup> Data calculated as of January 1, 2011 - after the implementation of the directive for impaired debt.

<sup>g</sup> Net of allowance for credit losses for housing loans, for which the credit loss allowance must be calculated according to days past due.

**SOURCE: Published financial statements and Banking Supervision Department calculations.**

process of examining new indicators for the analysis of the quality of the credit portfolio, according to the new definitions and what is generally accepted in other countries (Table 2.5). Thus, for example, the proportion of impaired loans within total balance sheet credit to the public, which represents the riskiest portion of credit, stood at 3 percent in December 2011, similar to the median for OECD countries (Figure 2.16), and the ratio of the total allowance for credit loss to impaired loans to the public<sup>22</sup> was 45 percent. This ratio reflects the bank's assessment of its expected credit losses (according to the profit and loss statement in the past and in the present) relative to the size of the credit portfolio that it has classified as impaired. A high ratio reflects a low potential for additional future losses due to impaired credit (Table 2.5).

### **c. Concentration in the credit portfolio**

The banks' business credit portfolio is characterized by a relatively high level of borrower concentration, due to the concentrated structure of ownership and control in the Israeli economy (Tables A.2.3 and A.2.4). This risk could be seen in the results of the sensitivity analysis carried out by Banking Supervision during the course of the year, according to which the scenarios have major effects on the banks' capital.<sup>23</sup>

During 2011, Banking Supervision took steps intended to reduce potential concentration risk in the banks' credit portfolio by tightening the limits on the indebtedness of both a single borrower and a group of borrowers. These limits were also applied to the exposure to other banking corporations. Thus, from December 2011, the banks have complied with an indebtedness limit of 25 percent of capital for a group of borrowers (instead of 30 percent up to that point). The weight of the largest borrower ranges from 18 percent (for the Discount group) to 27 percent (for the Hapoalim group).<sup>24</sup> In addition, the banks are implementing a new restriction, according to which the total indebtedness of all large borrowers, groups of borrowers and borrower banks (whose indebtedness exceeds 10 percent of the bank's capital) will not exceed 120 percent of the bank's capital. As of December 2011, all of the banks met this restriction.

The large borrowers in the banking system are for the most part also the large borrowers in the non-bank credit market. The large borrowers in the banking system who also borrow in the capital market account for about 15 percent of the banks' total business credit risk. More than half of the financing of these borrowers originates in the capital market and therefore the banks are also exposed to large borrowers indirectly, through the corporate bond market.<sup>25</sup> Since the second quarter of 2011, risk in the corporate bond market has increased and the number of companies that have required a debt restructuring deal has grown significantly. These developments increase the banking system's risk of contagion from the non-bank credit market.

<sup>22</sup> The allowance for credit losses does not include the allowance for credit losses due to housing loans, for which the credit loss allowance must be calculated according to days past due.

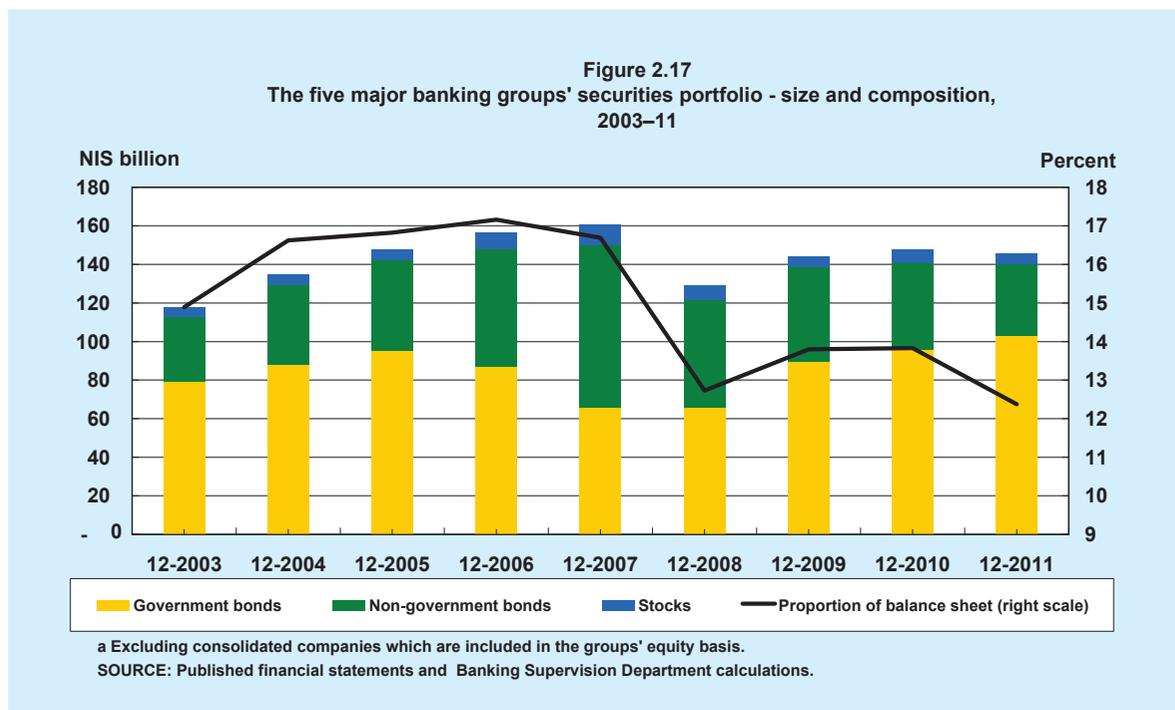
<sup>23</sup> For further details, see Box 2.3.

<sup>24</sup> The Hapoalim group has one group of borrowers whose indebtedness to the bank exceeds 25 percent. The Banking Supervision Department has instructed Hapoalim to correct the situation over the next eight quarters, in equal proportions, starting from December 31, 2011.

<sup>25</sup> About NIS 10 billion of the banks' total credit risk originates with borrowers whose bonds were traded at yields exceeding 12 percent in December 2011.

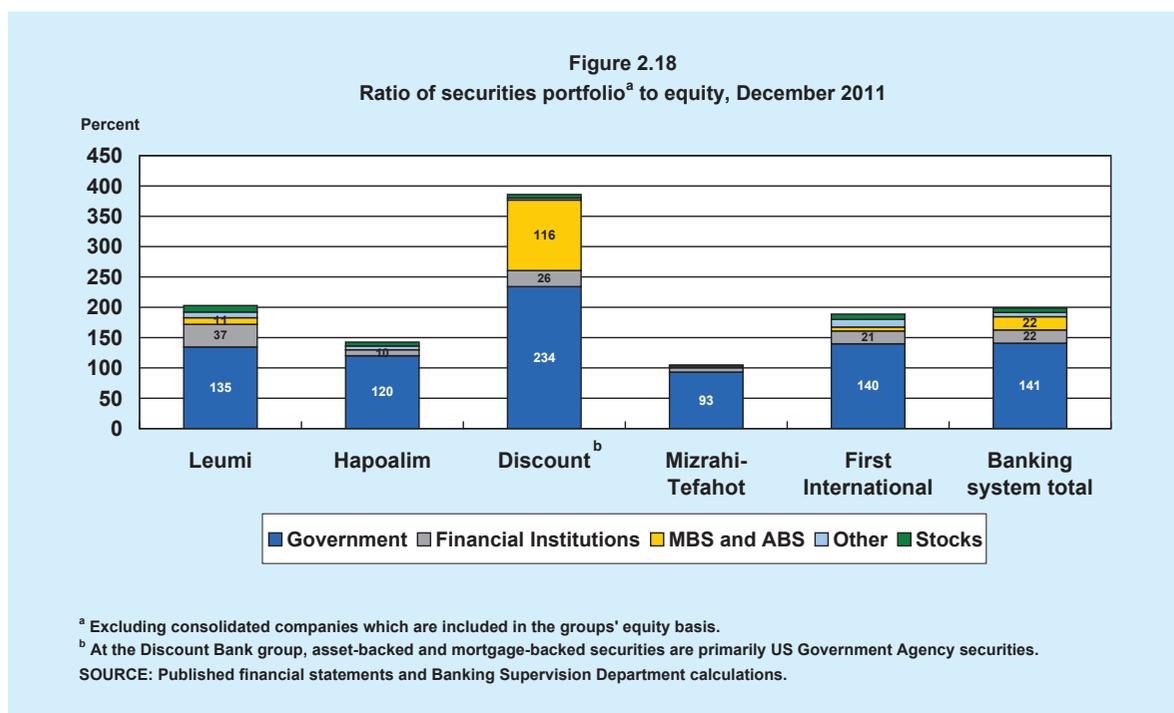
## 5. THE SECURITIES PORTFOLIO

The securities portfolio of the five major banking groups totaled NIS 146 billion in 2011, which represents 12 percent of their total assets (Table A.2.5). The composition of the portfolio changed during the course of the year, with the proportion of government bonds increasing from 65 percent to 71 percent and proportion of bonds of foreign financial institutions dropping from 13 percent to 9 percent, as a result of the sale of bonds, which was aimed at, among other things, reducing the exposure of the banks to risk in their securities portfolio (Figure 2.17).



The banks' level of risk from their investment in securities is affected both by the risk of the portfolio and its proportion within total assets. The results of the stress tests carried out this year by Banking Supervision emphasize the vulnerability of the banks due to the exposure to their securities portfolio, which is reflected in profitability and in the capital adequacy ratio.

The variance among the five major banking groups is particularly evident in the composition and size of the portfolio and reflects the differences in their risk appetites and investment strategies. As of the end of 2011, the Mizrahi-Tefahot group and the Hapoalim group had smaller portfolios than the other groups and a higher proportion of government bonds, situations which reflect lower risk. The Leumi group had a high exposure to the bonds of foreign financial institutions and the Discount group had a relatively large securities portfolio (Figure 2.18).



## 6. COUNTRY RISK

The total balance sheet exposure of the five major banking groups to foreign countries totaled NIS 139 billion in December 2011, accounting for 12 percent of total assets (Table 2.6). About one-third of the exposure—about NIS 50 billion—is to foreign financial institutions (Table 2.7). This risk has increased as a result of the debt crisis in Europe. The debt burden, the decline in growth in some of the European countries and concerns of a crisis in the financial sector have also led to an increase in the risk of the large financial institutions in countries with high credit ratings, i.e., Germany, the UK, the Netherlands, and France. In view of these developments, Banking Supervision examined the effect of various scenarios on the losses of the banks in Israel, due to their exposure to foreign financial institutions. This included a scenario of a major deterioration in the situation of government bonds in high-risk European countries, which would threaten the stability of financial institutions in Europe, and a scenario which assumed an increase in the level of risk of financial institutions both inside and outside Europe. The results of the stress tests indicate that the direct exposure of the five major banking groups to foreign financial institutions is not negligible but does not endanger the stability of the banking system. Particularly evident is the variation among the five banking groups in their exposure to foreign financial institutions, with Leumi having the highest exposure.

This year, the downward trend continued in the exposure to borrowers whose main activity is located abroad. This trend began in 2008 and the proportion of these borrowers in total credit risk fell from 18 percent at the end of 2008 to 12 percent at the end of 2011.

**Table 2.6**  
**Exposure to foreign countries, the five major banking groups, December 2011**  
 (NIS million)

	Balance sheet exposure abroad		Net balance sheet exposure of overseas offices of the banking corporation to local residents <sup>b</sup>		Total balance sheet exposure to equity (%)	Total balance sheet exposure to assets (%)	Total off-balance-sheet exposure <sup>c</sup>
	To governments <sup>a</sup>	To banks To others	To banks	To others			
US	4,849	9,522 14,394	32,394	61,159	83.54	5.20	24,117
UK	-	9,158 6,368	6,695	22,221	30.35	1.89	8,709
Germany	174	3,338 2,343	1	5,856	8.00	0.50	1,299
France	-	3,853 1,282	-	5,135	7.01	0.44	1,604
Switzerland	-	977 1,316	6,027	8,320	11.36	0.71	1,318
Belgium	-	422 132	-	554	0.76	0.05	32
Turkey	-	82 44	3,012	3,138	4.29	0.27	1,049
The Netherlands	4	1,257 1,339	-	2,600	3.55	0.22	176
Italy	81	382 139	-	602	0.82	0.05	49
Spain	79	143 40	-	262	0.36	0.02	157
Portugal	-	- 1	-	1	0.00	0.00	-
Ireland	-	13 104	-	117	0.16	0.01	195
Greece	-	- 1	-	1	0.00	0.00	1
Other countries	1,209	9,768 16,285	1,724	28,986	39.59	2.46	9,059
<b>Total exposure to foreign countries</b>	<b>6,396</b>	<b>38,915 43,788</b>	<b>49,853</b>	<b>138,952</b>	<b>189.79</b>	<b>11.81</b>	<b>47,765</b>
Exposures to Ireland, Greece, Portugal, and Spain, which were not included above.	-	388 186	-	574	0.78	0.05	101
<i>Of which:</i> Total exposure to LDCs	293	1,549 2,997	4,094	8,933	12.20	0.76	3,738
<b>Total exposure to Europe</b>	<b>338</b>	<b>20,013 13,295</b>	<b>15,735</b>	<b>49,381</b>	<b>67.45</b>	<b>4.20</b>	<b>14,690</b>
<i>Of which:</i> Total exposure to Ireland, Greece, Portugal, and Spain	79	544 332	-	955	1.30	0.08	454

<sup>a</sup> Governments, official bodies, and central banks.

<sup>b</sup> Net balance sheet exposure after deduction of local liabilities.

<sup>c</sup> Credit in off-balance-sheet financial instruments, as calculated for the borrower indebtedness limit.

**SOURCE: Published financial statements and Banking Supervision Department calculations.**

**Table 2.7**  
**Current credit exposure to foreign financial institutions<sup>a,b</sup>, five major banking groups, December 2011**  
 (NIS million)

Credit rating <sup>c</sup>	Leumi		Hapoalim		Discount		Mizrahi-Tefahot		First International		Five groups, total	
	Total credit	Balance sheet credit	Total credit	Balance sheet credit	Total credit	Balance sheet credit	Total credit	Balance sheet credit	Total credit	Balance sheet credit	Total credit	Balance sheet credit
AAA to AA-	13,066	12,417	4,559	2,278	3,984	3,788	2,053	1,929	890	849	24,552	21,261
A+ to A-	7,732	7,609	10,684	9,999	3,009	2,526	993	859	2,373	2,320	24,791	23,313
BBB+ to BBB-	227	227	161	128	484	484	5	5	4	3	881	847
BB+ to B-	61	54	205	189	413	413	8	2	16	16	703	674
Below B-	53	-	56	56	-	-	-	-	-	-	109	56
Unrated	3,152	3,029	569	517	261	204	7	7	53	38	4,042	3,795
<b>Total credit exposure to foreign financial institutions</b>	<b>24,291</b>	<b>23,336</b>	<b>16,234</b>	<b>13,167</b>	<b>8,151</b>	<b>7,415</b>	<b>3,066</b>	<b>2,802</b>	<b>3,336</b>	<b>3,226</b>	<b>55,078</b>	<b>49,946</b>
Balance of problem debts	324	324	85	85	52	52	4	4	-	-	465	465
Share of exposure out of assets (%)	0.06	0.06	0.04	0.04	0.04	0.04	0.02	0.02	0.03	0.03	0.04	0.04
Share of exposure out of equity (%)	1.03	0.99	0.67	0.55	0.73	0.67	0.38	0.35	0.53	0.51	0.75	0.68

<sup>a</sup> Foreign financial institutions are: investment banks, broker/dealers, insurance companies, institutions and entities controlled by those institutions. Note that credit exposure does not include exposure to financial institutions which have clear and full government guarantees, and do not include investment in asset backed securities.

<sup>b</sup> 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.

<sup>c</sup> External credit rating is based on ratings assigned by credit rating agencies Fitch, S&P, and Moody's.

**SOURCE: Published financial statements and Banking Supervision Department calculations.**

## 7. MARKET RISKS

## a. Interest rate risk

The five major banking groups' total exposure to interest rate risk did not change materially in 2011 compared with the end of 2010. However, the variance among the groups' interest exposure was high.

**Table 2.8**  
Exposure to changes in interest rates, five major banking groups, 2010 and 2011  
(NIS million)

	Leumi		Hapoalim		Discount		Mizrahi-Tefahot		First International		The five groups	
	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011
<b>Unindexed segment</b>												
Net position in segment <sup>a</sup>	17,378	17,512	16,178	15,662	6,197	3,087	3,545	1,526	3,698	3,567	46,996	41,354
The change in the fair value of the net position in the segment as a result of an interest rate change <sup>b</sup>												
1 percentage point increase	-408	-352	288	102	-152	-138	-119	148	-94	-57	-485	-297
1 percentage point decrease	327	357	-312	-90	184	3	25	-174	104	65	328	161
Maximum change in interest rates <sup>c</sup> (percentage points)	1.59	1.56	1.59	1.56	1.59	1.56	1.59	1.56	1.59	1.56	1.59	1.56
The change in the fair value of the net position in the segment as a result of the maximum change in the interest rate <sup>d</sup>												
Interest rate increase	-648	-550	457	159	-241	-216	-189	231	-149	-89	-770	-464
Interest rate decrease	519	557	-495	-141	292	5	40	-272	165	102	521	251
<b>CPI-indexed segment</b>												
Net position in segment <sup>a</sup>	3,466	3,414	3,920	4,278	1,721	2,172	3,133	4,991 #	691	415	12,931	15,270
The change in the fair value of the net position in the segment as a result of an interest rate change <sup>b</sup>												
1 percentage point increase	471	109	250	195	104	-11	105	-109	-15	-60	915	124
1 percentage point decrease	-480	-132	-213	-114	-122	12	-39	247	21	70	-833	83
Maximum change in interest rates <sup>c</sup> (percentage points)	0.49	0.50	0.49	0.50	0.49	0.50	0.49	0.50	0.49	0.50	0.49	0.50
The change in the fair value of the net position in the segment as a result of the maximum change in the interest rate <sup>d</sup>												
Interest rate increase	229	54	121	97	50	-5	51	-54	-7	-30	444	62
Interest rate decrease	-233	-66	-103	-57	-59	6	-19	123	10	35	-404	41
<b>Foreign currency segment<sup>e</sup></b>												
Net position in segment <sup>a</sup>	-2,980	-4,354	-1,280	-2,173	-2,993	-1,013	115	207	-747	-616	-7,885	-7,949
The change in the fair value of the net position in the segment as a result of an interest rate change <sup>b</sup>												
1 percentage point increase	-140	-3	27	-76	-282	-154	-61	-70	-31	2	-487	-301
1 percentage point decrease	170	-7	-38	61	-29	-155	60	72	32	0	195	-29
Maximum change in interest rates <sup>c</sup> (percentage points)	0.54	0.49	0.54	0.49	0.54	0.49	0.54	0.49	0.54	0.49	0.54	0.49
The change in the fair value of the net position in the segment as a result of the maximum change in the interest rate <sup>d</sup>												
Interest rate increase	-75	-1	15	-38	-152	-76	-33	-35	-17	1	-263	-149
Interest rate decrease	92	-3	-20	30	-16	-76	32	36	17	0	105	-14
<b>Total</b>												
Total fair value of bank's net worth	17,864	16,572	18,818	17,767	4,925	4,246	6,793	6,724	3,642	3,366	52,042	48,675
The change in the fair value of the bank's net worth as a result of an interest rate change <sup>b</sup>												
1 percentage point increase	-77	-246	565	221	-330	-303	-75	-31	-140	-115	-57	-474
1 percentage point decrease	17	218	-563	-143	33	-140	46	145	157	135	-310	215
The change in the fair value of the bank's equity as a result of the maximum change in interest rates <sup>c</sup> (percentage points)												
Interest rate increase	-494	-497	593	219	-343	-297	-171	142	-173	-118	-588	-551
Interest rate decrease	378	488	-619	-167	217	-66	53	-113	192	136	221	278
As a percent of the fair value of the bank's net worth												
Interest rate increase	-2.8	-3.0	3.2	1.2	-7.0	-7.0	-2.5	2.1	-4.8	-3.5	-1.1	-1.1
Interest rate decrease	2.1	2.9	-3.3	-0.9	4.4	-1.6	0.8	-1.7	5.3	4.1	0.4	0.6

<sup>a</sup> The difference between the present value of assets and the present value of liabilities, including the effect of futures transactions. The present value of assets and liabilities is obtained by discounting the future flow (principal and interest) by the market interest rate in accordance with the term structure of the relevant interest rates for each segment.

<sup>b</sup> Based on published financial statements - directors report.

<sup>c</sup> The maximum change in the yield-to-maturity on *makam* (short term securities) for a month in the unindexed segment, on 5-year CPI-indexed bonds in the indexed segment and on the 3-month LIBID in the foreign currency segment is derived from 10 days' changes over the past 7 years, on the assumption of a normal distribution and a confidence level of 99 percent.

<sup>d</sup> 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.

<sup>e</sup> Including the foreign-currency-indexed segment.

SOURCE: Published financial statements and Banking Supervision Department calculations.

The potential loss occasioned by a maximum increase<sup>26</sup> in interest rates ranged from 7.0 percent to 3.0 percent of the fair value of the banking group's capital<sup>27</sup> and the potential loss from a maximum decrease in interest rates was between 0.9 percent and 1.7 percent of the fair value of the capital (Table 2.8). Some realization of interest rate risk is reflected in immediate losses due to unforeseen changes in market prices; thus, proper management and controls in dealing with risks in this field are important.

In the unindexed segment, in which the five major banking groups' net position accounts for 85 percent of total equity, most activity takes place in floating rate instruments that are indexed to the prime rate and the assets and liabilities have a short term to maturity. Consequently, assets and liabilities in this segment are less sensitive to changes in interest rates than those in the other segments. However, the volatility of the interest rates, which is usually correlated with *makam* yields to maturity, is greater in this segment than in the others. Interest rate risk in this segment declined slightly in 2011 at most of the major banking groups, against the background of some decline in the volatility of *makam* yields and a reduction of the net position in the segment.

In the CPI-indexed segment, assets and liabilities are more sensitive to changes in interest rates than in the other segments because most are fixed-rate and middle-to-long duration, although interest rates in this segment, which are usually correlated with yields to maturity of CPI-indexed bonds, typically display relatively low volatility. The interest rate risk in this segment continued to decline at most of the major banking groups as the duration of capital shortened.

In the foreign currency segment, interest rate risk was lower than in local currency activity in most of the banking system in 2011. This was mainly because the banks adopted a policy of maintaining small positions due to concerns about the implications of the global crisis, and because of the low volatility that is typical of interest rate changes in this segment.

#### **b. Indexation base risks**

The five major banking groups' total exposure to indexation base risk increased slightly; the maximum loss attributable to exchange-rate and inflation risk at the end of 2011 was NIS 495 million—about 1 percent of the five groups' total capital (Table 2.9).

At the end of 2011, much as at the beginning of the year, the five banking groups had asset surpluses in the CPI-indexed segment, meaning that they were exposed to an unexpected decrease in prices. The Consumer Price Index increased by 2.2 percent in 2011—slightly under the 2.9 percent inflation rate expectation derived from the capital markets at the beginning of the year.

At the end of 2011, much as a year earlier, all groups other than Mizrahi-Tefahot were exposed to depreciation of the shekel due to a negative position in this segment.<sup>28</sup> The shekel depreciated against the dollar by 7.7 percent after an appreciation trend that lasted several years—a change that had a dampening effect on most banking groups' profits in the foreign currency segment.

<sup>26</sup> The maximum change in interest rates is derived from changes in the moving ten business day period for every business day in the past seven years, assuming a normal distribution and 99 percent significance.

<sup>27</sup> The calculation is based on the published financial statements, the banking groups' board of directors reports, and processing by the Economics Unit of the Banking Supervision Department.

<sup>28</sup> 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 in order to calculate provisions for taxes, while exchange rate differentials in respect to financing sources are taken into account, so that a lack of symmetry develops in respect to exchange rate differentials. In calculating the scope of investments abroad, these changes may have a significant effect on provisions for taxes. The banks hedge against tax exposure in respect of investments abroad.

**Table 2.9**  
**Exposure to changes in the CPI and the exchange rate, the five major banking groups, December 2010 and December 2011**  
 (NIS million)

	Leumi		Hapoalim		Discount		Mizrahi-Tefahot		First International		The five groups	
	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011
<b>Unindexed segment</b>												
Total assets (excluding futures transactions and options)	170,963	199,647	192,488	203,203	92,884	109,574	70,574	80,612	62,936	67,891	589,845	660,927
Total liabilities (excluding futures transactions and options)	147,028	164,770	164,683	185,628	85,824	99,833	69,834	80,216	55,421	56,739	522,790	587,186
Effect of futures transactions and options	-6,780	-15,320	-14,410	-3,073	-1,498	-6,902	2,141	809	-4,434	-7,571	-24,981	-32,057
Difference between assets and liabilities plus effect of futures transactions and options	17,155	19,557	13,395	14,502	5,562	2,839	2,881	1,205	3,081	3,581	42,074	41,684
The bank's net worth <sup>a,b</sup>	15,135	15,208	16,639	18,663	5,657	5,619	6,037	6,599	3,004	3,630	46,472	49,719
<b>CPI-indexed segment</b>												
Total assets (excluding futures transactions and options)	59,655	61,163	56,185	60,607	27,743	26,211	41,271	45,856	16,050	15,872	200,904	209,709
Total liabilities (excluding futures transactions and options)	52,899	56,494	43,811	48,970	22,654	21,539	33,277	34,859	15,536	15,014	168,177	176,876
Effect of futures transactions and options	-5,874	-4,472	-7,280	-4,834	-2,667	-1,700	-4,871	-5,754	136	-327	-20,556	-17,087
Total position in the segment <sup>c</sup>	882	197	5,094	6,803	2,422	2,972	3,123	5,243	650	531	12,171	15,746
Maximum change in the CPI <sup>d</sup> (percent)	-0.80	-0.80	-0.80	-0.80	-0.80	-0.80	-0.80	-0.80	-0.80	-0.80	-0.80	-0.80
Loss as a result of the maximum change in the CPI <sup>e</sup>	7	2	41	54	19	23	25	41	5	4	97	124
<b>Foreign currency segment<sup>f</sup></b>												
Total assets (excluding futures transactions and options)	87,443	95,674	65,388	86,716	58,827	60,653	19,741	21,976	17,432	13,900	248,831	278,919
Total liabilities (excluding futures transactions and options)	102,999	120,012	88,928	97,265	65,316	69,445	22,427	24,795	22,457	22,280	302,127	335,797
Effect of futures transactions and options	12,654	19,792	21,690	7,907	4,162	8,600	2,719	4,970	4,298	7,898	45,523	49,167
Total position in the segment <sup>c</sup>	-2,902	-4,546	-1,850	-2,642	-2,327	-192	33	151	-727	-482	-7,773	-7,711
Maximum change in the exchange rate <sup>g</sup> (percent)	-4.40	-4.60	-4.60	-4.60	-4.40	-4.40	4.20	4.50	-4.40	-4.40	-4.40	-4.60
Loss as a result of the maximum change in the exchange rate <sup>h</sup>	128	210	82	122	103	9	1	7	32	22	345	371
Total maximum loss to the bank's net worth as a result of indexation base risk <sup>i</sup>	135.0	212.0	122.0	176.0	122.0	32.0	26.0	48.0	37.0	27.0	442.0	495.0
As a percentage of the bank's net worth	0.90	1.40	1.40	0.90	2.20	0.60	0.40	0.70	1.20	0.70	1.00	1.00

<sup>a</sup>The difference between assets and liabilities in the unindexed segment, with the result that the nominal exposure to indexation bases occurs in the indexed segment and in the foreign currency segment.

<sup>b</sup>The difference between assets and liabilities includes the effect of futures transactions.

<sup>c</sup>The maximum change in the CPI derived from changes in inflation expectations over moving 10-business-day periods during the past 7 years, on the assumption of a normal distribution and a confidence level of 99 percent.

<sup>d</sup>The change that will occur in the bank's position as the result of a maximum change in the CPI.

<sup>e</sup>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.

<sup>f</sup>The maximum change in the nominal shekel-dollar exchange rate, which is derived from changes in the exchange rate in moving 10-business-day periods over the past 7 years, on the assumption of a normal distribution and a confidence level of 99 percent.

<sup>g</sup>The change that will occur in the bank's position as a result of the maximum change in the shekel-dollar exchange rate.

<sup>h</sup>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, on the assumption that the worst change will occur from the bank's aspect, in both segments.

**SOURCE: Published financial statements, Central Bureau of Statistics data, and Banking Supervision Department calculations.**

## 8. OPERATIONAL RISK

Operational risk is defined by the Basel Committee as ‘the risk of a loss resulting from inadequate or failed internal processes, people, and systems, or from external events’. It is inherent in all products, processes, systems, and activities of banking corporations, including those related to business continuity and emergency preparedness. In view of the rapid technological development in recent years and the risks inherent in this activity, both the Banking Supervision Department and the banking corporations have prepared to deal with the matter, including cyber crime.

In 2011, Israel’s banking system made a capital allocation of NIS 68 billion on account of operational risk (Table 2.12).

### **Box 2.2: Cyber risks**

Attempts to carry out serious cyber attacks (hereinafter: “cyber attacks”) against banking corporations’ information technology systems and other support infrastructures may have dire implications for the corporations’ sound functioning and the integrity, reliability, and confidentiality of their information and that of their customers. In extreme cases, cyber attacks may disable, if not destabilize, the banking corporation attacked.

The risks inherent in cyber attacks (hereinafter: “cyber risks”) are derived from the unique characteristics of these attacks—including the methods and tools used in perpetrating them (some of which are well known and available online), the speed of the attack, the attacker’s anonymity, the wide scope of the attack, and the extent of the potential damage. Cyber attacks abroad have grown in scale recently, some being launched against large organizations including security firms. They are typified, among other things, by enormous damage to the attacked organization (and, in certain cases, other organizations related to it), the wide range of resources invested in carrying them out, and also, at times, a high level of sophistication. In Israel, too, attempts at cyber attack against various organizations are on the rise.

The Banking Supervision Department is aware of cyber risk and the implications of a successful cyber attack for banking corporations. Accordingly, it is formulating a supervisory concept for the treatment of these risks in order to put into place mechanisms and processes which will enhance the resilience of the corporations’ information security and protection system—including measures of prevention, identification, monitoring, and response by banking corporations—and in order to be ready to help banking corporations in the event of a cyber attack.

## 9. LIQUIDITY RISK

The banking system continued to maintain a relatively high level of liquidity in 2011 and even increased its liquidity relative to the previous year. Most banks increased their balances of liquid assets, as they reduced risk assets in response to ongoing uncertainty about the global economic and financial situation, and in preparation for the implementation of the Basel III guidelines on capital adequacy and liquidity risk.

Israel’s banking system is distinct from other banking systems worldwide in the structure of its resources. Banks in Israel rely hardly at all on interbank markets and financial markets at home and

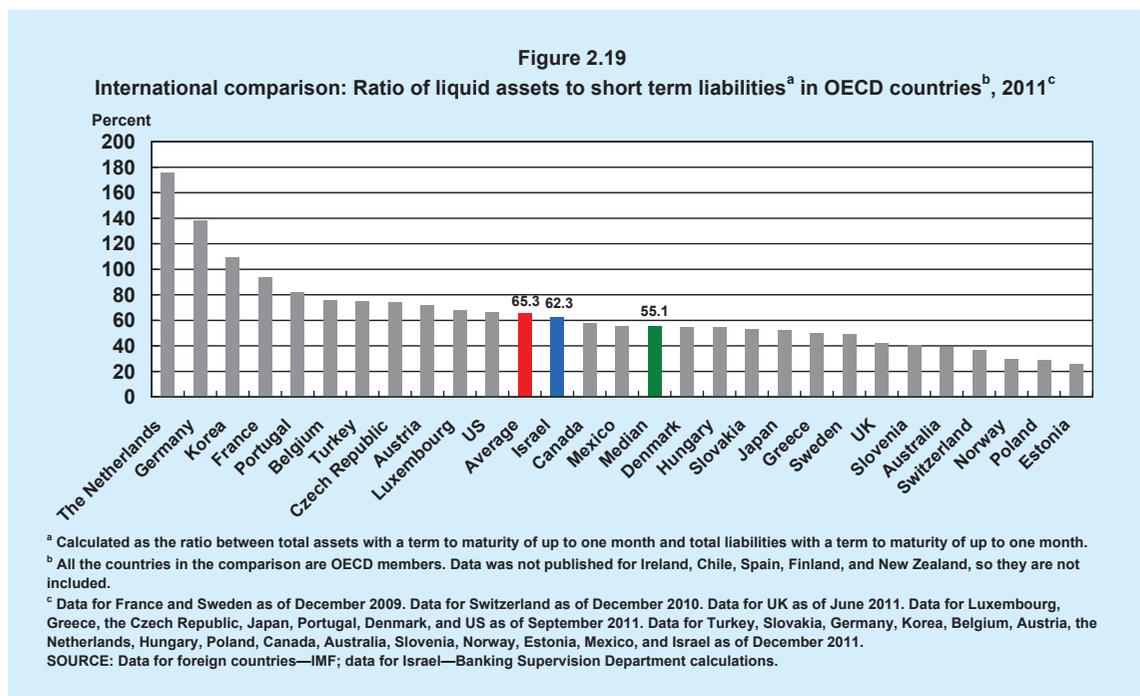
**Table 2.10**  
Selected liquidity indices, five major banking groups,  
2007–11

	Year	Leumi	Hapoalim	Discount	Mizrahi-Tefahot	First International	The five groups
Ratio of liquid assets <sup>a</sup> to liquid liabilities <sup>b</sup>	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	0.41	0.27	0.37	0.37
Ratio of liquid assets <sup>a</sup> 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	0.27	0.15	0.26	0.23
Ratio of credit to deposits	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

<sup>a</sup> Liquid assets include cash and deposits at the Bank of Israel and at banks with an original term to redemption of up to 3 months, and government bonds.

<sup>b</sup> Liquid liabilities include total deposits with an original term to redemption of up to 3 months.

SOURCE: Published financial statements and Banking Supervision Department calculations.



abroad; instead, they rely on the public's deposits as their main source. Thus, the five major banking groups' credit to deposits ratio stood at 89 percent in 2011, and has been stable among the groups and over time (Table 2.10). This sources structure is more stable and reflects a low liquidity risk at Israel's banks by international standards. Israel's ratio of liquid assets to total short-term liabilities among the five major banking groups exceeds the median among OECD countries (Figure 2.19), indicating substantial ability of Israel's banks to meet short term liquidity needs.

An examination of the banks' liquidity by currency of activity indicates that in domestic currency (in which about two-thirds of activity takes place) most of the banks increased their liquidity back to the 2009 level, as various liquidity indicators show (Tables 2.10 and 2.11). The increase in liquidity derived from a 30 percent average upturn in the banks' cash and deposits (of up to one-month to redemption) with the Bank of Israel, and an increase in holdings of Israel government bonds. Although the banking system's liquidity in foreign currency also increased in 2011 relative to 2010, its level in this regard remained somewhat lower than that in domestic currency. The level of foreign currency liquidity, and its change over time, varied widely between banks. As a complementary tool to balance-sheet liquidity indicators, the Banking Supervision Department conducted stress tests to examine the banks' resilience to the liquidity needs that they would face to a one-month horizon under severe stress scenarios. The results of the tests showed that in terms of their domestic currency positions, all the banks maintain a level of liquid assets sufficient for stress situations; as for the liquidity of their foreign currency positions, some banks did not manage to maintain a surplus of foreign currency assets over foreign currency liabilities (Box 2.3).

Concentration of deposits in the banking system in 2011 was basically unchanged from the previous year and there was some variance among the banks (Table 2.11). The proportion of deposits up to NIS 1 million in total deposits from the public was 35 percent in the banking system; while the proportion of the largest deposits—those exceeding NIS 50 million—in total deposits from the public was 26 percent.

**Table 2.11**  
**Liquidity risk measures: total banking system<sup>a</sup> and the highest and lowest figures among the five major banks<sup>b</sup>, December 2010 and December 2011**

	Banking system total <sup>a</sup>		Lowest value among the five major banks		Highest value among the five major banks	
	2010	2011	2010	2011	2010	2011
<b>Supervisory model ratio<sup>c</sup> (local currency and foreign currency)</b>	<b>1.42</b>	<b>1.67</b>	<b>1.21</b>	<b>1.46</b>	<b>1.67</b>	<b>2.05</b>
Local currency	1.49	1.69	1.04	1.27	1.72	2.28
Foreign currency	1.36	1.67	1.00	1.01	1.77	2.34
<b>Concentration and stability of deposits</b>						
Share of deposits up to NIS 1 million in total deposits	0.35	0.35	0.31	0.29	0.43	0.45
Share of deposits above NIS 50 million in total deposits	0.28	0.26	0.17	0.12	0.36	0.37
Ratio of 20 largest depositors for terms up to 1 month to public deposits of up to 1 month	0.14	0.12	0.07	0.07	0.21	0.25

<sup>a</sup> Banking system total includes the five major banking groups (Leumi, Hapoalim, Discount, First International, and Mizrahi-Tefahot), and the three independent banks (Union Bank, Bank of Jerusalem, and Dexia Israel Bank).

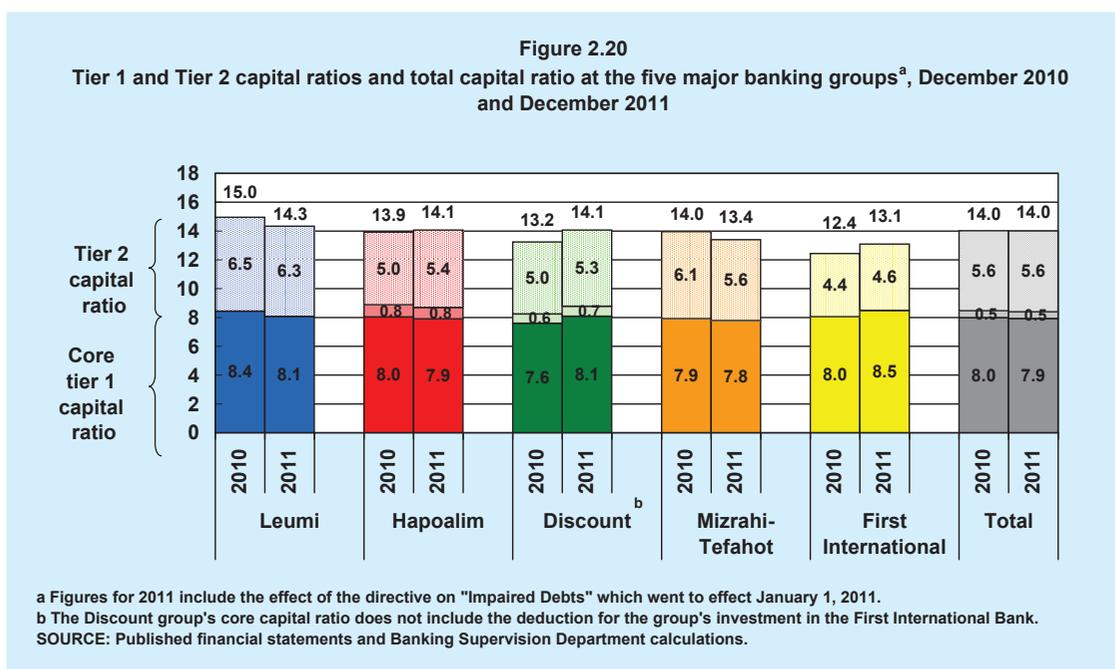
<sup>b</sup> The five major banks are Leumi, Hapoalim, Discount, First International, and Mizrahi-Tefahot.

<sup>c</sup> The supervisory model is calculated as the ratio of liquid assets to liquid liabilities for terms of up to 1 month, based on the methodology developed at the Banking Supervision Department, and is used in examining trends in liquidity of the banking corporations and allows system-wide comparison. A ratio of 1 is the minimum required in order to ensure meeting liquidity needs.

**SOURCE:** Reports to the Banking Supervision Department and Banking Supervision Department calculations.

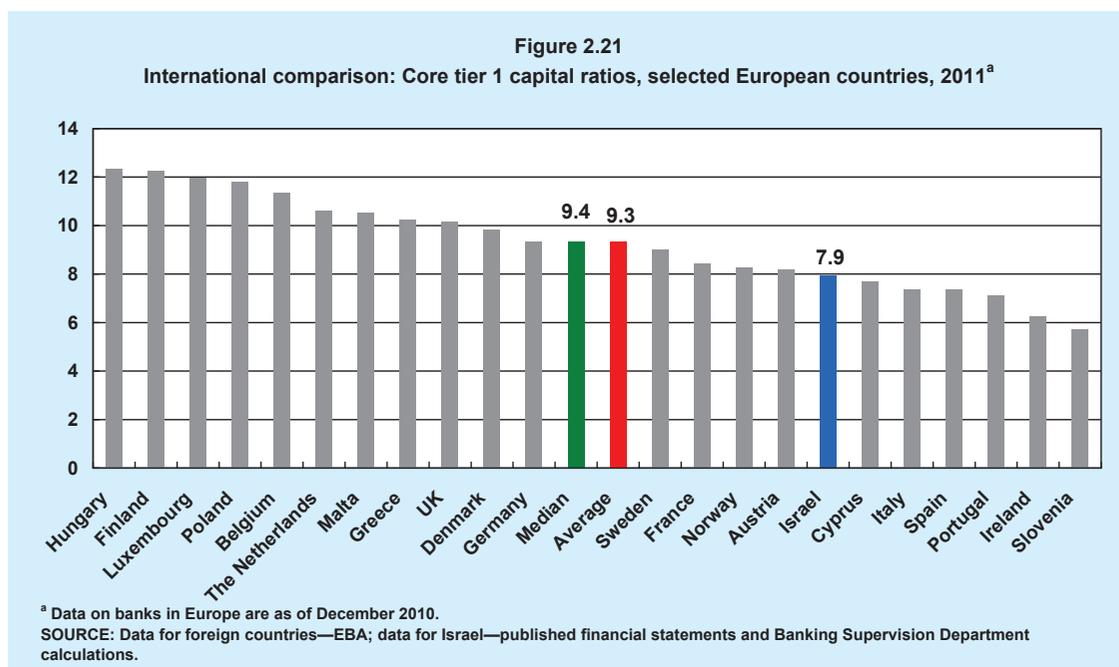
## 10. CAPITAL ADEQUACY

The core tier 1 capital ratio of the five major banking groups remained essentially unchanged this year, and was 7.9 percent in December 2011. The development of the capital adequacy ratio derived from the 4 percent growth in the banking groups' equity (about NIS 1.9 billion), due to profit accumulated by the banks over the course of the year. The growth was partially offset by recording credit losses due to the implementation of the directive on impaired debt, and by an increase of 5 percent in risk assets as a result of expanding credit and the weakness of the shekel against other currencies. The credit losses recorded from implementation of the directive led to a decline of about 4 percent in capital and to a 0.35 basis point decline in the core tier 1 capital ratio (Table 2.12). A worldwide comparison indicates that the core tier 1 capital ratio of banks in Israel is lower than the average in Europe (Figure 2.21). The total capital ratio for the five major banking groups was 14 percent in December 2011 (Table 2.12 and Figure 2.20).



As part of the lessons of the global crisis, which began at the end of 2007, the importance of common equity tier 1 capital as the prime component for absorbing losses, even in regular activity, increased. In December 2010, the Basel Committee on Banking Supervision (hereinafter, "the Committee") published an updated framework for capital requirements ("Basel III")<sup>29</sup>, which focused on the requirement to increase capital and improve its quality, mainly through an increased share of common equity tier 1 capital. The Committee also referred to the need for special handling of systemically important financial institutions. In light of these requirements, there is a worldwide trend of strengthening capital

<sup>29</sup> "Basel III: A global regulatory framework for more resilient banks and banking systems", Basel Committee on Banking Supervision, December 2010 (revised June 2011).



requirements, through increasing the capital base, improving its structure, and reinforcing common equity tier 1 capital. The Banking Supervision Department and the banking system in Israel have begun to prepare for similar processes as well. In June 2011, the Supervisor of Banks announced that Israel's banking system will adopt the Basel III recommendations. Accordingly, work teams were established with a mandate to suggest proposals about the manner of adoption; these will be based on, among other things, a Quantitative Impact Study which the banks are conducting during 2012, based on the guidelines of the Banking Supervision Department. In March 2012, the Supervisor of Banks issued revised guidelines on minimum common equity tier 1 capital ratios. According to these guidelines, all banking corporations are required to have a minimum common equity tier 1 capital ratio of 9 percent by January 1, 2015.<sup>30</sup> In addition, the directive establishes that banking corporations whose assets are more than 20 percent of the total banking system's assets, are required to increase their minimum common equity tier 1 capital ratio by 1 percent and reach, by January 1, 2017, a ratio of 10 percent. This additional directive applies to Bank Leumi and Bank Hapoalim, the combined assets of which are about 60 percent of total banking system assets.

The suggestions for setting capital targets were based on instructions set in Basel III, with adjustment for the Israeli economy. Likewise, they relied on various scenarios which examined the effect on increased risk assets of banks. The results of the scenarios—with guidelines regarding profitability, dividend distribution, exchange rate, the effect of Basel III, and others<sup>31</sup>—indicated that bank credit can grow in the coming years at a rate of 3–3.5 percent.

<sup>30</sup> This ratio includes a capital conservation buffer of 2.5 percent, as outlined in Basel III, and which will be adopted in Supervisor of Banks directives.

<sup>31</sup> The development of actual credit depends on many factors, and it is difficult to precisely assess how they will turn out, primarily in the current period of great uncertainty. Among these factors, we note the effect of GDP growth, development of non-bank credit, demand for credit, market prices, and fiscal policy.

**Table 2.12**  
**Distribution of capital and capital ratios at the five major banking groups, December 2010 and December 2011**

	Leumi			Hapoalim			Discount		
	2010	2010	2011	2010	2010	2011	2010	2010	2011
Equity <sup>a</sup>	23,611	22,888	23,628	22,898	22,042	24,127	11,152	10,317	11,115
Core tier 1 capital <sup>b</sup>	22,897	22,174	23,225	22,251	21,395	23,795	10,009	9,206	10,175
Tier 1 capital <sup>b</sup>	22,897	22,174	23,225	24,579	23,723	26,183	11,689	10,886	11,898
Tier 2 capital <sup>b</sup>	17,716	17,716	18,020	13,968	13,968	16,175	7,090	6,705	7,173
Tier 3 capital <sup>b</sup>	-	-	-	-	-	-	-	-	-
Total capital base	40,613	39,890	41,245	38,547	37,691	42,358	18,779	17,591	19,071
T total balance sheet	328,322	328,322	365,854	321,089	321,089	356,688	185,576	185,576	202,491
T total exposure <sup>c</sup>	432,185	432,185	464,757	477,346	477,346	523,429	244,143	244,143	256,527
Credit risk	239,900	239,900	258,601	252,277	252,277	274,063	125,628	125,628	120,256
Market risks	10,653	10,653	9,011	5,483	5,483	7,018	2,907	2,907	1,875
Operational risk	20,904	20,904	20,095	19,154	19,154	20,047	13,233	13,233	13,418
Total risk-weighted assets	271,457	271,457	287,707	276,914	276,914	301,128	141,768	141,768	135,549
Core tier 1 capital to total exposure	5.3	5.1	5.0	4.7	4.5	4.5	4.1	3.8	4.0
Core tier 1 capital <sup>d</sup> ratio	8.4	8.2	8.1	8.0	7.7	7.9	7.6	7.3	8.1
Tier 1 capital ratio	8.4	8.2	8.1	8.9	8.6	8.7	8.2	7.7	8.8
Tier 2 capital ratio	6.5	6.5	6.3	5.0	5.0	5.4	5.0	4.7	5.3
<b>Total capital ratio</b>	<b>15.0</b>	<b>14.7</b>	<b>14.3</b>	<b>13.9</b>	<b>13.6</b>	<b>14.1</b>	<b>13.25%</b>	<b>12.4</b>	<b>14.1</b>

**Table 2.12 (continued)**  
**Distribution of capital and capital ratios at the five major banking groups, December 2010 and December 2011**

	Mizrabi-Tefahot					First International					Five groups		
	2010	2010	2011	2010	2010	2010	2011	2010	2010	2010	2010	2010	2011
Equity <sup>a</sup>	7,496	7,121	8,054	6,159	5,914	6,289	71,316	68,282	73,213				
Core tier 1 capital <sup>b</sup>	7,218	6,843	7,912	5,597	5,352	5,778	67,972	64,970	70,885				
Tier 1 capital <sup>b</sup>	7,218	6,843	7,912	5,597	5,352	5,778	71,980	68,978	74,996				
Tier 2 capital <sup>b</sup>	5,527	5,340	5,722	3,059	2,937	3,147	47,360	46,665	50,237				
Tier 3 capital <sup>b</sup>	-	-	-	-	-	-	-	-	-				
Total capital base	12,745	12,183	13,634	8,656	8,289	8,925	119,340	115,644	125,233				
					(NIS million)								
Total balance sheet	133,304	133,304	150,246	100,687	100,687	101,127	1,068,978	1,068,978	1,176,406				
Total exposure <sup>c</sup>	183,082	183,082	201,351	128,614	128,614	127,265	1,465,370	1,465,370	1,573,329				
Credit risk	83,306	83,306	92,973	61,291	61,291	60,240	762,402	762,402	806,133				
Market risks	579	579	947	1,786	1,786	1,446	21,408	21,408	20,297				
Operational risk	7,407	7,407	7,851	6,506	6,506	6,438	67,204	67,204	67,849				
Total risk-weighted assets	91,292	91,292	101,771	69,583	69,583	68,124	851,014	851,014	894,279				
					(Percent)								
Core tier 1 capital to total exposure	3.9	3.7	3.9	4.4	4.2	4.5	4.6	4.4	4.5				
Core tier 1 capital <sup>d</sup> ratio	7.9	7.5	7.8	8.0	7.7	8.5	8.0	7.6	7.9				
Tier 1 capital ratio	7.9	7.5	7.8	8.0	7.7	8.5	8.5	8.1	8.4				
Tier 2 capital ratio	6.1	5.8	5.6	4.4	4.2	4.6	5.6	5.5	5.6				
<b>Total capital ratio</b>	<b>14.0</b>	<b>13.3</b>	<b>13.4</b>	<b>12.4</b>	<b>11.9</b>	<b>13.1</b>	<b>14.0</b>	<b>13.6</b>	<b>14.0</b>				

<sup>a</sup> Including minority interest in accordance with the groups' balance sheet.

<sup>b</sup> After deductions.

<sup>c</sup> 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.

<sup>d</sup> 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: Published financial statements, reports to the Banking Supervision Department and Banking Supervision Department calculations.**

**Box 2.3: Stress testing of the banking system conducted by the Banking Supervision Department within the framework of the FSAP<sup>1</sup> assessment by the International Monetary Fund**

Stress testing has become, in recent years, an additional important tool in the management of risk by banking corporations, and one of the tools used by supervisory authorities and international supervisory bodies to identify and evaluate the sensitivity of financial institutions and financial systems to various risk factors and also to evaluate their financial stability.

The FSAP (Financial Sector Assessment Program) team—an IMF delegation—conducted, during September–November 2011, a periodic assessment of the financial system in Israel. As part of the evaluation, the supervisory authorities in Israel were required to conduct stress tests on major financial institutions—banks and insurance companies—and through those tests to evaluate their stability.

The Banking Supervision Department conducts stress tests of the banking system—both regular and ad hoc—for specific as well as system-wide needs, to find banks' vulnerabilities, and to determine the capital adequacy level required in the banking system. There is an emphasis on the commercial credit risk, credit concentration risk, and systemic risks upon which macroprudential policy is formulated. The FSAP reports published in April 2012—"Israel: Financial System Stability Assessment" and "Israel: Technical Note on Stress Test of the Israel Banking, Insurance, and Pension Sectors"—noted positively the significant progress made in recent years at the Bank of Israel and Banking Supervision Department with regard to stress tests, including the development of satellite models and methods to analyze major risk factors.

Within the framework of the FSAP, the Banking Supervision Department conducted three types of stress tests on each of the five major banking groups and on all five together—a macroeconomic balance sheet stress test, sensitivity analyses for various single risk factors and sensitivity tests for liquidity risk.<sup>2</sup>

**a. Macroeconomic balance sheet stress test**

The Banking Supervision Department, together with the Research Department at the Bank of Israel, conducted a macroeconomic balance sheet stress test of the resilience of the banking corporations and the banking system. Within this framework, the effects of various risk factors on profitability and on capital adequacy ratios (total capital adequacy ratios and core capital ratio) were evaluated for each of the five major banking groups and for the overall banking system.

The macroeconomic balance sheet stress test of the banking system was based on three scenarios, reflecting the main macroeconomic and financial risks that the banking system is exposed to. In developing the scenarios, emphasis was placed on a significant slowdown in the Israeli economy as well as on the potential negative impacts of both the European crisis becoming more severe and a slowdown in the US on Israel's economy and banks.

<sup>1</sup> Financial Sector Assessment Program.

<sup>2</sup> In addition, the Research Department conducted a stress test using the CCA (Contingent Claims Analysis) method. For details, see "Israel: Technical Note on Stress Test of the Israel Banking, Insurance, and Pension Sectors" (April 2012).

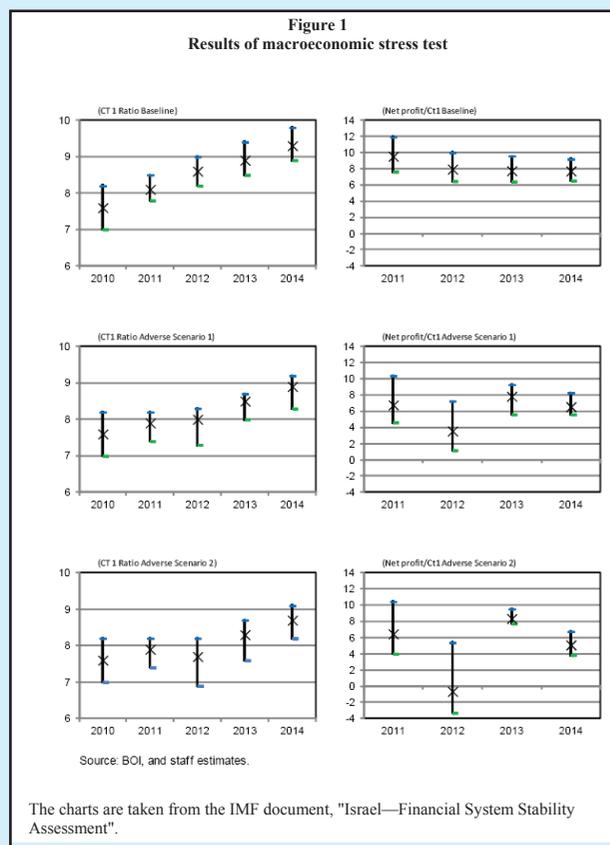
- **Base scenario** which is based on the forecasts of the Bank of Israel and which reflects the expected path of the economy. These forecasts rely particularly on the Bank of Israel's DSGE (Dynamic Stochastic General Equilibrium) model, together with the use of discretion.
  - **Adverse scenario 1** involves a domestic recession which is caused by geopolitical concerns that lead to economic instability, a decline in demand, an increase in unemployment and an increase in the risk premium.
  - **Adverse scenario 2** reflects a global recession and difficulties in Europe that dramatically affect Israel's economy. GDP drops by about 2.5 standard deviations relative to the long-term baseline.
- The scenarios included forecasts of macroeconomic variables such as GDP, inflation, exchange rates, capital markets, and bond prices.

The stress test was conducted for each of the five major banking groups (Leumi, Hapoalim, Israel Discount Bank, Mizrahi-Tefahot, and First International), which together account for 95 percent of the banking system's assets.

As noted, the opening point was based on financial report data for the end of June 2011, and the forecast horizon was until the end of 2014, with results detailed for the end of each year.

The macroeconomic balance sheet stress test was conducted using the top-down<sup>3</sup> method, and was based on Banking Supervision Department figures on the banks and the methods developed at the Banking Supervision Department, including 6 satellite models connecting the macroeconomic variables with banks' risk and profitability variables: a corporate credit risk model, a model for non-housing consumer credit, and a housing credit model. In addition, the Banking Supervision Department developed models linking macro variables with banks' profitability—a model for interest income before provision for credit loss, a model for non-interest and other income, and a model for operating and other expenses.

The Banking Supervision Department also developed a method for setting a dividend distribution policy under the



<sup>3</sup> When a stress test is carried out using the top-down method, the supervisory authority defines the stress scenario and estimates its effect on the portfolio of the individual bank or on the aggregate portfolio of all the banks, and analyzes its effect on the banking system.

assumptions of the scenario, and a method for setting a “haircut” of government bonds and the bonds of foreign financial institutions. The model assumes zero percent growth in the balance sheet, and also set the changes in risk assets in accordance with the standard approach, while taking into account the various effects of the exchange rate on risk assets.

For the system-wide stress scenarios, required minimums of a capital adequacy ratio of 9 percent and a core capital ratio of 5 percent were set, in accordance with ratios set for similar tests in other countries.

The results of the macroeconomic balance sheet stress test (presented in detail in Figure 1) indicate that the capital adequacy ratio in each of the five major banking groups remained above the minimum determined to be adequate in each of the scenarios. At the same time, some of the banks recorded losses and the core capital ratio of one bank fell to 6.9 percent at the end of 2012. Factors contributing to the resilience of the banking system include comfortable initial conditions for the scenarios—including relatively good capital and profitability levels, low levels of allowance for credit losses including housing credit, and minimal exposure to debts of European countries in crisis.

#### **b. Sensitivity analysis of single risk factors**

The Banking Supervision Department carried out sensitivity analyses which examined the effect of a single risk factor on each of the five major banking groups in terms of core capital. These sensitivity analyses were meant to evaluate the various major risk factors, including market risks (the interest rate, the exchange rate and shocks in the capital market) and unique credit shocks that are the result of credit exposure to large borrower groups and to the three largest borrowers in each bank.

Following are the results of the sensitivity tests conducted by the Banking Supervision Department:

- The collapse of the largest borrower group at each banking group—a loss of 8.5 percent to 12.6 percent of core capital.
- The collapse of the three largest borrowers at each banking group—a loss of 4.3 percent to 6.6 percent of core capital.
- A drop of 25 percent in the stock market—a loss of 0.3 to 3.8 percent of core capital.
- A depreciation of 15 percent in the exchange rate—a loss of 0.2 to 3.1 percent of core capital.
- An increase of 200 basis points in the interest rate—a change of (-5.0) to 5.0 percent of core capital.
- A decrease of 200 basis points in the interest rate—a change of (-4.8) to 4.7 percent of core capital.
- Exposure to Portugal, Ireland, Italy, Greece, Spain and Belgium—a loss of 0.4 to 1.4 percent of core capital.

The results of the sensitivity tests indicate that credit concentration risk has the potentially largest effect on the banks' capital. The largest effects on the banks' capital were a result of the collapse of the largest borrower group in each banking group. In addition, for some of the banks the simultaneous collapse of their three largest borrowers was also significant. These results confirm the concern that risk arising from concentration in the credit portfolio is significant. The results also confirm that the direct exposure of the banks to European sovereigns has a negligible effect.

### c. Sensitivity tests for liquidity risk

The Banking Supervision Department conducted sensitivity tests for liquidity risk focused on changes in short-run assets and liabilities and based on a Banking Supervision Department model. Four sensitivity tests were carried out, on total activity and on all foreign currency activity separately, in order to ensure that the banks are holding high-quality liquid assets beyond their liquidity needs for a horizon of one month, under severe sensitivity scenarios.

The results of the sensitivity tests for liquidity risk indicate that the banks have a sufficient level of total liquid assets, even for severe sensitivity situations (for details see Table 1). Nonetheless, with respect to liquidity in foreign currency alone, some of the banks did not manage to maintain a surplus of liquid assets in foreign currency over short-term liabilities in foreign currency. The sensitivity tests also emphasized that a withdrawal of deposits constitutes the main factor to maintaining an appropriate level of liquidity.

**Table 1**  
**Results of the stress tests for liquidity risk in the banking system in Israel**  
(percentage points)

	Total activity	Foreign currency
<b>Base scenario (end of December 2011)</b>	1.63	1.59
Average value of supervisory ratio	1.62	1.49
Minimum ratio of supervisory ratio	1.48	1.04
<b>Scenario I: Immediate redemption of 10 percent of total short-term deposits of the public</b>	1.28	1.25
Change in base value (average)	0.35	0.33
Maximum change in base value	0.36	0.50
<b>Scenario II: Immediate redemption of 20 percent of total foreign resident deposits</b>	1.53	1.30
Change in base value (average)	0.09	0.27
Maximum change in base value	0.12	0.50
<b>Scenario III: Liquidity shortage of the largest interbank exposure (for each bank)</b>	1.61	1.52
Change in base value (average)	0.02	0.10
Maximum change in base value	0.04	0.16
<b>Scenario IV: Liquidity shortage of short-term bonds (not including <i>makam</i>)</b>	1.57	1.38
Change in base value (average)	0.05	0.18
Maximum change in base value	0.10	0.38
<b>Miscellaneous</b>		
Total liquid assets relative to total assets (end of December 2011)	33.32	40.26
Total liquid foreign currency assets relative to total liquid assets (end of December 2011)		22.72

**SOURCE:** Bank of Israel and staff estimates.

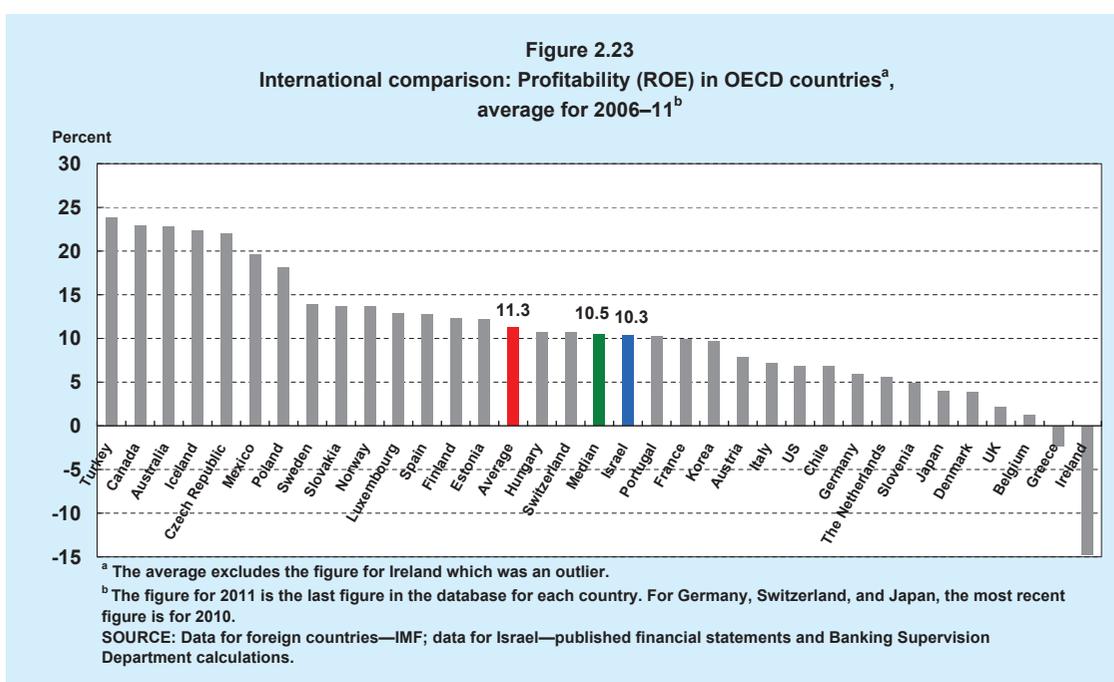
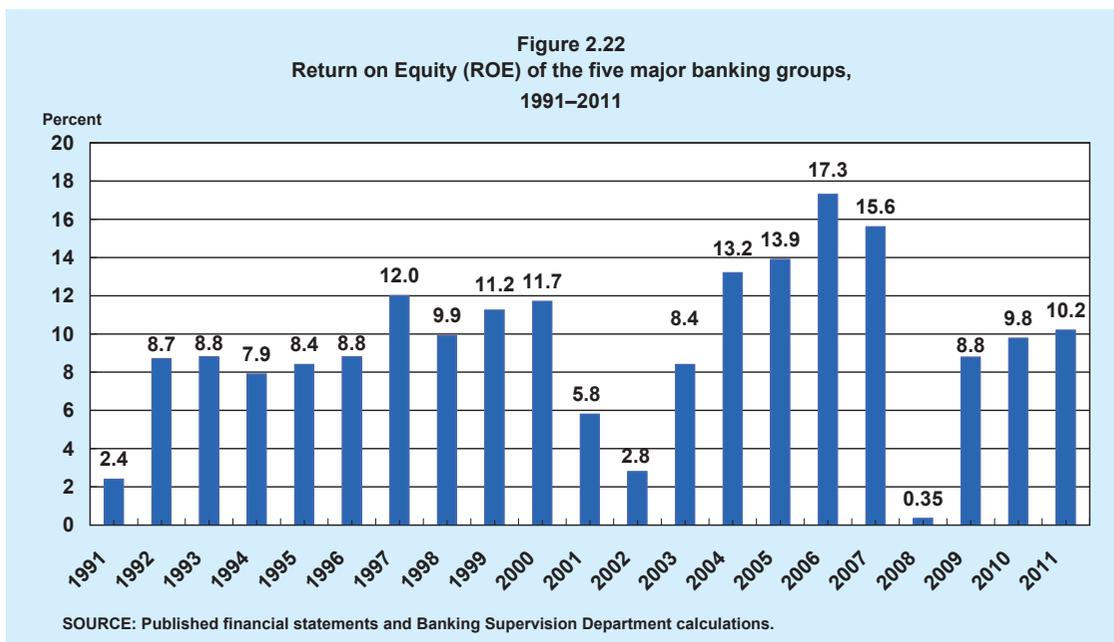
<sup>a</sup> The average difference—among all five major banks in the system—between the indicator value under the base scenario and its value under the specific stress scenario.

<sup>b</sup> The maximum value of the difference between the indicator value under the base scenario and its value under the specific stress scenario.

## 11. FINANCIAL RESULTS

### a. Profits and profitability of the banking groups

The five major banking groups recorded NIS 7 billion in net profit in 2011, an increase of 7.6 percent compared with 2010 (Table 2.13). Return on equity was 10.2 percent, similar to the average of 9.6 percent in the past decade (Figure 2.22). The long-term profitability of the Israeli banking system is not exceptional by OECD standards (Figure 2.23).



**Table 2.13**  
**Main items in consolidated profit and loss statements of the five major banking groups, 2009–11**  
 (NIS million, at current prices)

	Leumi			Hapoalim			Discount			
	2009	2010	2011	2009	2010	2011	2009	2010	2011	% change in 2011 compared with 2010
	% change in 2011 compared with 2010			% change in 2011 compared with 2010			% change in 2011 compared with 2010			
Net interest income before loan loss provisions	7,023	7,433	7,550	6,718	7,775	8,231	4,757	4,830	4,785	-0.9
Loan loss provisions	1,517	584	734	2,017	1,030	1,202	998	821	778	-5.2
Net interest income after loan loss provisions	5,506	6,849	6,816	4,701	6,745	7,029	3,759	4,009	4,007	0
Total operating and other income	4,563	4,111	3,736	5,039	5,052	4,852	3,088	2,660	2,690	1.1
<i>Of which:</i> Fee income	3,540	3,739	3,702	4,489	4,811	4,696	2,633	2,547	2,489	-2.3
Total operating and other expenses	6,781	7,951	8,347	7,457	8,291	8,365	5,441	5,659	5,838	3.2
<i>Of which:</i> Salaries and related expenses	3,896	4,676	5,067	4,016	4,631	4,759	3,130	3,218	3,459	7.5
Ordinary before-tax income	3,288	3,009	2,205	2,283	3,506	3,516	1,406	1,010	859	-15
Provision for taxes on ordinary income	1,272	1,239	418	990	1,342	809	554	458	87	-81
Ordinary after-tax income attributed to shareholders	2,061	2,151	1,889	1,272	2,185	2,741	938	668	791	18.4
Other income	28	183	2	28	16	5	-20	36	61	69.4
<b>Net income attributed to shareholders</b>	<b>2,089</b>	<b>2,334</b>	<b>1,891</b>	<b>1,300</b>	<b>2,201</b>	<b>2,746</b>	<b>918</b>	<b>704</b>	<b>852</b>	<b>21</b>
Capital for calculation of ROE <sup>1</sup>	20,480	22,682	22,866	19,403	21,204	22,845	9,367	10,057	10,390	3.3
Ordinary after-tax ROE (%)	10.06	9.48	8.26	6.56	10.31	12.00	10.01	6.64	7.61	
<b>Total ROE (%)</b>	<b>10.20</b>	<b>10.29</b>	<b>8.27</b>	<b>6.70</b>	<b>10.38</b>	<b>12.02</b>	<b>9.80</b>	<b>7.00</b>	<b>8.20</b>	
<b>Total return on assets (ROA) (%)</b>	<b>0.66</b>	<b>0.72</b>	<b>0.55</b>	<b>0.42</b>	<b>0.70</b>	<b>0.81</b>	<b>0.50</b>	<b>0.38</b>	<b>0.44</b>	

**Table 2.13 (continued)**  
**Main items in consolidated profit and loss statements of the five major banking groups, 2009–11**

	Mizrahi-Tefahot						First International						Total		
	2009	2010	2011	2010	2011	2011	2009	2010	2011	2010	2011	2011			
Net interest income before loan loss provisions	2,385	2,959	3,242	9.6			2,164	2,205	2,181	-1.1		23,047	25,202	25,989	3.1
Loan loss provisions	375	473	338	-28.5			268	115	93	-19.1		5,175	3,023	3,145	4
Net interest income after loan loss provisions	2,010	2,486	2,904	16.8			1,896	2,090	2,088	-0.1		17,872	22,179	22,844	3
Total operating and other income	1,456	1,367	1,368	0.1			1,759	1,483	1,368	-7.8		15,905	14,673	14,014	-4.5
<i>Of which:</i> Fee income	1,315	1,337	1,343	0.4			1,419	1,437	1,385	-3.6		13,396	13,871	13,615	-1.8
Total operating and other expenses	2,514	2,566	2,667	3.9			2,745	2,774	2,805	1.1		24,938	27,241	28,022	2.9
<i>Of which:</i> Salaries and related expenses	1,504	1,529	1,615	5.6			1,472	1,552	1,630	5		14,018	15,606	16,530	5.9
Ordinary before-tax income	952	1,287	1,605	24.7			910	799	651	-18.5		8,839	9,611	8,836	-8.1
Provision for taxes on ordinary income	322	469	522	11.3			372	335	202	-39.7		3,510	3,843	2,038	-47
Ordinary after-tax income attributed to shareholders	618	799	1,046	30.9			559	481	475	-1.2		5,448	6,284	6,942	10.5
Other income	-2	2	-2	-200			2	1	12	1100		36	238	78	-67.2
<b>Net income attributed to shareholders</b>	<b>616</b>	<b>801</b>	<b>1,044</b>	<b>30.3</b>			<b>561</b>	<b>482</b>	<b>485</b>	<b>0.6</b>		<b>5,484</b>	<b>6,522</b>	<b>7,018</b>	<b>7.6</b>
Capital for calculation of ROE <sup>1</sup>	7,247	6,788	7,151	5.3			5,784	6,025	5,640	-6.4		62,281	66,757	68,892	3.2
Ordinary after-tax ROE (%)	8.53	11.77	14.63				9.67	7.98	8.42			8.75	9.41	10.08	
<b>Total ROE (%)</b>	<b>8.50</b>	<b>11.80</b>	<b>14.60</b>				<b>9.70</b>	<b>8.00</b>	<b>8.60</b>			<b>8.81</b>	<b>9.77</b>	<b>10.19</b>	
<b>Total return on assets (ROA) (%)</b>	<b>0.53</b>	<b>0.64</b>	<b>0.74</b>				<b>0.55</b>	<b>0.47</b>	<b>0.48</b>			<b>0.53</b>	<b>0.62</b>	<b>0.63</b>	

<sup>1</sup> 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.

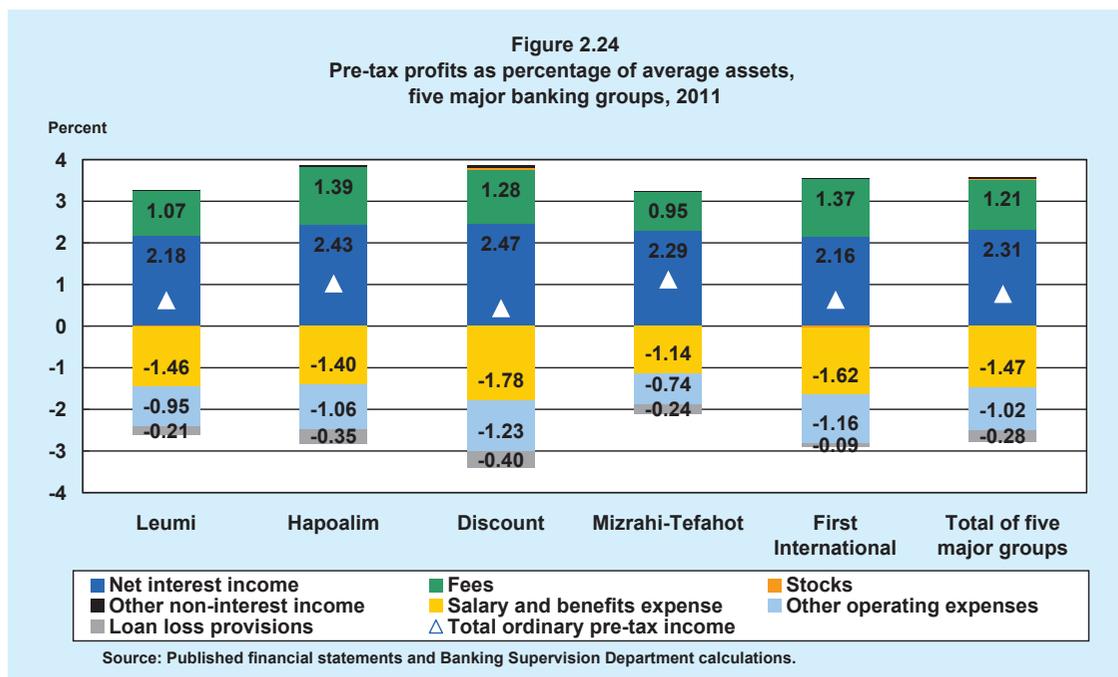
**SOURCE: Published financial statements and Banking Supervision Department calculations.**

Net interest income increased in 2011, with the figure varying widely among the banking groups. This positive development reflected the groups' ability to continue expanding their activity and their lending despite the mild downturn in the macroeconomic environment. In contrast, the groups' profits from their capital markets activity contracted in 2011, a result of steep declines in share indices and widening of bond spreads.

The banking groups' income from fees was steady in 2011. The banking groups' operating efficiency deteriorated slightly according to two generally accepted indicators—the operational coverage ratio and the efficiency ratio (Table 2.18)—due to a decrease in operating and other income (occasioned mainly by downturns in the capital markets) and an increase in operating expenses, attributed largely to upturns in salaries and related expenses.

As for the effect on net income, the banking groups posted a large decrease in tax expenses in 2011 due to changes in tax laws.<sup>32</sup> This made a major contribution to net income and stood out in particular in view of the downturn in ordinary before-tax income. The decline in tax provision contributed about 2 percentage points of the increase in the groups' profitability.

Most of the banking groups posted smaller net income in the second half of the year than in the first half. The upturn in profits in the first half was due to the improvement in the economic environment—reflected in, among other things, relatively strong economic growth, a declining unemployment rate, and a change in interest rates. The falloff in net income in the second half of the year, which was also manifested among some banking groups by a decrease in profitability, was a result of the slowdown in growth, rate-cutting by the Bank of Israel, and downturns in the financial markets.



<sup>32</sup> The low effective rate of tax that the banking groups reported in their income statements derives from the cancellation of the framework to reduce corporate tax, which led to an increase in tax assets as against a reduction in deferred tax expenditures.

## b. Net interest income before loan loss provisions

Net interest income before loan loss provisions was NIS 26 billion—3 percent greater than in 2010—and varied widely among the banking groups, as stated. Net income in all indexation segments was NIS 23 billion—up 12.5 percent (Table 2.14)—due to increases in the Bank of Israel interest rate (the price factor) and in assets (the quantity factor), largely in the first half of the year and especially in local currency activity. Income from foreign currency activity was NIS 4.3 billion, down 17 percent, due to, among other things, a liabilities surplus in this segment and depreciation of the shekel against most currencies. The fair value adjustment of derivatives and the increase in activity in these instruments in most indexation segments—an activity that takes place largely at narrower spreads than those in balance sheet activity—had an adverse effect on interest spreads and income, and offset some of the increase in income from classical activity.

An analysis of total changes in volume of activity and the total interest spread since 2000 (Table 2.15) shows that the narrowing of the total interest spread from 1.86 percent to 1 percent in December 2011—causing net interest income to erode—was accompanied by a vigorous increase in assets over the years.

Other financing income decreased by NIS 1.5 billion in 2011, mainly due to the implementation of the directive for “Measurement and Disclosure of Impaired Debts, Credit Risk, and Allowance for Credit Losses”, and due to the widening of bond spreads (Table 2.14).

**Table 2.14**  
**Breakdown of net interest income before loan loss provision, by indexation segment,**  
**five major banking groups, 2009–11**

	(NIS million)			Change from 2010 to 2011	
	2009	2010	2011	NIS	Percent
	At current prices				
<b>Net income<sup>a</sup> by indexation segments (including derivatives)</b>					
Unindexed local currency	12,105	14,737	17,246	2,509	17.0
CPI-indexed local currency	104	561	1,504	943	168.1
Foreign currency	6,411	5,204	4,320	-884	-17.0
<b>Total net income for the indexation segments (1)</b>	<b>18,620</b>	<b>20,502</b>	<b>23,070</b>	<b>2,568</b>	<b>12.5</b>
<b>Other financing income</b>					
Fees on financing transactions	992	1,056	1,156	100	9.5
Other net financing income	2,890	3,316	1,677	-1,639	-49.4
<i>Of which:</i> Interest income on problem loans not previously recorded <sup>b</sup>	1,029	1,399	252	-1,147	-82.0
<i>Of which:</i> Profits from sale and revaluation of bonds <sup>c</sup>	1,241	1,285	751	-534	-41.6
<b>Total other financing income (2)</b>	<b>3,882</b>	<b>4,372</b>	<b>2,833</b>	<b>-1,539</b>	<b>-35.2</b>
<b>Options and derivatives (3)</b>	<b>545</b>	<b>328</b>	<b>86</b>	<b>-242</b>	<b>-73.8</b>
<b>Net interest income before loan loss provisions (1 + 2 + 3)</b>	<b>23,047</b>	<b>25,202</b>	<b>25,989</b>	<b>787</b>	<b>3.1</b>

<sup>a</sup> Net: Income from assets minus expenses on liabilities.

<sup>b</sup> As a result of the directive concerning “measurement and disclosure of impaired debts, credit risk and allowance for credit losses”, since January 1, 2011, most collections have been recorded initially as a decrease in loan loss provisions, unlike in the past, when they were initially recorded as financing income.

<sup>c</sup> Including profits/losses from revaluation and sale of bonds for trading and sale of bonds available for sale and bonds held to maturity.

**SOURCE: Published financial statements and Banking Supervision Department calculations.**

**Table 2.15**  
**Rates of income and expenses and interest-rate spread in respect of assets and liabilities (including derivatives)**  
**at the five major banking groups**  
**2000–11**  
(NIS million, at current prices)

Year	Assets <sup>a</sup>			Liabilities <sup>b</sup>			(Weighted) Aggregate interest spread (3 - 6) = 7
	Interest income (1)	Average annual balance (2)	Rate of income from assets (1)/(2) = (3)	Financing expenses (4)	Average annual balance (5)	Rate of expenses from liabilities (4)/(5) = (6)	
2000	41,231	643,242	6.41	27,833	611,738	4.55	1.86
2001	62,776	741,081	8.47	47,546	707,636	6.72	1.75
2002	39,899	781,626	5.10	24,602	748,774	3.29	1.82
2003	33,141	1,031,814	3.21	17,597	998,100	1.76	1.45
2004	49,271	1,041,018	4.73	32,181	1,005,842	3.20	1.53
2005	70,350	1,101,418	6.39	51,794	1,061,141	4.88	1.51
2006	32,555	1,239,314	2.63	13,468	1,196,037	1.13	1.50
2007	36,334	1,397,993	2.60	15,788	1,353,639	1.17	1.43
2008	57,974	1,521,408	3.81	36,459	1,475,013	2.47	1.34
2009	62,320	1,630,264	3.82	43,700	1,578,744	2.77	1.05
2010	9,903	1,742,119	0.57	-10,599	1,685,903	-0.63	1.20
2011	120,412	1,926,753	6.25	97,342	1,855,693	5.25	1.00

<sup>a</sup> Assets include: credit to the public, bonds held to maturity, bonds available for sale, bonds for trading, credit to the government, cash and deposits at the Bank of Israel, deposits at banks and others.

<sup>b</sup> Liabilities include: deposits of the public, deposits of the government, deposits from banks and others.

SOURCE: Published financial statements and Banking Supervision Department calculations.

### c. Loan loss provisions

The new directive, “Measurement and Disclosure of Impaired Debts, Credit Risk, and Allowance for Credit Losses”, was implemented in 2011 for the first time. The directive established rules for the calculation of credit loss allowances, with a distinction made between allowances based on individual assessment and those based on collective assessment. On January 1, 2011, pursuant to the implementation of the new directive, the banking groups recorded a one-time NIS 5.5 billion expenditure on account of loan loss, which they charged to equity, and NIS 24 billion in one-time write-offs.<sup>33</sup>

The five major banking groups’ provisions for credit loss were NIS 3.1 billion in 2011 as against slightly less (NIS 3.0 billion) in 2010. Notably, however, the data on the credit loss provisions in 2011 are not comparable with those of previous years due to the new directive that went into effect in the review year. One reason for the increase was that starting in 2011, according to the new Directive, any problem debts collected are first recorded as a drawdown of the credit loss provision—unlike the previous practice, in which such collections were recorded as net interest income.

Most of the banking groups’ provisions on account of the business sector originated in their activity vis-à-vis the construction and real-estate industry. Provisions for this industry came to NIS 1.5 billion in 2011—80 percent of total expenditure relating to the business sector in the review year and much more than in 2010.<sup>34</sup>

<sup>33</sup> For elaboration, see Section 4b.

<sup>34</sup> For elaboration, see Section 4a.

About half of the total provision for credit-loss traces to collective-assessment based allowances that were made for large groups of small and homogeneous debts and large commercial debts that were inspected individually and not identified as impaired. The group allowance is calculated on the basis of each group's historical rates of credit loss, adjusted to economic conditions and developments in lending.

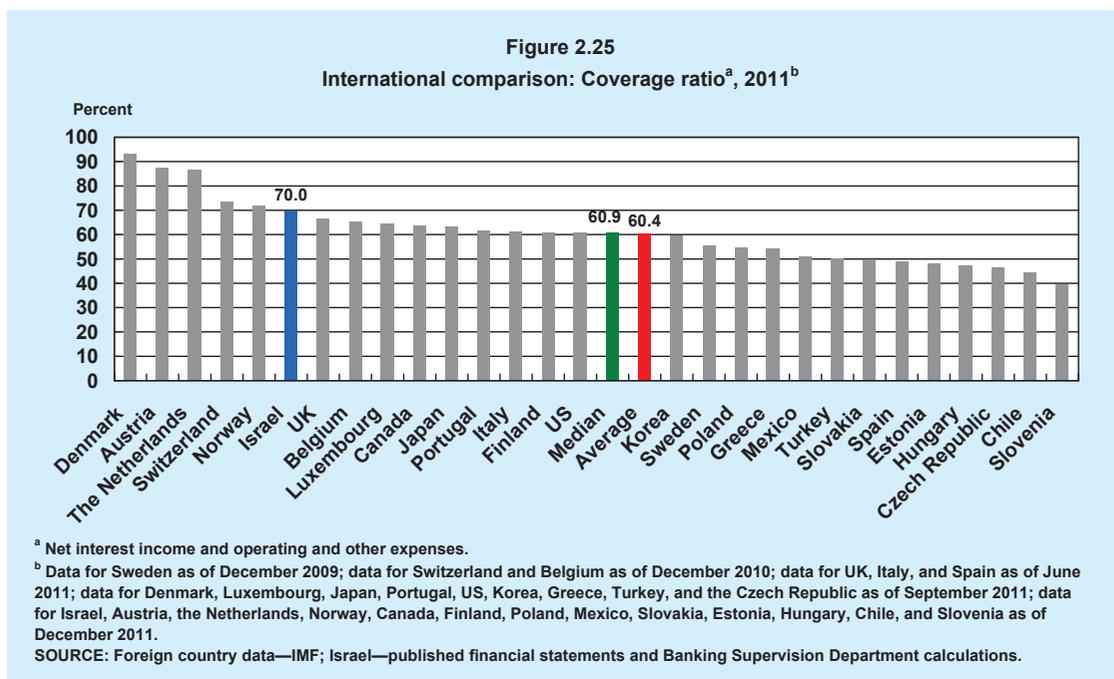
#### d. Non-interest and other income and expenses

##### Non-interest and other income

The five major banking groups' total non-interest and other income was NIS 14 billion in 2011, down 4.5 percent (Table 2.16), following a 7.8 percent decline in the previous year. In both years, the decrease originated in a decline in income from activity in the capital market, somewhat offset by an upturn in total income from banking services, as described below.

Total income from banking services was relatively stable at NIS 9.75 billion, up 1 percent (Table 2.16) despite a mild (0.9 percent) decline in income from account management fees. Most of the upturn derived from an increase in income from credit card activity (4.5 percent), powered by 7 percent growth in the number of cardholders and a 7.4 percent increase in transaction turnover. Income from banking services—practically all income from operational fees that is not derived from the capital market—was 70 percent of total non-interest and other income in 2011, as against 66 percent in 2010 and 59 percent in 2009 (Table 2.16).

The decrease in total non-interest income in 2011 derived from a 15 percent cumulative decline in groups' operational income from activity in the capital market. Apart from income from the distribution of financial products, which increased (by 4.6 percent), all items in this segment declined at double-digit rates. The unfavorable developments in income from activity in the capital market occurred in both



**Table 2.16**  
**The five major banking groups' operating income and expenses, 2009 to 2011**

	Amounts			Distribution			Changes compared with previous year	
	2009	2010	2011	2009	2010	2011	2010	2011
	(NIS million, at current prices)			(Percent)			(Percent)	
<b>1 Operating income</b>								
<b>Income from banking services</b>								
Account management fees	3,112	3,085	3,057	19.6	21.0	21.8	-0.9	-0.9
Credit cards	3,334	3,415	3,569	21.0	23.3	25.5	2.4	4.5
Credit services and contracts	973	1,202	1,224	6.1	8.2	8.7	23.5	1.8
Foreign trade activity and special services	342	378	381	2.2	2.6	2.7	10.5	0.8
Other fees <sup>a</sup>	1,650	1,568	1,515	10.4	10.7	10.8	-5.0	-3.4
Total income from services (1)	9,411	9,648	9,746	59.2	65.8	69.5	2.5	1.0
<b>Income from capital market activity</b>								
From securities activity (2)	3,142	3,206	2,863	19.8	21.9	20.4	2.0	-10.7
Provident and mutual fund <sup>b</sup> distribution fees (3)	522	673	704	3.3	4.6	5.0	28.9	4.6
Management, operational and trust fees for institutional investors (4)	321	344	302	2.0	2.3	2.2	7.2	-12.2
Net profits/losses from investments in shares	1,633	336	102	10.3	2.3	0.7	-79.4	-69.6
Profits from severance pay funds	601	151	34	3.8	1.0	0.2	-74.9	-77.5
Total income from capital market activity	6,219	4,710	4,005	39.1	32.1	28.6	-24.3	-15.0
Other income <sup>c</sup>	275	315	263	1.7	2.2	1.9	14.6	-16.5
Total income from operating fees <sup>d</sup> (1 + 2 + 3 + 4)	13,396	13,871	13,615	84.2	94.5	97.2	3.6	-1.9
Total operating and other income	15,905	14,673	14,014	100.0	100.0	100.0	-7.8	-4.5
<b>2 Operating expenses</b>								
Salaries and related expenses <sup>e</sup>	14,018	15,606	16,530	56.2	57.3	59.0	11.3	5.9
<i>Of which:</i> Salaries	9,640	10,313	10,722	38.7	37.9	38.3	7.0	4.0
Maintenance and depreciation of premises and equipment	4,990	5,291	5,457	20.0	19.4	19.5	6.0	3.1
Amortization and write-down of intangible assets and goodwill	325	428	198	1.3	1.6	0.7	31.7	-53.7
Other expenses	5,605	5,916	5,837	22.5	21.7	20.8	5.6	-1.3
<i>Of which:</i> Marketing and advertising	744	898	909	3.0	3.3	3.2	20.7	1.2
Computer expenses	911	856	871	3.7	3.1	3.1	-6.0	1.8
Communications	651	641	638	2.6	2.4	2.3	-1.5	-0.5
Insurance	139	137	127	0.6	0.5	0.5	-1.4	-7.3
Office expenses	341	351	351	1.4	1.3	1.3	2.9	0.0
Professional services	778	810	884	3.1	3.0	3.2	4.1	9.1
Total operating expenses	24,938	27,241	28,022	100	100	100	9.2	2.9
Coverage ratio <sup>f</sup> (%)	63.8	53.9	50.0					

<sup>a</sup> Includes mainly margin and collection fees on credit from the Finance Ministry, and from conversion and other differentials.

<sup>b</sup> 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.

<sup>c</sup> Includes profit from the realization of assets received in respect of the discharge of credit, management fees from related companies and other income.

<sup>d</sup> Includes total income from services, securities activity, financial product distribution fees, and management, operational and trust fees for institutional investors.

<sup>e</sup> Includes payroll tax, severance pay, royalties, pension and national insurance.

<sup>f</sup> The ratio between operating and other income, and operating and other expenses.

**SOURCE: Reports to the Banking Supervision Department and Banking Supervision Department calculations.**

direct activity in the market<sup>35</sup> and indirect activity.<sup>36</sup> Direct activity was affected mainly by a decrease in revenue from fees charged for activity in customers' securities; indirect activity was affected chiefly by a falloff in profit from equity investments and earnings on severance-paid funds. The decrease in income in 2011 (both direct and indirect) owes to developments in the capital market: acute volatility in

**Table 2.17**  
**Salaries and related expenses of the five major banking groups, 1998 to 2011**

(Reported amounts <sup>a</sup> , at current prices)							
Year	Average number of posts <sup>b</sup>	Salaries		Related expenses <sup>c</sup>		Salaries and related expenses	
		Total (NIS million)	Per post (NIS thousand)	Total (NIS million)	Per post (NIS thousand)	Total (NIS million)	Per post (NIS thousand)
1998	38,230	6,341	166	2,955	77	9,296	243
1999	38,248	6,607	173	3,063	80	9,669	253
2000	39,251	7,220	184	3,557	91	10,777	275
2001	39,753	7,231	182	3,560	90	10,791	271
2002	39,531	6,819	172	3,976	101	10,795	273
2003	38,427	7,260	189	3,566	93	10,826	282
2004	38,170	7,898	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	10,313	216	5,293	111	15,606	326
2011	48,284	10,722	222	5,808	120	16,530	342
Change compared with previous year (Percent)							
1999	0.05	4.2	4.1	3.6	3.6	4.0	4.0
2000	2.6	9.3	6.5	16.1	13.2	11.5	8.6
2001	1.3	0.1	-1.1	0.1	-1.2	0.1	-1.1
2002	-0.6	-5.7	-5.2	11.7	12.3	0.0	0.6
2003	-2.8	6.5	9.5	-10.3	-7.7	0.3	3.2
2004	-0.7	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	-12.6	20.9	14.8	1.4	-3.7
2009	1.0	6.9	5.9	-23.3	-24.0	-4.8	-5.7
2010	1.5	7.0	5.4	20.9	19.1	11.3	9.6
2011	1.0	4.0	3.0	9.7	8.7	5.9	4.9

<sup>a</sup> Until 2002, amounts are adjusted for the effect of inflation on the basis of the December 2003 index.

<sup>b</sup> The number of posts includes posts at subsidiaries abroad and at consolidated companies, translation of the cost of overtime and external personnel budgets that were required to supplement current personnel and for the assimilation of projects.

<sup>c</sup> 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 benefit deriving from the allocation of options to employees.

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

<sup>35</sup> This income includes activity in securities, fees for the distribution of financial products, and management, operational, and trust fees charged to institutional entities.

<sup>36</sup> This income includes the bank's own activity in the capital market: profits/losses on equity investments and earnings from severance pay funds.

share prices, a steep downturn in prices relative to the previous year (the Tel Aviv 100 Index lost some 20 percent), and the general contraction of activity.

### Operating and other expenses

The operating expenses of the five major banking groups totaled NIS 28 billion this year, an increase of 3 percent compared with 2010. The increase in these expenses was recorded in all the groups, and derived primarily from an increase in salaries and related expenses, which totaled NIS 16.5 billion this year, a 6 percent increase from 2010. Salaries and related expense are the largest component of operating expenses, at about 60 percent of the total, similar to the average between 2000 and 2010. Its increase this year can be attributed to, among other things, an increase in payments for salary, severance pay, benefits, and pension plans, as well as a continuous increase in the proportion of employees with post-high school studies among total banking group employees. With that, it should be noted that the increase of 3 percent in salary expenses excluding related expenses was lower than the increase in the average salary per employee post in Israel overall (3.8 percent).

**Table 2.18**  
Operational coverage ratio<sup>a</sup> and efficiency ratio<sup>b</sup> of the five major banking groups,  
2009–11

Bank	2009		2010		2011	
	Operational coverage ratio	Efficiency ratio	Operational coverage ratio	Efficiency ratio	Operational coverage ratio	Efficiency ratio <sup>c</sup>
Leumi	0.67	1.71	0.52	1.45	0.45	1.35
Hapoalim	0.68	1.58	0.61	1.55	0.58	1.56
Discount	0.57	1.44	0.47	1.32	0.46	1.28
Mizrahi-Tefahot	0.58	1.53	0.53	1.69	0.51	1.73
First International	0.64	1.43	0.54	1.33	0.49	1.27
Average for the five major banking groups	0.64	1.56	0.54	1.46	0.50	1.43

<sup>a</sup> The ratio between operating and other income, and operating and other expenses.

<sup>b</sup> Calculated as the ratio between total operating income and net interest income, and operating and other expenses. Called the Efficiency Ratio in the literature. The efficiency ratio is sometimes presented as the reverse of the ratio which we calculated here, meaning total operating and other expenses to total (financing and operating) income.

<sup>c</sup> The figure for 2011 is not fully comparable because of the effect of the directive concerning the measurement and disclosure of impaired debts, credit risk and allowance for credit losses.

**SOURCE:** Published financial statements and Banking Supervision Department calculations.

### e. Analysis of the performance of the five major banking groups by activity segments

The activity of Israel's banking groups relies primarily on "customer-driven activity", based on five classical activity segments, through which the groups provide a range of financial products and services to customers from all of those segments: business, commerce, small business, private banking, and households. The banking groups also engage in "financial activity" by means of the financial management segment. This generally includes (although there is some variance between different banks in its definition) the banks' investments—for themselves and their customers—in securities, structured financial instruments, and real assets.

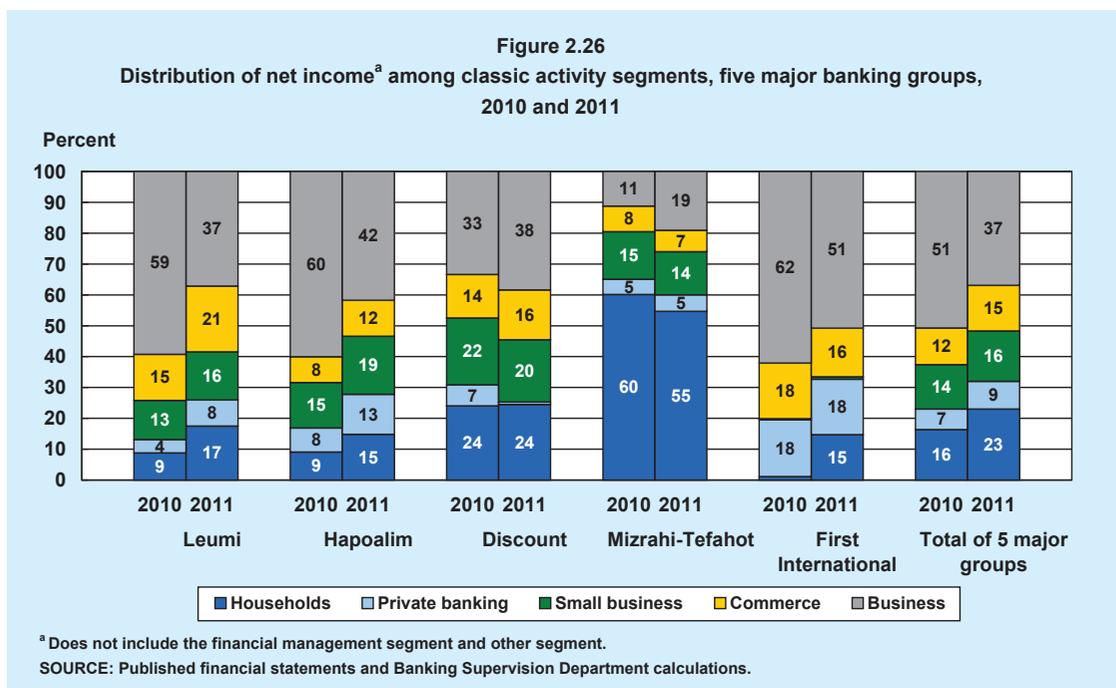
Examination of the five classic activity segments in 2011 indicates a change in the distribution of their contributions to net profit. The business and commerce sectors, which—combined—made the largest contribution to net profit in 2010, at 63 percent (Figure 2.26), posted a decline in the review year, their contributions adding up to about half of the total contribution of the classic activity segments. The

decrease derived from, among other things, smaller net income and larger loan-loss provisions. The contraction of net profit was also manifested in the decrease in the yield of risk assets (Figure 2.19). This development is attributed mainly to the events that swept the global and domestic economies in 2011, dampening the financial markets and leading to an increase in borrowers' risk assessments. The decrease in income in the business and commerce segment stood out in particular at the Leumi and Hapoalim groups due to their large share in total bank credit to the business sector, the nature of their activity, and their sensitivity to adverse developments in the business environment in 2011.

The contribution of the retail segments—households and private banking—to net profit increased from 23 percent to 32 percent. Profits from these segments had a particularly favorable effect on interest income as well, especially at the Mizrahi group, which is significantly active in the household segment. The main impetus for this development was competition among the banking groups for housing credit, in a direct continuation of developments in 2010.

The small business segment made a larger contribution to net income in 2011 than it did in 2010, and continued to post a relatively strong return on risk weighted assets for reasons including a decrease in credit loss provisions. Notably, this segment is generally the one that posts the highest return because, among other reasons, it typically involves high levels of risk—reflected among other things in a high ratio of provisions to credit issued. Another characteristic of activity in the small business segment, much like the household segment, is high operational costs. The reason is that this activity forces the banking groups to maintain and operate a broad and accessible network of branches for their retail customers (including small businesses), entailing a large allocation of human and physical resources.

The financial management segment, which allows the banking groups to create alternative and complementary avenues of income, posted a considerable decline in return in 2011 and, overall, contributed to the contraction of net profit. This segment, typically very volatile over the years, was affected in 2011 by, among other things, the declines in the domestic and foreign financial markets and in the earnings of non-financial consolidated companies.



**Table 2.19**  
**Performance indices by segments of activity<sup>a,b</sup> at the five major banking groups, 2010 and 2011**

	Households segment		Private banking segment		Small business segment		Commerce segment		Corporate segment		Financial management segment	
	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011	2010	2011
<b>Items and profit components</b>												
Average balance of assets	25	26	4	5	6	6	10	10	26	25	29	28
Average balance of risk assets	22	23	4	5	7	7	14	14	39	39	13	12
Net interest income before loan loss provision	30	34	8	9	13	13	14	14	27	25	8	5
Total operating and interest income	35	38	11	12	13	13	12	12	22	20	7	4
Loan loss provisions	27	19	2	2	18	13	19	19	31	43	0	4
Operating and other income	45	45	18	19	12	13	8	8	12	12	5	3
Operating and other expenses	43	43	14	14	12	11	10	10	11	11	10	11
Ordinary income	15	24	6	9	13	17	15	15	48	38	6	-4
Net income	15	24	6	9	13	17	15	15	46	38	9	-3
Ratios (percent)												
Loan loss provision to total assets	0.3	0.2	0.1	0.1	0.9	0.7	0.6	0.6	0.4	0.5	0.0	0.0
Net interest income before loan loss provision to total assets	3.0	3.2	4.4	4.8	5.5	5.6	3.4	3.4	2.6	2.4	0.7	0.4
Total income <sup>c</sup> to total assets	5.4	5.3	9.8	9.6	8.3	8.3	4.4	4.3	3.2	3.0	0.9	0.5
Operating expenses to total assets	4.5	4.2	8.4	7.7	5.1	5.0	2.6	2.4	1.1	1.1	0.9	0.9
Net income per shekel asset	0.4	0.5	0.9	1.2	1.4	1.8	0.7	0.9	1.1	0.9	0.2	-0.1
Ratios (percent)												
Coverage ratio <sup>d</sup>	0.54	0.50	0.65	0.62	0.55	0.55	0.38	0.39	0.57	0.55	0.24	0.13
Efficiency ratio <sup>e</sup>	1.22	1.26	1.18	1.24	1.62	1.66	1.67	1.81	2.97	2.75	0.97	0.54
Return on risk weighted assets <sup>f</sup>	0.53	0.78	1.07	1.50	1.41	1.75	0.62	0.80	0.93	0.72	0.53	-0.21
Loan loss provision to total risk assets	0.45	0.30	0.13	0.14	0.92	0.66	0.61	0.49	0.29	0.40	0.00	0.13

<sup>a</sup> Each banking group defines the segments of activity at its own discretion and in accordance with the characteristics and volume of its customers' activity. Generally, the household 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 commerce 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.

<sup>b</sup> Not including the other and the reconciliations segment.

<sup>c</sup> Total income is calculated as the sum of operating and other income and net interest income before loan loss provision.

<sup>d</sup> Calculated as the ratio of non-interest and other income, to operating and other expenses.

<sup>e</sup> Calculated as the ratio of non-interest and other income and net interest income before loan loss provision, to operating and other expenses.

<sup>f</sup> Calculated as the ratio between net income, and the average balance of risk assets.

**SOURCE: Published financial statements and Banking Supervision Department calculations.**

## 12. APPENDIX

**Table A.2.1**  
**Transactions in off-balance-sheet financial instruments (credit risk),**  
**Israeli banking system<sup>a</sup>, 2010 and 2011**

	Year-end balance		Rate of change compared with previous year	Distribution	
	2010 <sup>b</sup>	2011		2010	2011
	(NIS million)		(Percent)	(Percent)	
Documentary Credit	5,927	7,243	22.2	1.4	1.6
Credit guarantees	21,028	21,845	3.9	5.0	4.9
Guarantees for home buyers	35,781	40,054	11.9	8.5	9.0
Other guarantees and liabilities	58,807	68,024	15.7	14.0	15.3
Unutilized credit card credit lines	85,693	92,226	7.6	20.4	20.8
Unutilized credit lines to the public	88,935	85,540	3.8-	21.1	19.3
Irrevocable commitments for approved credit that has not yet been extended	88,185	87,993	0.2-	21.0	19.9
Commitments for the issue of guarantees	36,207	40,230	11.1	8.6	9.1
<b>Total</b>	<b>420,563</b>	<b>443,155</b>	<b>5.4</b>	<b>100</b>	<b>100</b>

<sup>a</sup> Includes the five largest banking groups and the independent banks (Union, Jerusalem and Dexia).

<sup>b</sup> There are gaps between the balances of contracts displayed in this table for 2010 and the balances presented in the corresponding table last year. These differences derive from the inclusion this year of the total balance of "Unused facilities for activity in derivative instruments" at First International Bank (under the heading, "Other guarantees and liabilities"), whereas last year, 10 percent of the balance was included under the heading, "Unutilized credit lines to the public". In the section, "Unutilized credit card credit lines", the difference derives from the inclusion of the balance of unutilized credit card credit lines under the responsibility of other banks in the Hapoalim Group. The differences in other sections derive from reclassification or revisions of reported values.

**SOURCE: Published financial statements and Banking Supervision Department calculations.**

**Table A.2.2**  
**Principal housing loan market indicators, entire banking system, 2005–11**

	2005	2006	2007	2008	2009	2010	2011
Year-end balance of housing loans (NIS million)	124,189	126,057	136,994	154,123	172,033	200,237	224,862
Rate of change		2%	9%	13%	12%	16%	12%
Year-end balance of loans for the purchase of residential property (NIS million)	110,734	111,710	122,210	138,491	155,843	180,145	204,067
Rate of change		1%	9%	13%	13%	16%	13%
Year-end balance of loans secured by a residential property <sup>a</sup> (NIS million)	13,455	14,347	14,784	15,632	16,191	20,093	20,796
Rate of change		7%	3%	6%	4%	24%	3%
Average monthly volume of new loans for the purchase of residential property (NIS million)	1,717	1,409	2,044	2,512	2,885	3,932	3,727
New loans granted in the floating-rate unindexed segment (NIS million)	374	436	725	1,202	1,737	1,980	1,376
New loans granted in the floating-rate indexed segment (NIS million)	273	341	452	776	678	1,229	1,476
New loans granted in the fixed-rate indexed segment (NIS million)	909	474	740	448	336	464	490
New loans granted in the floating rate foreign currency segment	158	145	100	60	110	189	200
Average weighted interest rate on loans for the purchase of residential property (NIS million)	4.5%	5.4%	4.6%	4.1%	2.2%	2.5%	3.3%
Floating interest rate in the unindexed segment	4.8%	6.2%	4.8%	4.4%	1.7%	2.6%	3.8%
Floating interest rate in the indexed segment	4.2%	5.0%	4.4%	3.7%	2.7%	2.2%	2.8%
Fixed interest rate in the indexed segment	4.3%	4.8%	4.2%	3.8%	3.1%	2.6%	2.8%
Floating interest rate in the foreign currency segment	5.1%	6.1%	6.3%	5.0%	2.8%	2.8%	3.0%
Number of loans for the purchase of residential property granted to the public during December					7,904	8,380	5,677
Average loan size in shekels in the month of December					497,280	555,016	565,310

<sup>a</sup>Not for residential purposes.

**SOURCE:** Reports to the Banking Supervision Department and Banking Supervision Department calculations.

**Table A.2.3**  
**Indices of concentration of the portfolio of credit<sup>a</sup> to the public of the five major banking groups, December 2006 to December 2011**

	Year	Leumi	Hapoalim	Discount	Mizrahi Tefahot	First International	The five major groups
<b>Concentration by principal industries</b>							
Herfindahl-Hirschman Index ( <i>H</i> ) of the concentration of the aggregate credit portfolio excluding credit to individuals <sup>b,c</sup>	2006	0.089	0.086	0.103	0.053	0.098	0.083
	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	0.081	0.037	0.057	0.073
Herfindahl-Hirschman Index ( <i>H</i> ) of business credit portfolio concentration <sup>d,e</sup>	2006	0.175	0.167	0.162	0.216	0.178	0.169
	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	0.197	0.168	0.182
Credit to individuals as percentage of total credit	2006	26.2	30.2	21.0	49.5	26.0	29.0
	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	31.3	56.9	41.1	35.5
Share of credit for borrowers' activity abroad in total credit portfolio (percent)	2006	20.9	22.3	19.0	3.8	7.8	18.2
	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	20.7	1.9	3.0	11.9
<b>Concentration by borrower size</b>							
Gini Index <sup>f</sup> of credit diversification by borrower size	2006	0.905	0.886	0.901	0.798	0.903	0.891
	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	0.904	0.811	0.846	0.903
Share in group's total credit of credit granted to borrowers whose indebtedness exceeds NIS 40 million (percent)	2006	41.9	51.6	44.8	26.0	41.5	44.3
	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	40.5	24.6	29.3	40.6
Share in total credit of credit granted to borrowers whose outstanding indebtedness exceeds 5% of the group's equity <sup>g</sup> (percent)	2006	5.0	8.7	8.9	6.6	14.8	
	2007	6.1	8.9	11.5	5.6	15.9	
	2008	8.4	10.6	8.4	9.5	14.4	
	2009	5.1	11.6	9.2	7.4	10.6	
	2010	5.4	8.1	7.8	8.2	11.3	
	2011	5.6	8.3	6.4	5.2	8.5	

<sup>a</sup> On a balance-sheet and off-balance-sheet basis.

<sup>b</sup> This index is the sum of the squares 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).

<sup>c</sup> The principal industries weighted in this index include the borrowers' activity in both Israel and abroad.

<sup>d</sup> This index is the sum of the squares of the weights of credit in a specific industry (minus credit granted to individuals) in total credit to the public (excluding credit granted to private individuals).

<sup>e</sup> The principal industries weighted in this index include the borrower's activity in Israel only.

<sup>f</sup> The Gini Index expresses inequality in the distribution of credit by borrowers.

<sup>g</sup> Plus minority interest.

**SOURCE: Published financial statements and Banking Supervision Department calculations.**

**Table A.2.4**  
**Distribution of outstanding credit to the public<sup>a</sup> by borrower size at the five major banking groups, 2010 and 2011**

Credit to borrower	Outstanding credit to the public and off-balance-sheet credit risk		Number of borrowers		Average outstanding credit		Cumulative share of outstanding credit		Cumulative share of borrowers' balances	
	2010 (NIS million)	2011	2010	2011	2010 (NIS thousand)	2011	2010 (Percent)	2011	2010 (Percent)	2011
(NIS thousand)										
Up to 10	13,528	12,620	3,749,045	3,912,043	4	3	100.00	100.00	100.00	100.00
Above 10 to 20	18,379	17,865	1,196,598	1,096,582	15	16	98.80	98.90	54.39	52.97
Above 20 to 40	34,675	36,333	1,163,453	1,162,223	30	31	97.20	97.40	39.84	39.79
Above 40 to 80	52,448	54,386	928,434	922,595	56	59	94.10	94.40	25.69	25.82
Above 80 to 150	53,214	56,449	498,215	507,940	107	111	89.50	89.80	14.40	14.73
Above 150 to 300	64,577	66,788	310,752	314,526	208	212	84.90	85.10	8.34	8.62
Above 300 to 600	87,940	92,705	208,362	215,730	422	430	79.20	79.40	4.56	4.84
Above 600 to 1,200	88,928	100,405	108,824	122,596	817	819	71.50	71.60	2.03	2.25
Above 1,200 to 2,000	40,102	45,642	26,612	30,367	1,507	1,503	63.70	63.20	0.71	0.78
Above 2,000 to 4,000	39,636	44,545	14,501	16,337	2,733	2,727	60.20	59.40	0.39	0.41
Above 4,000 to 8,000	39,875	41,657	7,126	7,517	5,596	5,542	56.70	55.60	0.21	0.21
Above 8,000 to 20,000	66,099	67,393	5,343	5,405	12,371	12,469	53.30	52.10	0.12	0.12
Above 20,000 to 40,000	66,532	69,518	2,429	2,518	27,391	27,608	47.50	46.40	0.06	0.06
Above 40,000 to 200,000	203,366	206,995	2,563	2,602	79,347	79,552	41.60	40.60	0.03	0.03
Above 200,000 to 400,000	98,097	103,155	354	369	277,110	279,553	23.80	23.20		
Above 400,000 to 800,000	85,858	81,027	155	154	553,923	526,149	15.20	14.50		
Above 800,000 to 1,200,000	38,031	36,899	39	39	975,154	946,128	7.70	7.70		
Above 1,200,000 to 1,600,000	15,071	15,659	11	12	1,370,091	1,304,917	4.40	4.60		
Above 1,600,000 to 2,000,000	19,530	15,606	11	9	1,775,455	1,734,000	3.00	3.30		
Above 2,000,000 to 2,400,000	2,130	6,342	1	3	2,130,000	2,114,000	1.30	2.00		
Above 2,400,000 to 2,800,000	2,666	10,477	1	4	2,666,000	2,619,250	1.10	1.50		
Above 2,800,000 to 3,200,000	2,900		1		2,900,000		0.90	0.60		
Above 3,200,000	7,387	6,903	2	2	3,693,500	3,451,500	0.70	0.60		
<b>Total</b>	<b>1,140,969</b>	<b>1,189,369</b>	<b>8,222,832</b>	<b>8,319,573</b>	<b>139</b>	<b>143</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

SOURCE: Published financial statements and Banking Supervision Department calculations.

Table A.2.5  
Securities portfolio of the five largest banking groups, 2010 and 2011<sup>a</sup>

	Bank Leumi						Bank Hapoalim						Bank Discount					
	2010		2011		2010		2011		2010		2011		2010		2011			
	Fair value	Distribution																
	(NIS million)	(Percent)																
<b>Bonds held to maturity</b>																		
Israeli government bonds	25,382	45.5	19,775	41.3	19,243	41.3	23,859	60.9	13,822	69.3	16,991	37.2	16,991	37.2	16,991	39.6		
Foreign government bonds	2,101	3.8	3,675	7.7	2,497	7.7	2,053	7.9	1,373	6.0	1,004	3.7	1,004	3.7	1,004	2.3		
Israeli financial institutions	454	0.8	397	0.8	-	-	173	-	766	0.5	762	2.1	762	2.1	762	1.8		
Foreign financial institutions	10,590	19.0	7,854	16.4	2,269	16.4	2,026	7.2	2,123	3.0	2,067	5.7	2,067	5.7	2,067	4.8		
MBS, ABS	4,341	7.8	2,444	5.1	262	5.1	7	-	8,976	24.1	11,842	27.6	11,842	27.6	11,842	27.6		
Other bonds - Israeli	534	1.0	604	1.3	1,010	3.2	547	1.6	340	0.9	278	0.6	278	0.6	278	0.6		
Other bonds - foreign	855	1.5	1,254	2.6	889	2.6	747	2.8	150	2.2	150	0.4	150	0.4	150	0.1		
<b>Total bonds held to maturity</b>																		
Israeli government bonds	44,257	79.3	36,003	75.1	26,170	75.1	28,412	82.8	27,550	82.6	32,976	74.1	32,976	74.1	32,976	76.9		
Foreign government bonds	2,859	5.1	2,191	4.6	2,221	4.6	1,538	7.0	681	4.5	658	1.8	658	1.8	658	1.5		
Israeli financial institutions	47,116	84.5	38,194	79.7	28,391	79.7	29,950	89.8	28,231	87.0	33,634	75.9	33,634	75.9	33,634	78.4		
Foreign financial institutions	5,788	10.4	8,153	17.0	1,755	17.0	2,924	5.6	2,037	8.5	3,218	5.5	3,218	5.5	3,218	7.5		
MBS, ABS	750	1.3	183	0.4	45	0.4	50	0.1	11	0.1	6	-	6	-	6	-		
Other bonds - Israeli	155	0.3	173	0.4	-	-	10	-	5	-	4	-	4	-	4	-		
Other bonds - foreign	348	0.6	366	0.8	421	0.8	348	1.3	44	1.0	45	0.1	45	0.1	45	0.1		
<b>Total bonds available for sale</b>																		
Israeli government bonds	213	0.4	120	0.3	-	-	-	-	43	0.1	54	0.1	54	0.1	54	0.1		
Foreign government bonds	336	0.6	330	0.7	22	0.7	27	0.1	9	0.1	27	0.1	27	0.1	27	0.1		
Israeli financial institutions	808	1.4	56	0.1	113	0.4	181	0.4	32	0.5	10	0.1	10	0.1	10	0.1		
Foreign financial institutions	8,398	15.1	9,381	19.6	2,356	19.6	3,540	7.5	2,181	10.3	3,364	5.9	3,364	5.9	3,364	7.8		
MBS, ABS	277	0.5	361	0.8	64	0.8	52	0.2	12	0.2	5	-	5	-	5	-		
Other bonds - Israeli	8,675	15.5	9,742	20.3	2,420	20.3	3,592	7.7	2,193	10.4	3,369	5.9	3,369	5.9	3,369	7.9		
Other bonds - foreign																		
<b>Total securities available for sale</b>																		
Israeli government bonds	55,791	100.0	47,936	100.0	31,604	100.0	34,411	100.0	37,176	100.0	42,898	100.0	42,898	100.0	42,898	100.0		
Foreign government bonds																		
Israeli financial institutions																		
Foreign financial institutions																		
MBS, ABS																		
Other bonds - Israeli																		
Other bonds - foreign																		
<b>Total securities, all types</b>																		

Table A.2.5 (continued)  
 Securities portfolio of the five largest banking groups, 2010 and 2011<sup>a</sup>

	Five largest banking groups												
	Mizrachi-Tefahot						First International						
	2010		2011		2010		2011		2010		2011		
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)	Fair value (NIS million)	Distribution (Percent)
Israeli government bonds	-	-	703	8.3	594	3.8	328	2.8	2,918	2.0	3,693	2.5	2.5
Foreign government bonds	-	-	-	-	-	-	-	-	2,951	2.0	2,184	1.5	1.5
Israeli financial institutions	-	-	-	-	17	0.1	6	0.1	753	0.5	810	0.6	0.6
Foreign financial institutions	-	-	-	-	126	0.8	110	0.9	185	0.1	176	0.1	0.1
MBS, ABS	-	-	-	-	-	-	-	-	1,435	1.0	1,028	0.7	0.7
Other bonds - Israeli	-	-	-	-	47	0.3	81	0.7	47	-	81	0.1	0.1
Other bonds - foreign	-	-	-	-	200	1.3	266	2.2	240	0.2	286	0.2	0.2
<b>Total bonds held to maturity</b>	-	-	703	8.3	984	6.2	791	6.7	8,529	5.8	8,258	5.7	5.7
Israeli government bonds	6,023	80.9	5,524	65.5	6,761	42.8	6,182	52.1	71,231	48.2	72,331	49.7	49.7
Foreign government bonds	103	1.4	86	1.0	366	2.3	151	1.3	6,440	4.4	6,969	4.8	4.8
Israeli financial institutions	127	1.7	159	1.9	202	1.3	131	1.1	1,549	1.0	1,622	1.1	1.1
Foreign financial institutions	612	8.2	412	4.9	2,653	16.8	955	8.0	18,247	12.3	12,314	8.5	8.5
MBS, ABS	60	0.8	61	0.7	1,041	6.6	413	3.5	14,680	9.9	14,767	10.1	10.1
Other bonds - Israeli	-	-	81	1.0	620	3.9	375	3.2	2,504	1.7	1,885	1.3	1.3
Other bonds - foreign	154	2.1	135	1.6	239	1.5	28	0.2	2,287	1.5	2,196	1.5	1.5
<b>Total bonds available for sale</b>	7,079	95.0	6,458	76.6	11,882	75.2	8,235	69.4	116,938	79.1	112,084	77.0	77.0
<b>Total stocks available for sale</b>	81	1.1	85	1.0	917	5.8	546	4.6	6,759	4.6	5,018	3.4	3.4
<b>Total securities available for sale</b>	7,160	96.1	6,543	77.6	12,799	81.0	8,781	74.0	123,697	83.7	117,102	80.5	80.5
Israeli government bonds	285	3.8	1,183	14.0	1,632	10.3	1,952	16.4	11,497	7.8	17,430	12.0	12.0
Foreign government bonds	-	-	-	-	44	0.3	176	1.5	850	0.6	415	0.3	0.3
Israeli financial institutions	-	-	-	-	133	0.8	82	0.7	293	0.2	269	0.2	0.2
Foreign financial institutions	4	0.1	3	-	61	0.4	35	0.3	878	0.6	797	0.5	0.5
MBS, ABS	-	-	-	-	-	-	-	-	256	0.2	174	0.1	0.1
Other bonds - Israeli	-	-	-	-	84	0.5	43	0.4	451	0.3	427	0.3	0.3
Other bonds - foreign	-	-	-	-	35	0.2	2	-	988	0.7	249	0.2	0.2
<b>Total bonds for trading</b>	289	3.9	1,186	14.1	1,989	12.6	2,290	19.3	15,213	10.3	19,761	13.6	13.6
<b>Total stocks for trading</b>	-	-	-	-	30	0.2	10	0.1	383	0.3	428	0.3	0.3
<b>Total securities for trading</b>	289	3.9	1,186	14.1	2,019	12.8	2,300	19.4	15,596	10.6	20,189	13.9	13.9
<b>Total securities, all types</b>	7,449	100.0	8,432	100.0	15,802	100.0	11,872	100.0	147,822	100.0	145,549	100.0	100.0

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

<sup>b</sup> In the Discount Group, the asset backed and mortgage backed securities primarily are bonds of US government agencies.

SOURCE: Published financial statements and Banking Supervision Department calculations.

**Table A.2.6**  
**Risk Adjusted Return on Capital, the variance-covariance approach<sup>a</sup>,**  
**by banking group, 2002–11**

Year	$R_f$	Leumi	Hapoalim	Discount	Mizrahi-Tefahot	First International	Five groups
2002	4.82	-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	2.98	0.84	1.01	0.22	0.84	0.65	0.96
2006	3.70	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	2.93	-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	0.43	0.35	0.31	0.82	0.63	0.52
2011	1.18	0.30	0.40	0.34	1.04	0.60	0.50

<sup>a</sup> RAROC is calculated by the variance-covariance approach

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

where:

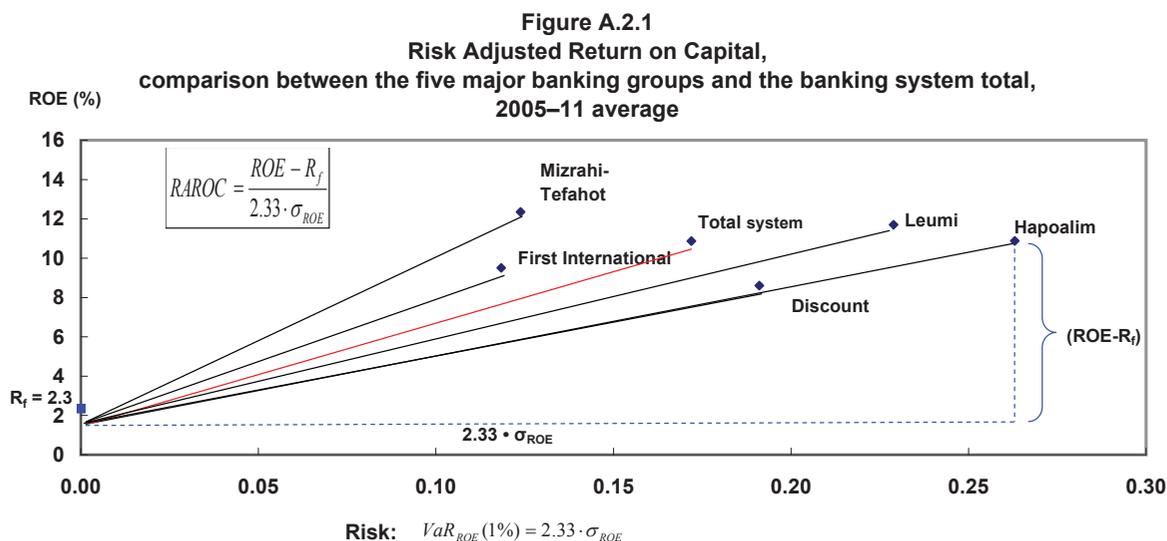
$ROE$  = Return on equity in the last year

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

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

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

SOURCE: Published financial statements and Banking Supervision Department calculations.



$R_f$  - Average annual risk-free interest rate for the period 2005 to 2011. The 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 2005 to 2011.

$\sigma_{ROE}$  - The standard deviation is based on the ROE for each quarter in the period 2005 to 2011 (so that the calculation was made on the basis of 28 observations).

SOURCE: Published financial statements and Banking Supervision Department calculations.