CHAPTER 1

DEVELOPMENTS IN THE BANKING SYSTEM

In 2015, Israel's banking system continued to maintain its resilience and improve its stability, against the background of moderate economic growth, a low interest rate environment, continued increase in home prices, and improvement in the domestic labor market. The stability of the system is supported by the continuation of capital accumulation and by the alignment of capital targets with the banks' risk profile, reduction of the large-borrower exposure that was typical of recent years, the extended decline in concentration in the credit portfolio, as well as by an increase in liquidity during the year. The Banking Supervision Department enhanced stability by supporting the adoption of advanced international regulation standards and new working frameworks for risk management in banks' areas of activity. Banking system profitability improved. However, most of the increase in profit does not reflect an improvement in the banking groups' business environment or activity; instead, it originates largely in specific one-off developments during the review year and in 2014. In recent years, profitability in Israel's banking system has approximated that of banks in other advanced economies (those of the OECD). System resilience is also reflected in the results of stress tests that the Banking Supervision Department conducted during the year. These results, however, emphasize concern about losses and main focal points of risk, including high exposure to the construction and real-estate industry and to housing credit, as well as concentration in both of these fields. The banking system continues to prepare for growing domestic and foreign cyber risks, and continues to mitigate its exposure to compliance risks—including the cross-border risk inherent in banking activity vis-à-vis nonresidents—pursuant to lessons from events in foreign banks and some Israelis banks. The banking system's exposure to compliance risks associated with cross-border activity has fallen in recent years due to reduced activity abroad and the sale of some foreign affiliates. These risks pose a challenge to the banking system, particularly in view of tighter supervision of financial institutions in Israel and abroad and stricter enforcement.

- **Banking profitability in 2015 was similar to the OECD average.** Net profit was NIS 8.2 billion. Return on equity was 9.1 percent, slightly exceeding the average in recent years. The increase in profitability was due mainly to spot and one-off developments that impacted earnings negatively in 2014 and positively in 2015. Main developments included the sale of assets in the review year, and the realization of compliance risk and the implementation of voluntary retirement programs at several banks in 2014. The low interest rate environment and moderate GDP growth attenuated the banks' structural sources of profit in 2015, as in previous years. To cope with the macroeconomic environment and the toughening of regulatory requirements, the banks have acted in recent years to restructure their credit portfolios—becoming more active in the small-business and consumer credit sectors and less active in lending to large borrowers—and took steps to improve efficiency and noninterest income, primarily by realizing assets in the available for sale portfolio.

- **The banks continued to shore up their capital and improve capital quality.** The Banking Supervision Department and the Israeli banking system have taken measures to enhance capital quality in recent years, implementing the conservative Standardized Approach and adopting the Basel III framework and additional directives. The process of building and strengthening capital is still continuing; the banks are expected to attain capital targets exceeding those set in March 2012 (9 percent for all banking corporations and 10 percent for Bank Leumi and Bank Hapoalim). In 2015, the Banking Supervision Department issued a leverage ratio directive that corresponds to the Basel III principles, requiring all banking corporations to attain a leverage ratio no smaller than 5 percent by January 1, 2018, and instructing Bank Leumi and Bank Hapoalim to achieve a target of no less than 6 percent by then. These requirements exceed the threshold demands of Basel III, all the banking groups have already satisfied them at the present writing, and the leverage ratio of Israel's banking system exceeds the OECD average.
- **The aggregate total balance sheet increased, largely due to growth of the credit portfolio—including mortgage credit, retail credit, and small-business credit—and against the background of an increase in deposits.** The balance sheet of Israel's banking corporations continued to expand in the review year (by 4 percent) despite a moderate rate of economic growth. In 2015, as in recent years, the increase was driven by developments in the housing market and a further upturn in private consumption, all of which boosted the size of the retail credit portfolio. On the liabilities side, activity was impacted by declines in the capital market in the second half of the year, which diverted sources from the capital market to the banks and created a surplus of sources over uses. The surpluses were used to build up the amount outstanding of bonds in the securities portfolio as well as the cash and deposits at banks, in the natural course of asset and liability management and the improvement of liquidity.
- **In 2015, as in recent years, the composition of the banks' credit portfolios continued to change and become much more diversified. As the banks focused more intently on household and small-business credit, competition in these sectors stepped up.** The banks continued to expand their balance sheet credit portfolios (5 percent) and their household and small-business lending, while cutting back on outstanding credit to large borrowers. Household credit continued to grow in view of developments in the housing market, brisk demand for credit of this kind, and an increase in private consumption. These trends, coupled with stronger activity by other financial entities in the retail and small business sectors, helped to stimulate competition in these sectors. As an indication, the net interest margin in those sectors declined in 2015 for the fourth consecutive year.
- **Large-borrower concentration continued to contract and credit portfolio quality improved again. From a forward-looking standpoint, it is noted that a protracted and rapid increase in retail credit is liable to result in the realization of risks.** Indicators of credit portfolio quality continued to improve during the review period and banks continued to reduce borrower credit concentration perceptibly. In addition, as in recent years, the rate of loan loss provisions remained below the banking system's average in recent decades. However, the banks' exposure to the construction and real-estate industry continued to grow; together with housing credit, it accounted for 45 percent of the banking credit portfolio. Looking ahead, it should be noted that the rapid increases in household, construction, and real-estate credit, and the correlation that exists among

them, are increasing the risk to the banking system. Consequently, the Banking Supervision Department instructed the banks to have in place systematic and well-documented work processes ensuring that they market retail credit only to borrowers with repayment capacity and that the banks are tailoring their marketing activity to borrowers' needs.

- **The improvement in Israeli banks' liquidity and ability to meet short-term liabilities continued during the year.** The improvement in liquidity has resulted in an adequate liquidity level for the system at large, manifested in an increase in the LCR (Liquidity Coverage Ratio), the high quality of liquid assets, and the stability in the composition of funds. The ongoing improvement in the liquidity of the banks and the system traces to the gradual implementation of the Basel III working framework, which has aligned the practices used by Israel's banks for liquidity risk management with those accepted among the world's leading banking systems. The quality of funds, however, appears to have slipped slightly in 2015 due to the increase in the share of demand deposits in light of the low interest rate environment and the downturns in the capital market in the second half of the year.
- **Israel's banks continued to reduce their exposure to the risk deriving from their cross-border activities and those of their customers; they also improved their preparedness for the management of compliance risks and other operational risks.** They accomplished this, inter alia, by selling off some activities of foreign subsidiaries and affiliates, drafting contingency plans for business continuity, and making preparations for emergency. The Banking Supervision Department also acted, requiring the banks to be better equipped to detect and monitor cross-border, money-laundering, and cyber risks, and to have systematic policies, procedures, and processes in place. These measures were prompted by the escalation of operational risks and the realization of such risks at some Israeli banks and at others abroad in recent years. All of this is against the background of the complexity of banking activity and the heightened awareness in many Western countries of supervision of financial entities' activity and the toughening of enforcement in regard to it.
- **The banks' operating efficiency improved in 2015, but remains low by the standards of advanced economies' banking systems.** In late 2015, the Banking Supervision Department launched an initiative intended to make it easier for banks to apply structural efficiency programs. The move was aimed at bringing the Israeli banks up to accepted levels of efficiency among banks in OECD countries within several years. This would eventually enhance competition in the system, improve consumers' situation, and make the banks better able to adjust to changing market conditions. Technological improvements in communication and the financial services industry will also allow operating efficiency to improve.
- **The number of bank branches and banks operating in Arab and peripheral localities continued to rise even as the total number of branches countrywide decreased.** This helps to narrow the discrepancy between the higher degree of access to bank branches at Jewish and central localities and that in Arab and peripheral localities. The decrease in the total number of branches, a process that also typifies banks in other advanced economies, originates, inter alia, in changes in habits among consumers of banking services and the integration of technologies that make the consumption of products and services online possible.

Table 1.1
Principal banking system indices, December 2001 to December 2015

Year	Ratio of market value to book value[a] (MV/BV)	Average yield spread between bonds of the banks and government bonds[b] (percentage points)	Ratio of credit to GDP[c,d] (percent)	Rate of change in balance-sheet credit to the public[d,e] (percent)	Annual loan loss provision to total credit to the public[e,f] (percent)	Ratio of liquid assets[g] to liquid liabilities[f,h]	Liquidity coverage ratio[d,i] (percent)	Ratio of credit[f,j] to deposits	Common Equity Tier 1 capital ratio[f,k] (percent)	Equity to total balance-sheet assets[f] (percent)	Leverage ratio[f,l] (percent)	ROE[f] (percent)
2001	0.91	0.7	109.3	17.9	0.84	-		0.81		4.9		5.6
2002	0.56	0.8	104.6	-1.1	1.32	0.42		0.83		4.9		2.5
2003	0.85	0.7	102.9	-1.7	1.12	0.41		0.82		5.3		8.3
2004	1.06	0.7	98.5	0.1	0.92	0.41		0.80		5.5		12.4
2005	1.45	0.7	99.4	6.7	0.69	0.42		0.82		5.4		14.5
2006	1.33	0.6	94.3	2.0	0.52	0.38		0.80		5.9		17.3
2007	1.21	0.9	94.3	7.7	0.28	0.29		0.85		6.1		15.6
2008	0.56	2.0	98.6	10.4	0.72	0.27		0.90		5.7		0.3
2009	1.11	1.6	92.7	-1.4	0.75	0.38		0.86	7.9[m]	6.3		8.8
2010	1.06	1.0	92.4	7.2	0.41	0.32		0.91	8.2	6.7		9.8
2011	0.69	1.3	89.6	3.7	0.39	0.37		0.89	8.0	6.2		10.2
2012	0.78	1.0	85.6	2.1	0.41	0.39		0.87	8.7	6.6		7.9
2013	0.84	0.9	82.0	1.1	0.25	0.36		0.87	9.3	6.9		8.7
Jan-14									9.1[n]			
2014	0.72	0.9	82.6	4.3	0.15	0.35		0.85	9.2	6.7		7.3
Jun-15							102.8[n]				6.5[n]	
2015	0.74	0.9	82.6	5.2	0.12	0.39	110.8	0.84	9.6	6.9	6.4	9.1

[a] In calculating the MV/BV ratio, the book value (BV) of the five major banks is calculated with a delay of one quarter after the market value (MV). As of December 2014, the book value includes the effect of employee rights and software expenses.

[b] Average for December of that year.

[c] Measured using gross credit.

[d] Measured in relation to the entire banking system.

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

[f] Measured in relation to the five banking groups.

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

[h] Liquid liabilities include total deposits with an original term to maturity of up to 3 months.

[i] Calculated on a consolidated basis and based on end-of-period balances.

[j] Calculated in relation to net credit.

[k] Until December 31, 2013, the banking corporations presented the Core Tier 1 capital ratio, in accordance with Basel II principles. From January 1, 2014, they present the Common Equity Tier 1 capital ratio, in accordance with Basel III principles.

[l] Calculated as the ratio between Tier 1 capital and total exposures, in accordance with Basel III principles.

[m] Calculated in accordance with Basel II principles.

[n] Calculated in accordance with Basel III principles in accordance with the transition directives.

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

1. MACROECONOMIC DEVELOPMENTS IN THE ISRAELI ECONOMY

The review year saw several macroeconomic trends that had major effects on the domestic banking system. Israel's economy grew by a moderate 2.5 percent for the year (approximating the average in the past three years[1]); inflation was low, with a near-zero interest rate environment in Israel and abroad, the shekel appreciated by 9 percent in nominal effective exchange rate terms; home prices continued to rise; and the leading domestic equity indices rose moderately.

In 2015, economic growth was moderate, against the background of slowdowns in exports and investments and despite rapid growth in private consumption.

Economic growth was low, against the background of slowdowns in exports and investments amid a brisk upturn in private consumption. Exports of goods and services contracted by 6.6 percent relative to the previous year, against the background of a slowdown in growth of world trade (from 3.4 percent in 2014 to 2.5 percent in the review year[2]). Investments decelerated as the increase in construction investments was exhausted and investments in other industries slowed. Private consumption expanded rapidly, probably because the decline in energy and other commodity prices abetted an increase in real disposable income. Additional trends in recent years that contributed to the upturn in private consumption include monetary accommodation and increases in employment rates, wages, and the value of the public's real and financial assets.

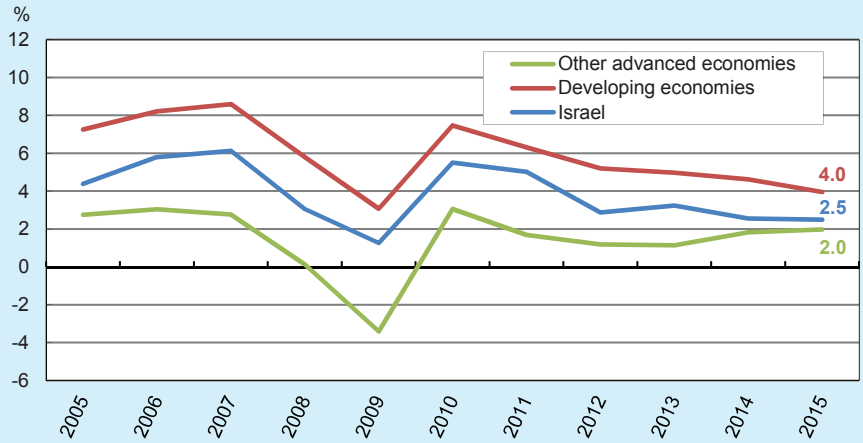
In the background of the deceleration of growth is a downturn in the global growth rate, largely occasioned by slowdowns in emerging market growth. China's economy continued to transition from an export orientation to domestic demand orientation, bringing on a slowdown that contributed to the global slowing. Furthermore, the steep declines in oil and commodity prices impaired the incomes of emerging markets that export energy and commodities—including large economies such as Brazil and Russia—causing their demand to contract. As for advanced economies, the United States continued to rebound, posting an adequate 2.5 percent growth rate, and the eurozone grew by 1.5 percent, surpassing 2014 but performing very modestly by pre-global crisis standards.

The Bank of Israel continued accommodative monetary policy and foreign exchange purchases, against the background of the low interest rate environment worldwide.

Coinciding with the domestic slowdown and consistent with global developments, the inflation rate in Israel continued to fall, and turned negative in late 2014. Monetary policy remained accommodative, with the Bank of Israel lowering its key rate to 0.1 percent at the beginning of the year. This trend was in line with the global low interest rate environment, as the European Central Bank and additional institutions of its kind dropped their key rates into negative territory in late 2014 and early 2015. The average real short-term interest rate, however, rose by 0.2 percentage points in the review year due to low inflation and at year's end became positive for the first time in approximately three years. As central banks in Europe reduced interest rates, the Fed raised the federal funds rate by 0.25 percentage points in December 2015—its first increase in nearly a decade—but sustained the near-zero US interest rate environment nevertheless. In 2015, the shekel appreciated by 9.3 percent in nominal effective exchange rate terms. In addition, the Bank of Israel continued to buy foreign currency in order to support exports and an increase in inflation.

1 Net of the effect of the onset of natural gas production.
2 *World Economic Outlook,* January 2016.

Figure 1.1
Annual Rates of Change in GDP—Israel[a], Other Advanced Economies and Developing Economies, 2005–15[b]



[a] In 2006, the Central Bureau of Statistics made a change in the GDP calculation methodology.
[b] Data for foreign countries are updated to October 2015.
SOURCE: Foreign countries—International Monetary Fund; Israel—Based on Central Bureau of Statistics.

Home prices continued to rise this year, and since 2007 prices have increased by about 100 percent in nominal terms.

Home prices continued to rise and the number of transactions increased. Prices climbed by 7.6 percent this year, surpassing the upturn in 2014 (4.7 percent). This trend of increase has persisted for eight consecutive years, causing nominal home prices to double since the end of 2007. The ratio of average home price to average household income increased more moderately, but the ratio of average home price to average wage per employee post continued to increase markedly. Housing demand remained strong due to the persistence of low real interest rates, low unemployment, rising wages, and brisk population growth. Prices and demand in the housing market are affected, among other factors, by the government's programs and measures, including the "buyer's price" scheme and the increase in real estate purchase tax for investors.

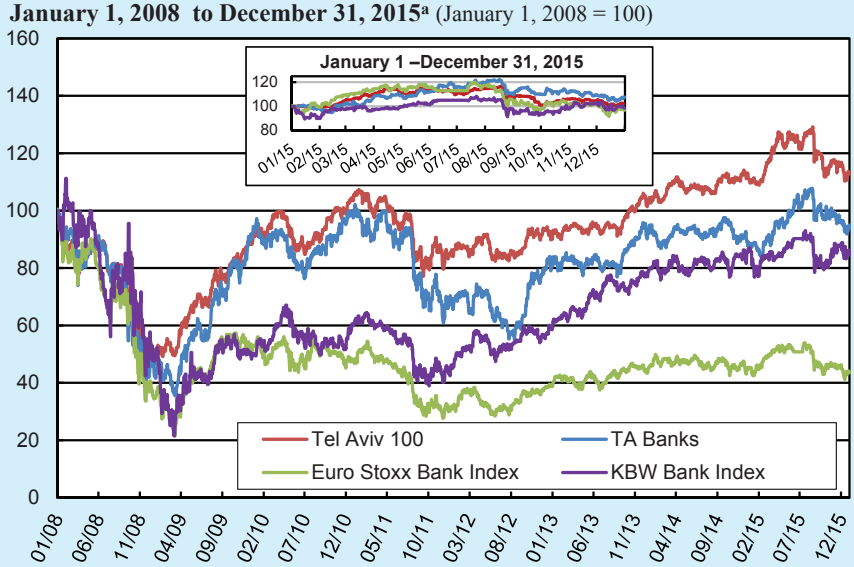
During the year, the TA Banks Index increased by about 7 percent, continuing the trend of recent years.

In the first eight months of the review year, the domestic equity indices rose in keeping with the trend in previous years (up 16 percent from January). From August onward, the indices headed downward sharply, both in Israel and in other advanced economies. Behind the change in trend were adverse developments in commodity markets and emerging markets, coupled with uncertainty about the timing of the Fed's "liftoff." For the year, the Tel Aviv 100 Index gained 2 percent, below its multiyear average rate of growth, and the Bank Shares Index advanced by 7 percent.

The Tel Aviv Stock Exchange saw NIS 5.15 billion in equity issues in 2015, resembling the 2011–14 average. The number of listed companies continued to fall: from 600 at the end of 2014 to 576 a year later.

During 2015, corporate bonds remained the primary financial asset and their yields sank to historical lows. The global financial crisis was accompanied by substantial

Figure 1.2
Tel Aviv 100 Index and Bank Shares Index in Israel, Bank Shares Index in Europe, and Bank Shares Index in the US, January 1, 2008 to December 31, 2015[a] (January 1, 2008 = 100)



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

declines in the prices of corporate bonds in Israel, prompting institutional investors managing medium and long-term savings to reduce the share of such bonds in their holdings in subsequent years. Households took their place, mainly through mutual funds. Now that corporate bonds account for a large share of mutual fund holdings, those bonds may become highly volatile. Foreign firms' inclination to issue bonds on the domestic stock exchange persisted and even gathered momentum in 2015, evoking concern that the risks in Israel's corporate-bond market remain underpriced.

Corporate bonds remained a primary financial asset and their yields are at historical lows.

2. THE STRUCTURE OF ISRAEL'S BANKING SYSTEM

The Israeli banking system is dominated by five banking groups, and is characterized by a concentrated structure. This structure alone is not indicative of the level of competition in the industry, which varies among activity segments. In housing loans and business lending, competition is brisk and lending margins are low. The business field is highly competitive because prospective borrowers have ample nonbank alternative lenders, including institutional investors. In the household and small-business sectors, competition has been increasing in recent years. A concentrated structure of this kind is typical of other Israeli industries and other small countries' banking systems. One reason for this is that small markets have size limitations that do not allow the advantage of economies of scale. In the past two decades, the Bank of Israel has been taking various actions and initiatives to reduce concentration. These include structural

steps that seek to realign the market share among operating banks, elimination of entry barriers to new players, measures to empower the customer and address the structural information asymmetry that exists in retail banking (in Israel and abroad), and easing of regulatory requirements in retail segments. In recent years, the banks have been taking an increasing interest in the household and small business sectors—a transition manifested, inter alia, in increased credit volumes, narrower lending margins, and wider deployment in peripheral and Arab localities (at the expense of urban centers). The integration of new technologies and digitalization processes in banking services is likely to give competition an additional boost among operating banks, and to increase the competitive threat from nonbank players, particularly from fintech companies. The Banking Supervision Department is promoting a set of initiatives that aim to stimulate competition for consumers' benefit. Foremost among them are promoting technology and innovation, increasing efficiency, structural changes, and the removal of barriers to entry.

a. Description of the system

The current structure of Israel's banking system is the result of many factors and policy measures that have impacted the number and size of system players for decades.

The Israeli banking system is composed of twelve commercial banks,[3] four branches of foreign banks, and eleven representative offices of foreign banks.[4] It is considerably concentrated, with five large groups (Hapoalim, Leumi, Discount, Mizrahi-Tefahot, and First International) that hold 94 percent of system assets, and three independent banks (Union, Jerusalem, and Dexia) (Figure 1.3). This structure is the result of many factors and policy measures that have impacted the number and size of system players for decades. The first is the small size of the Israeli economy,[5] which does not allow many banking institutions to attain a level of activity that would enable them to maximize economies of scale and diversity, operating efficiency, and diversification of risks. In Israel's first decades, this constraint led to a large number of bankruptcies[6] and impelled many credit unions and small banks to merge with large and medium banks. This abetted the evolution of a system typified by many branches and expansion of medium and large banks' deployment to peripheral localities that had been served until then by cooperatives. The second factor was a government policy (Table 1.2) that saw greater concentration as its goal.[7] In most of the 1960s and in the 1970s, drawing on lessons from the past, governments in Israel and the Bank of Israel adopted a policy that was meant to encourage banking concentration and induce the large banks to open more and more branches; consequent to this policy, they seldom issued new banking institution licenses. The third factor was substantial government involvement

3 As well as one other financial institution: "Hasah" Education Savings Fund, Ltd., Haifa.

4 These representative offices include those of foreign banks and foreign offices of Israeli banks that are allowed by the Bank of Israel to use the word "bank" in their titles under Section 4 of the Banking Ordinance. Additional representative offices did not apply to the Bank of Israel for permission to use this term. All such offices provide banking services to business and private-banking clients.

5 Ruthenberg, D., *Banking Management in Israel* (in Hebrew) (Jerusalem: Keter, 2002).

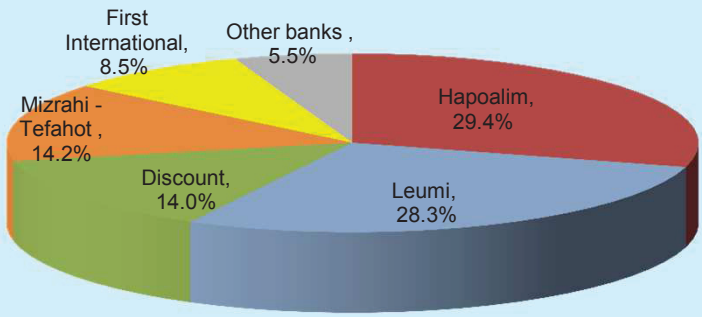
6 Particularly of cooperatives.

7 Ruthenberg 2002.

in the money and capital markets,[8] impairing efficient market allocation of financial resources. Finally, the Arab boycott and Israel's geopolitical situation[9] in the past deterred foreign banks from entering the Israeli market.

Figure 1.3
Distribution of the Banking System's Assets by Banking Group[a], December 2015

Total assets: NIS 1,469 billion
Herfindahl-Hirschman (HHI) Index (total assets) **= 0.22**
Two largest groups's share of total assets: CR_2 = 58%



[a] Groups on a consolidated basis. The calculation is based on total assets.
SOURCE: Based on published financial statements.

In the middle of the previous decade, the Bank of Israel began promoting initiatives to reduce concentration and increase competition in the banking system.

Since the middle of the previous decade, the Bank of Israel—on its own and in conjunction with various government offices—has been promoting system restructuring initiatives that aim to reduce concentration, improve the banks' ability to take full advantage of economies of scale and diversification, and stimulate competition. These measures have been accompanied by natural developments in the banking system as a result of actions by the players themselves. Among these initiatives are: (1) attempts to increase the number of players in the industry by inducing leading foreign banks to enter the retail field[10] and (2) implementation of the government resolution concerning the spinoff of small banks from large banking groups in order to make small banking groups better able to compete with large ones. In this context, the smaller groups acquired three banking subsidiaries from the Hapoalim group: Bank Yahav (2008) by the Mizrahi-Tefahot group and Bank Otsar Hahayal (2006) and Bank

[8] Barnea, E., J. Paroush, and H. Conforti. "The Question of the Optimal Structure of the Banking System in Israel." *Issues in Banking 15* (June 2001): 5–28 (in Hebrew).
[9] Ibid.
[10] These attempts failed due to disinterest on the part of the foreign banks, which claim that they have no competitive advantage in this activity.

Table 1.2
Banking system structure, December 2015[a]

Bank	Balance-sheet data						Direct holdings			Size data	
	banking system assets	total bank	Total assets	Credit to the public	Total deposits	Equity	by parties at interest[b]	Institutional holdings[c]	Public holdings	Number of branches[d]	employee posts[e]
	(Percent)		(NIS million)				(Percent)				
Leumi[f]	28.3	27.8	416,499	265,070	328,693	29,107	6.0	0.0	94.0	252	12,894
Hapoalim	29.4	29.6	431,638	282,911	321,727	33,219	20.3	5.3	74.4	292	12,395
Discount	14.0	13.5	205,260	129,268	157,404	13,634	0.0	0.0	100.0	219	9,308
Mizrahi-Tefahot	14.2	16.8	209,158	160,604	162,380	12,415	44.4	0.0	55.6	180	5,961
First International	8.5	7.7	125,476	73,379	103,262	7,337	48.3	0.0	51.7	173	4,991
Total for the five banking groups	**94.5**	**95.4**	**1,388,031**	**911,232**	**1,073,466**	**95,712**				**1,116**	**45,549**
Union Bank of Israel	2.8	2.4	40,895	22,505	32,466	2,410	75.2	0.1	24.7	37	1,259
Bank of Jerusalem	1.0	1.0	14,220	10,001	11,019	784	86.6	0.0	13.4	24	608
Dexia Israel Bank	0.6	0.7	9,085	6,320	4,858	888	65.3	0.0	34.7	1	45
Total for the independent banks	**4.4**	**4.1**	**64,200**	**38,826**	**48,343**	**4,082**				**62**	**1,912**
Citibank N.A.	0.5	0.1	7,047	1,155	5,668					2	
HSBC Bank plc	0.5	0.2	7,798	1,655	7,152					2	
State Bank Of India	0.1	0.2	2,081	1,886	1,918					1	
Barclays Capital plc	0.0	0.0	0	0	0					1	
Total of foreign bank branches[g]	**1.2**	**0.5**	**16,926**	**4,696**	**14,739**					**6**	
Total for banking system	**100**	**100**	**1,469,157**	**954,754**	**1,136,548**	**99,794**				**1,184**	**47,461**

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

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

[c] Institutional holdings of more than 5 percent of the issued share capital of a corporation or of voting rights in the corporation. Institutions are as defined in Regulation 33(i) of the Securities Regulations (Periodic and Immediate Reporting), 5730–1970.

[d] The number of branches includes activities abroad, performance units and extensions of parent branches.

Massad (2008) by the First International group. These changes helped to reduce the share of the Hapoalim group in the system and give the medium-sized groups a boost. Noteworthy among market developments in the system are the gradual merger of all mortgage banks with their parent banks at the beginning of the current decade and the merger of three banking subsidiaries (Arab Israel Bank, Poalei Agudat Israel Bank, and U-bank) with their parent banks during the review year. These moves were meant to utilize economies of scale and diversity, enhance small groups' operating efficiency, and improve their stability by allowing them to rely on parent banks' technological infrastructures and control and management practices.

The banking system has also undergone privatization in the past two decades.[11] Although this had no direct effect on the structure of the system, it restructured the banks' ownership so that today all equity in Israeli banking corporations belongs to the public and to holders of controlling interest.[12] This ownership structure may change among some banks in the next few years because the Promotion of Competition and Reduction of Concentration Law will require separation between ownership of significant financial entities and ownership of significant real corporations.[13]

The banks' ownership structure is likely to change in coming years as the Concentration Law requires separation of ownership over significant financial and significant real corporations.

The banking corporations provide a broad range of financial services including business, commercial, and retail banking. They are active in the capital market and in securities (both for their customers and for themselves), provide pension and investment consulting, and offer limited activity in insurance, where the law allows.[14] Some large banks' activity in credit cards may change in the near future because the Strum Committee, tasked with enhancing competition in common banking and financial services,[15] recommended, in its interim report, the transfer of ownership of two credit card companies, owned by the two largest banks, to nonbank entities.

The large Israeli banks also operate abroad through a network of branches and subsidiaries (Table 1.3). In 2015, however, the Israeli banks that are active abroad[16] continued to reduce their exposure to cross-border and compliance risks by selling the activities of some of their overseas subsidiaries and offices, among other measures.

[11] In 1983, the equities of most Israeli banks were nationalized due to a crisis involving their equities.

[12] A residual government stake (around 6 percent) exists today only in the Leumi group.

[13] A committee to reduce concentration, chaired by the Director General of the Israel Antitrust Authority, determined that "significant financial entities" include investment funds, banking corporations, and others that have NIS 40 billion or more in assets. "Significant real corporations," in turn, include construction companies, food retail chains, cellular firms, and productive enterprises that have annual sales turnover of NIS 6 billion or more, or—in the case of a monopoly—NIS 2 billion or more.

[14] The banks sell property and life insurance as part of their mortgage lending activities.

[15] The members of this committee, representing the Ministry of Finance, the Bank of Israel, the Israel Antitrust Authority, and the public, were appointed by the Minister of Finance in June 2015. Their mandate was to seek ways of introducing new players into the banking services industry and to consider complementary measures for eliminating barriers and promoting competition.

[16] In 2014, Bank Leumi concluded an agreement for the sale of its activity in Switzerland and decided to cease its activity in Luxembourg and Latin America, and First International Bank sold off its branch in London. Late that year, Israel Discount Bank signed an agreement concerning the sale of its Latin America office and, at the present writing, is promoting the closure of its branch in London and weighing alternatives for its activity in Switzerland.

Table 1.3

The structure of the Israeli banking system and investment in main subsidiary companies[a], December 2015

	Leumi group	Hapoalim group	Discount group
Banking and financing in Israel	Bank Leumi LeIsrael Ltd.(1) Arab Israel Bank Ltd. (1)[b] LeumiTech Ltd. (3)	Bank Hapoalim Ltd. (1)	Israel Discount Bank Ltd. (1) Mercantile Discount Bank Ltd. (1) First International Bank of Israel Ltd. (1)[e]
Banking and financing abroad	Bank Leumi USA (6) Bank Leumi UK plc (6) Leumi Private Bank S.A. (6)[f] Bank Leumi Luxembourg (6)[d] Bank Leumi Romania (6) Leumi Re Ltd. (9)	Bank Hapoalim (Switzerland) Ltd. (6) Banque Hapoalim (Luxembourg) S.A. (6) Hapoalim (Cayman) Ltd. (6) Bank Pozitif Kredi Ve Kalkinma Bankasi A.S. (6)	Discount Bancorp, Inc. (6) Israel Discount Bank of New York (6) Discount Bank (Latin America) (6)[f] IDB (Swiss) Bank Ltd. (6)[g]
Capital market and financial services	LeumiCard Ltd. (5) Leumi Capital Market Services Ltd. (9) Bank Leumi Le-Israel Trust Co. Ltd. (9) Leumi Partners Ltd. (7)(9) Leumi Financial Holdings (7)	IsraCard Ltd. (5) Poalim Express Ltd. (5) Poalim Capital Markets - Investment House Ltd. (8) Poalim Sahar Ltd. (9) Poalim Trust Services (9) Pam Holdings Ltd. (9) Poalim Securities Ltd. (9) Peilim Investment Portfolio Management Ltd. (9)	Discount Manpikim Ltd. (9) Discount Underwriting and Issuances Ltd. (9) Israel Discount Capital Markets and Investments Ltd. (9) Tafnit Discount Asset Management Ltd. (9) Cal (Cartisey Ashrai Le'Israel)–Israel Credit Cards Ltd. (5) Diners Club Israel Ltd. (5) Discount Trust Ltd. (9)
Nonfinancial companies (affiliates)	Israel Corporation Ltd.		

	Mizrahi-Tefahot group	First International group	Other banking corporations
Banking and financing in Israel	Mizrahi-Tefahot Bank Ltd. (1) Bank Yahav for Government Employees Ltd. (1)	The First International Bank of Israel Ltd. (1) Poalei Agudat Israel Bank Ltd. (1)[h] Otsar Hahayal Bank Ltd. (1) Bank Massad Ltd. (1)	Union Bank of Israel Ltd. (1) Bank of Jerusalem Ltd. (1) Dexia Israel Bank Ltd. (1)
Banking and financing abroad	Mizrahi Tefahot Bank (Switzerland) Ltd. (6)	FIBI Bank (Switzerland) Ltd. (6)	
Capital market and financial services	Etgar Portfolio Management Ltd. (4) Mizrahi-Tefahot Issuing Company Ltd. (9) Mizrahi-Tefahot Trust Company Ltd. (9) Tefahot Insurance Agency Ltd. (9) Rosario Capital Ltd. (9) Mustang Mezzanine Fund Limited Partnership (credit provider) Plenus Technologies Fund (credit provider)	First International Leasing Ltd. (9) First International Unique Investment Management Ltd. (9) U-Bank Investments and Holdings Ltd. (9) U-Bank Trust Company Ltd. (9) First International Insurance Agencies (2005) Ltd. (9) Cal (Cartisey Ashrai Le'Israel)–Israel Credit Cards Ltd. (5)	
Nonfinancial companies (affiliates)	Psagot Jerusalem Ltd.		

Foreign banks operating in Israel	Citibank N.A. HSBC Bank plc State Bank of India Barclays Capital plc
Financial institutions	"Hasah" Kupat Hisachon Lehinuch Ltd.
Joint service companies owned by the five banking groups	Automated Clearing House (Masav) Ltd. Automatic Banking Services (Shva) Ltd.

[a] Definitions: (1) Commercial banks; (2) Mortgage banks; (3) Investment finance banks; (4) Financial institutions; (5) Credit card companies; (6) Subsidiaries abroad; (7) Consolidated holding companies; (8) Investment house; (9) Capital market companies, including companies supplying operating services to institutions, and underwriting, trust, leasing, insurance, and asset management companies.

[b] In December 2015, the Arab Israel Bank was merged with Bank Leumi.

[c] Bank Leumi is preparing for the closure of its office in Switzerland.

[d] Bank Leumi is acting to close Leumi Luxembourg. In November 2015, an agreement was signed to sell Bank Leumi Luxembourg's assets, and the sale was completed in February 2016.

[e] In February 2016, Discount Bank sold all of its holdings in First International Bank.

[f] In 2015, Discount Bank sold the operations of its subsidiary in Latin America, which will be officially closed in 2016.

[g] Discount Bank is acting to close its subsidiary in Switzerland. In November 2015, an agreement was signed to sell the operations, and the sale was completed in February 2016.

[h] In December 2015, Poalei Agudat Israel Bank was merged with First International Bank.

SOURCE: Based on published financial statements.

Many banks around the world are reducing their geographic deployment today, in view of investigations by various countries against global banks on suspicion of tax evasion by their customers, in an attempt to locate taxable funds. This is pursuant to an upturn in awareness of compliance, money-laundering, and financial-crime issues. (For elaboration, see Box 4.) The Israeli banks, however, are also cutting back on their activity abroad because it has not become a meaningful and stable source of earnings despite its wide deployment and the banks' sizable investments in it. Activity abroad accounted for 9.7 percent of total balance-sheet activity at the end of 2015.

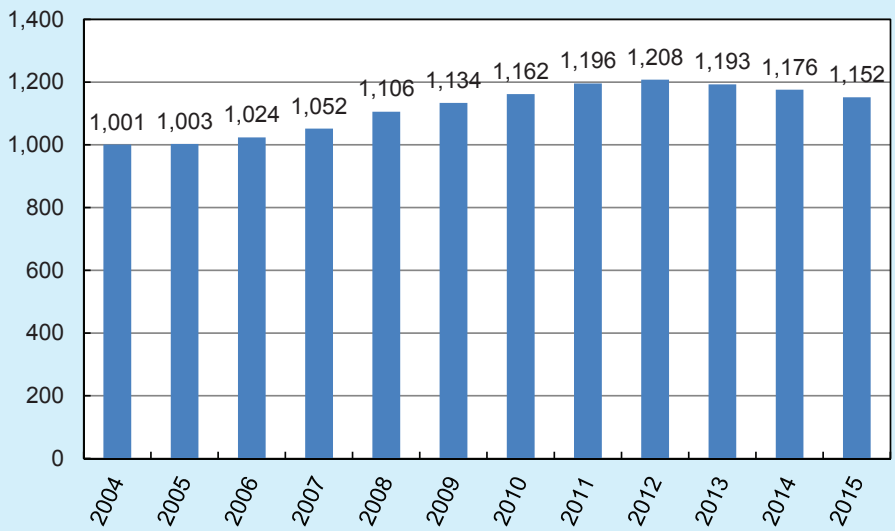
In recent years, the banks reduced their activity abroad, among other reasons due to increased cross-border and compliance risks.

b. Bank employment, branch network, and direct banking channels

The banking system in Israel employs about 47,000 people domestically and abroad (a decline of 3 percent compared with the previous year), and operates in Israel through 1,152 branches (Figure 1.4).[17] The current era is marked by changes in how banking services are obtained by individuals—there is a switchover from physical interaction with the bank, through the branch, to ongoing contact and activity through direct channels. The channels include (1) automated teller machines[18], some of which dispense cash and some of which provide information and allow the execution of financial and other banking transactions; (2) staffed call centers—some banks

The current era is marked by changes in how banking services are obtained, as individuals utilize services via direct channels, and reduce the use of physical branches.

Figure 1.4
Number of Branches[a], Total Banking System, 2004—15



[a] Operating in Israel.
SOURCE: Based on reports to the Banking Supervision Department.

[17] Israeli banks also have branches abroad. This section refers only to the number of branches operating in Israel (excluding operations units and representative offices of main branches).

[18] In addition to banks' automated teller machines, there are devices belonging to nonbank corporations, including Shva (the Hebrew acronym for Automated Banking Services Ltd.)

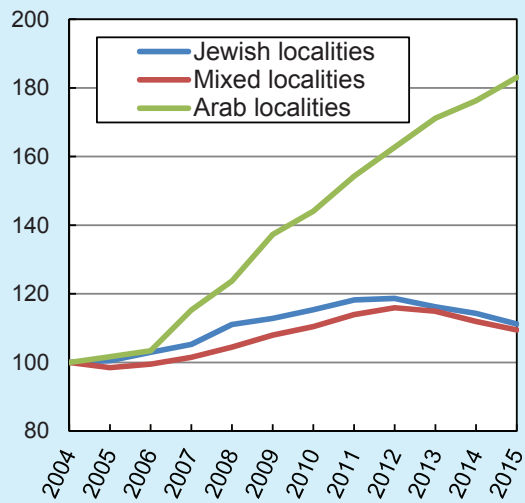
provide service for many more hours each day than at actual branches; (3) advanced Internet-based services, and (4) banking applications that allow customers to execute transactions from any place, at any time—these have become more sophisticated in the past two years, and allow a wide range of banking activities to be carried out.

In the past three years, some decline in the overall number of branches in Israel has been seen, though it is less of a decline than observed worldwide. The decline in Israel comes after seven years in which banking corporations opted to expand their branch network and increase their access to customers (Figure 1.4), primarily from the retail segments, and households in particular. The decline derives from the changes noted above in banking service consumption habits, resulting from new financial technology that allows the provision of banking products and services online. In addition, the decline also stems from processes aiming to increase efficiency being carried out by some banks.

The number of branches declined in large cities due to mergers of branches that are near to each other.

The decline in the number of branches is seen primarily in large cities, where banks are merging branches that are in proximity to each other, while there is an increase in the number of branches in peripheral regions. In addition to the variance among localities, there is also some variance among population segments—while the total number of branches declined in the past three years, the number of branches in Arab towns increased during that time. This increase is part of a long-term trend in the number of bank branches in Arab towns, and the number of banks operating in them. Between 2004 and 2015, the total number of branches in Arab municipalities increased by about 83 percent, compared with about 11 percent in Jewish municipalities and about 9 percent in mixed municipalities[19] (Figure 1.5). As of December 2015, the number of branches in Arab towns was 108, compared with 58 in 2004 (Figure 1.6). This change derives from

Figure 1.5
Development of Number of Branches by Population Segment[a]: Total Banking System, 2004–15 (Index: 12/04=100)

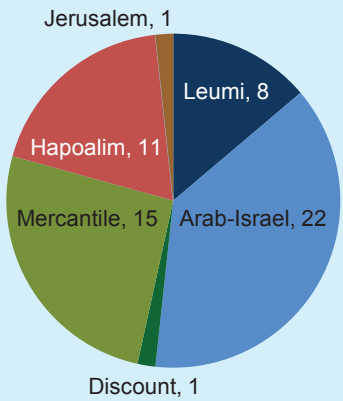


[a] Mixed localities: Those where the Arab population exceeds 10% of the total: Haifa, Jerusalem, Lod, Maalot-Tarshiha, Nazereth Ilit, Acco, and Ramle.

SOURCE: Based on reports to the Banking Supervision Department.

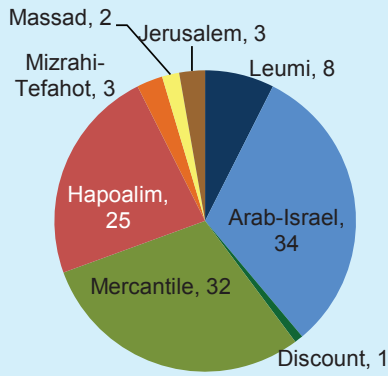
[19] "Mixed municipalities" were defined as municipalities in which the Arab population is more than 10 percent of the total. Based on this definition, "mixed municipalities" include Haifa, Jerusalem, Lod, Maalot-Tarshiha, Nazereth Ilit, Acco, and Ramle.

Figure 1.6a
Number of Branches in Arab Localities, by Bank, Total Banking System, 2004 (Total branches: 58)



SOURCE: Based on reports to the Banking Supervision Department.

Figure 1.6b
Number of Branches in Arab Localities, by Bank, Total Banking System, 2015 (Total branches: 108)



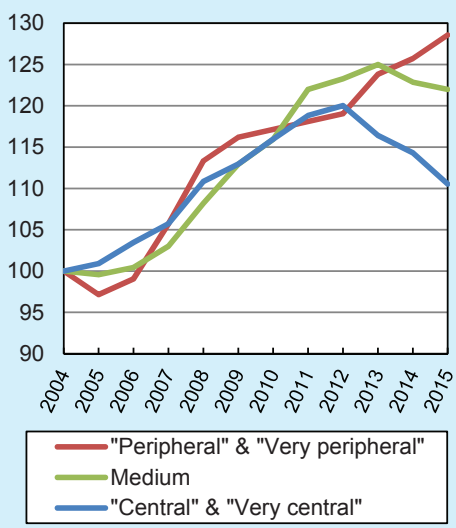
SOURCE: Based on reports to the Banking Supervision Department.

business considerations and specific policy that led many banks to expand their retail activity in the Arab sector.

The trend of increase in the number of branches is also occurring, as noted, in localities in the peripheral regions.[20] In the past three years, the number of branches in localities considered "peripheral" or "very peripheral" has increased, while the number of branches in "central" or "very central" localities declined (Figure 1.7). Between 2004 and 2015, the number of branches in the peripheral regions increased by about 30 percent, cumulatively.

These positive trends assist in narrowing the gap in branch deployment between central localities and those away from major population centers, and between Jewish localities and Arab ones. Although these gaps can be explained by numerous economic

Figure 1.7
Development of Number of Branches, by Periphery Extent[a], Total Banking System, 2004—15 (Index: 12/04=100)



[a] Periphery level of local authorities in Israel as measured by the Central Bureau of Statistics in 2008, based on data from 2004.

SOURCE: Based on CBS and reports to the Banking Supervision Department.

In the past 3 years, the number of branches in Arab and peripheral localities rose, despite a decline in the overall number of branches.

The trends seen in the past decade in branch deployment help to narrow the gap between population segments and among various localities.

[20] Based on the Central Bureau of Statistics definition.

variables, including the locality's population size, its socioeconomic status, and the extent of borrowers' risk, the Banking Supervision Department is working to increase access to banking services for all customers—it encourages banks to continue providing services everywhere, among other things by granting them authorization to integrate financial technologies that increase the accessibility of the services any place, any time, and reduce the importance of, and the need for, a physical branch.

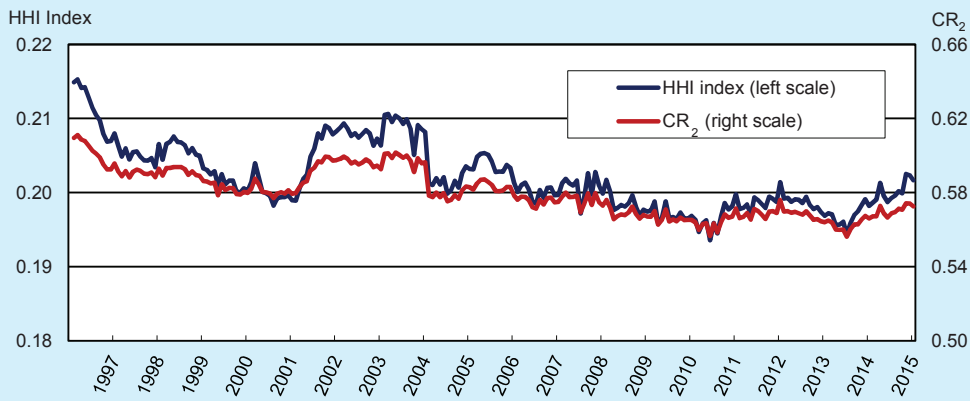
c. Concentration and competition in the banking system

The past 2 decades have seen clear trends of gradual decline in banking system concentration, increase in competition in the large business segment, marked competition in the mortgage sector, and development of competition in the retail and small business segments.

Although the Israeli banking system is characterized by high concentration, in the past two decades there has been a gradual and discernible decline in the two largest banks' market shares (Figure 1.8).

Despite the high concentration, strong competition is observed in the mortgage and large-business sectors.[21] Competition in these sectors has increased considerably in recent years in view of reforms and developments during that time, including the contraction of the government's role as a domestic borrower, the solidification of the corporate bond market, the entry of institutional players into the nonbank business-credit market, and consumer behavior in the mortgage lending field, with customers exploring alternatives before making a decision. In the retail sectors, including small business, competition among banks for customers has intensified in view of a significant increase in the amounts of credit sought. The change has been influenced

Figure 1.8
Concentration Indices[a]: Herfindahl-Hirschman (HHI) Index and CR_2 Index[b], 1997–2015[c]



[a] Both indices are calculatd on the total assets of the commercial banks.

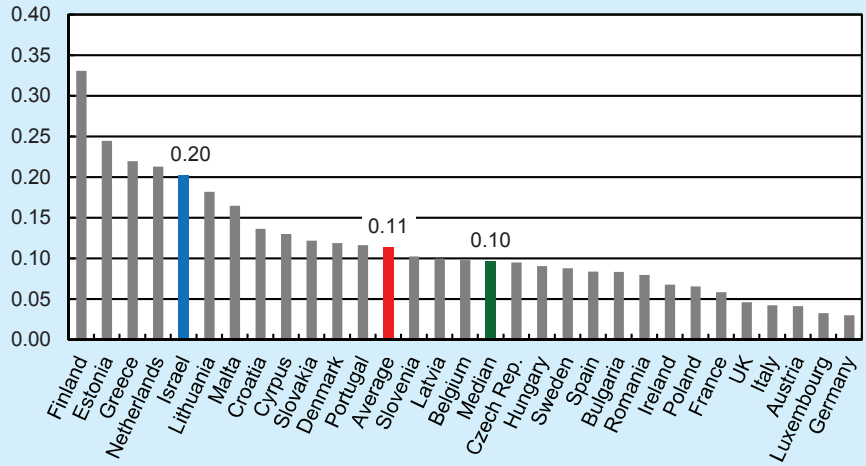
[b] $\sum_{i=1}^{n}\left(\frac{y_i}{y}\right)^2 = H$ = The Herfindahl-Hirschman Index of industry concentration, where y_i = output of bank i (total assets) and y = the industry's output. CR_2 = The market share of the two largest banks in the system.

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

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

[21] In the professional literature, competition in the banking industry is assessed in two main ways. The SCP (Structure Conduct Performance) approach argues for the existence of a connection between the structure of the banking system and an individual bank's behavior and performance. The Contestability approach claims that competition may exist even in concentrated banking systems and that the extent of competition in the industry is determined not by the number of banks but by market fundamentals such as entry and exit barriers, the existence of credit and deposit alternatives, and so on.

Figure 1.9
International Comparison: The Herfindahl-Hirschman (HHI) Index[a] in EU Countries and Israel, 2014–15[b]



[a] Calculated based on total assets.
[b] The figure for Israel is for December 2015, and does not include activity of foreign banks in Israel. Figures for other countries are for December 2014, and include activity of foreign banks in each country.
SOURCE: Foreign countries–ECB; Israel–based on published financial statements.

by a strategic decision by the banks to focus their activity on these sectors, for reasons including domestic and foreign regulation, which by allowing lenience in capital requirements has made household and small-business lending preferable. Additional factors will be described below.

In dealing with banking system competition, the Banking Supervision Department and the Bank of Israel are aware of such competition's importance to efficiency in economic resource allocation, optimum management of bank inputs, prices of goods and services, and improvement of the public's trust in the banks. Over the years, the Bank of Israel has promoted a series of measures to enhance competition in the industry, particularly by eliminating barriers to the flow of information and to switching banks by customers in order to amplify customers' power as consumers and enhance contestability, and by supervising prices and toughening enforcement in consumer related fields that pertain to the structure and pricing of bank fees. The Banking Supervision Department promoted these measures in interministerial professional committees and in its own actions, including promoting the divestiture of small banks by Bank Hapoalim, allowing customers to switch banks more easily, enhancing bank transparency and due diligence, establishing a uniform rate schedule for bank charges, allowing the possibility of opening an account online, compiling a "Banking ID Card,"[22] and authorizing a broader range of services online. These measures

[22] The Banking ID Card presents condensed and concise reportage on a customer's total assets with and liabilities to a banking corporation—i.e., the total income and expenditures recorded that year on account of assets, liabilities, and current activity, including expenditure on bank charges. The succinct report is to be presented to the customer once a year, at the banking corporation's initiative. The idea is to narrow the information advantage enjoyed by the bank where the customer keeps his or her account over another financial entity that the customer may approach for a competing bid.

were accompanied by liberalization and contraction of government involvement in the capital market, which had the effect of creating sources for nonbank credit in the business sectors, etc. These steps, together with the behavioral and technological changes currently taking place in the financial services field, are already acting at the present writing to change the balance of forces between customers (retail and business) and banks and among the banks themselves, and to increase the competitive threat from players outside the industry. These developments are expected to gain even more momentum in the next few years in view of initiatives by the Bank of Israel in its efforts to create an infrastructure for more vigorous competition in retail banking. Noteworthy among them are the establishment of a central credit register and the transfer to the customer of ownership of the financial information that it contains—initiatives that, with the help of the Banking ID Card, are attenuating the structural information asymmetry problem and empowering the customer as a consumer; the elimination of many technological barriers by issuing a new Proper Conduct of Banking Business Directive (March 2016); creating an infrastructure for a branch-free digital bank; authorizing transactions via direct channels; constructing a more lenient supervisory blueprint for the establishment of new banks; drafting a new supervisory policy for the easing of regulation of low-risk entities; and requiring the two largest banks to spin off the large credit-card companies that they own.

In the past 3 years, there has been a decline in margins in providing credit to the retail and the small business segments, which may indicate enhanced competition.

The level of competition in the banking system is uneven among various activity segments and types of banking products and services. It also depends on the characteristics of each activity segment, including customers' behavior as consumers, the existence of an adequate alternative in the nonbank market, and the extent of borrower risk, to name only a few. When lending margins in different activity segments are compared, discrepancies among them are found. Furthermore, the margins in the retail activity sectors, including the small-business sector, have been falling in the past three years. Margins in household and small-business lending are, by their nature, higher than those in business and mortgage lending because activity in these contexts is risky and intensive in operating costs and also, to some extent, because these borrowers have no meaningful credit alternatives outside the industry to turn to. The fact that the margin has declined in recent years is partly explained by a downturn in the marginal cost of raising funds and a decrease in borrower risk due to cuts in the Bank of Israel's key rate. However, we are of the opinion that the narrowing margins also reflect an increase in competition for retail customers for several main reasons: (1) All the banks are focusing on these sectors due to shrinking opportunities for activity with business clients—in view of moderate GDP growth and ample availability of nonbank credit—and greater lenience in regulation concerning retail activity; (2) the banks are taking steps to mitigate credit concentration and improve capital ratios by reducing exposure to large businesses and building up their retail and small-business credit portfolios; (3) consumer oriented regulatory measures in recent years have enhanced customers' power as consumers by simplifying the process of changing banks, improving transparency, and helping to solve the information asymmetry problem, and (4) the financing difficulties of small business have declined relative to previous years, as evidenced in the Companies Survey for the end of 2015.

Box 1.1

Technological innovation in financial services: Fintech companies and digitalized banking

- **The financial world has undergone a digital-technological revolution in recent years, and is expected to continue to do so in the coming years as well. The revolution will impact on bank customers and on banks' organizational structure, internal processes, and employees.**
- **The technological innovations are being promoted by startup companies that specialize in financial areas—Fintech companies.** These companies work to offer products and services that create competition to banks, and at times the firms collaborate with the banks.
- **The technology and innovation act to increase competition within the banking industry and outside of it as well, and enable—even require—it to increase efficiency.** According to assessments around the world, within several years the technology will lead to a marked improvement in the efficiency ratios of retail banks.
- **It is expected that financial services consumers will benefit from the increased competition and improved efficiency that the integration of the technology will lead to.** Already today, direct, automated banking activities cost consumers much less than teller-executed transactions. The reduced charges for customer-executed transactions are reflected in banks' fee schedules.
- **The Banking Supervision Department sees the promotion of technology and innovation at banks as one of its goals for the coming years.** Accordingly, the Banking Supervision Department published new policy in early 2016—in regard to online banking—that removes the limitations on consuming financial services through direct channels (Internet, digital applications, and automated devices).

The financial world has changed in recent years as a result of the current era's digital revolution. This revolution began even earlier in other industries, but today it is reaching the financial sector and consumer banking services as well, and appears set to stay with us for many years to come. Though financial technology has already existed for a long time, there is an important difference between past and more recent innovations. For the first time, innovations are being developed by, in addition to banks, high tech startup companies from outside the banking industry (Fintech companies), and at times the two collaborate. These developments incorporate many opportunities and challenges, for long-time and newer players as well as for regulators, as they need to find the balance between the benefit that can be gained from them with the risks inherent in them.

Fintech companies are penetrating the financial services industry due to a range of factors. The main ones include: (1) communication technologies, which expanded the availability of services, such as through the use of smartphones; (2) a change in consumer habits—customers today are interested in accessing financial services anyplace, anytime, and (3) the strong support granted by governments worldwide to technological developments and high tech ventures in general, including financial services. The companies' penetration accelerated after the global financial crisis due to several main processes—(1) the public developed negative feelings toward banks, because it felt they contributed to the crisis; (2) the scope of bank loans, both business and retail, declined and pushed individuals to seek alternative sources of credit; (3) banks and regulators focused on dealing with the negative impacts of the crisis, implementing new and stricter standards, and changing banks' business models, while displaying little readiness to adopt new technologies; (4) stricter bank regulation after the crisis expanded the regulatory arbitrage that Fintech companies are benefitting from,

as they are not subject to supervision, and (5) market conditions led workers that were laid off from the banking industry to join technology companies, with the result that banking knowledge met technological knowledge.

Fintech companies promote technological innovation, while focusing on creating alternatives to retail banking services in areas characterized by lack of innovation and efficiency and that do not require a banking license—that is, they are not subject to the regulation and supervision of the Banking Supervision Department. These areas include, among others, fund transfers and online payments, capital market trading services, cost comparisons of financial services, peer to peer lending (P2P), crowdfunding, and more.[1] The companies thus get around the barriers to entry (mainly regulatory) to banking services, gain a foothold, and earn a profit. Banks, as well, are promoting innovation, adopting financial technologies and going through digitalization processes, in response to changes in customers' consumption habits and to the increased competitive threat from fintech companies. They are therefore focusing on technologies that provide a solution to changes in the priorities of the retail end users and on developing tools (such as applications) that provide banking services to their customers via more accessible channels, which will gradually replace the traditional branches. It is reasonable to assume that in the medium term, digitalization will also be reflected in structural changes at banks—toward increasing efficiency of various processes (for example, optimal management of information and automating internal processes), improving productivity and adding value for the customer. These will be reflected in personalized products and services, based on customer features and needs, and in marked improvement in the convenience of receiving them. Alongside these two channels, there is a third channel for developing and adopting financial technologies—collaboration between banks and fintech companies. This channel was created by the combination of the abilities and interests of the banks to invest and adopt new technologies with fintech companies' need for capital and an integration platform.

Financial technologies create many opportunities for all the system's participants. The fact that entities with advanced technologies are integrating into retail banking—an area in which the commercial banks have a strong grasp—is an opportunity to advance supervisory targets for the benefit of the public, the financial system, and the overall economy, including increasing competition and improving efficiency in the banking system. For consumers and supervision, the new players increase the competitive threat to the banks in the banking services sector, and increase the supply of nonbank credit sources for retail customers and small and medium sized businesses (primarily through peer to peer lending and crowdfunding ventures). The fact that individuals use technological means that allow them to consume services at any time, any place, strengthens the competitive threat even more, as it makes the banks' extensive network of branches—a feature that for many years was a significant comparative advantage—less relevant. For banks, the availability of communications technologies and the change in consumer habits increases the accessibility of banking services and allows the banks to reduce their branch deployment and reliance on human capital. Thus they reduce the marginal cost involved in the production process, improve operational efficiency, reduce prices for the customer, and bolster competition. In the future, technological developments are expected to support a change in the familiar branch structure (the emphasis will change from providing services to consulting

[1] Peer-to-peer loans: Direct loans from lenders to borrowers through Internet interfaces that create the infrastructure for them; Crowdfunding: a process through which companies or individuals raise funding from a large number of people through Internet interfaces. In return, the lender receives shares, debt, or some other remuneration such as first rights to benefit from the product.

and marketing products), and a change in the traditional role of bank employees (from administrative work to direct marketing of banking products), entrance into new areas of activity, and structural changes that include implementing a new technological infrastructure and automation of internal processes.

However, along with the opportunities that these developments present, there are quite a few challenges and risks. First, as the fintech companies focus on unique products and services that are not subject to regulation or supervision, and as, in contrast to banks, they don't have a history of complying with regulation, there is concern for their stability and their commitment to consumer protection. Second, the developments impose considerable costs on the banks—among other things, in respect of integrating the technologies, their high rate of substitution, and changes in consumer preferences. These costs create an opening for fintech companies to enter additional areas of activity and for further erosion of bank profits. Third, the many activities and the knowledge transferred on direct communication channels strengthen the cyber risks that the banks and the new players are exposed to. These risks include penetration of the computer systems to steal, modify, or delete data, or even to gain control over the systems in a manner that will adversely impact customers, the reputation of the bank or the company, and in a chain reaction, the overall economy. Finally, the technological developments present a challenge to regulators, who must find the balance between the need to understand the new technologies and the risks they pose with the need to allow banks to progress and to adopt technological innovations that will enable them to increase efficiency and to better deal with the changes in the industry.

It is reasonable to expect that the financial technologies will continue to develop and will accompany us in the coming decades. Even though the direction in which they will head and their final form are still not clear, what is clear is that they incorporate tremendous growth potential, primarily in the areas of retail banking services. This is based on a series of phenomena—young populations worldwide tend to consume services via digital means, the middle class in developing economies has grown at a rapid rate (and with it, their financial needs and awareness have increased, and the use of devices that allow digital access to banking services has expanded), Internet communication has high accessibility and availability, the share of adults working in technological professions increased, and in some countries there is a shortage of physical banking infrastructure.

In Israel, as in other countries worldwide, fintech companies are steadily integrating into classic areas of banking activities that do not require a license and that are not subject to supervision, including loans and online payments and comparisons of financial information. The Banking Supervision Department and the Bank of Israel support the increased competition in financial services and the integration of innovation and technology at banks. In order to prevent a situation in which regulation is an obstacle—and due to the interest in allowing the financial services sector to continue development and in allowing banks to adopt technological innovations that will lead to increased efficiency and will provide a response to the changing needs of customers—the Banking Supervision Department published a new directive on online banking. The directive allows Israeli banking corporations to offer a long series of online banking services to their customers (opening a new account, signing up for online services, and carrying out day to day activities without arriving at a branch), while removing barriers that were identified. In this way, the Banking Supervision Department makes it easier for customers and banking corporations to expand digital activity and to benefit from its advantages, and makes it easier for players that do not have a branch network to integrate into the financial services area, and thus increase competition. In parallel, the Banking Supervision Department is taking care to maintain considerable physical access to banking services, and expects banks

to find an appropriate response for customers for whom it is difficult to adjust to the new technological means and who choose to continue to consume banking services at branches.

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

The total aggregate balance sheet of Israel's banking corporations[23] was NIS 1,452 billion, up 4.3 percent (Table 1.4) despite the economy's moderate growth. The increase was uneven during the year and was led by the two largest banking groups. The continued upturn in the balance sheet in 2015, much as in previous years, was influenced by developments in the housing market and an increase in private consumption; both factors sustained the upward trend in the retail-credit portfolio. On the liabilities side, the balance sheet was affected by declines in the capital market in the second half of the year, which diverted sources from that market to the banks and created surpluses of sources (via an increase in the public's demand deposits). These surpluses were directed to the securities portfolio and to cash, both of which grew as part of the natural course of asset and liability management and the improvement of liquidity. Equity continued to grow in both quantity and quality, helped along by banking regulation.

In the past year, the rapid increase in retail credit continued, primarily housing credit and other consumer credit.

On the assets side, all main items of the balance sheet showed increases. Credit to the public expanded again, by 5 percent, in a direct continuation of developments in recent years and even though GDP grew moderately. Most of the increase in credit in the review year, as before, came from retail sources and was reflected in continued growth in the scope of (1) housing credit (9 percent)—in view of continued developments in the housing market that supported strong demand for such credit, and (2) other consumer credit (8 percent)—against the background of the low interest rate environment and the increase in private consumption. Business credit expanded

[23] The five large groups (Leumi, Hapoalim, Discount, First International, and Mizrahi-Tefahot) and the three independent banks (Union, Jerusalem, and Dexia).

Table 1.4

Balance sheet of the total Israeli banking system[a], 2013–15

	In current prices			Rate of change during 2014	Rate of change during 2015	Distribution		
	2013	2014	2015			2013	2014	2015
	(NIS million)			(Percent)		(Percent)		
Assets								
Cash and deposits at banks	182,276	218,731	226,145	20.0	3.4	13.9	15.7	15.6
Of which:								
Cash[b]	155,487	183,643	206,158	18.1	12.3	85.3	84.0	91.2
Deposits at commercial banks	26,790	35,088	19,987	31.0	-43.0	14.7	16.0	8.8
Securities	189,946	183,537	212,286	-3.4	15.7	14.5	13.2	14.6
Of which:								
Securities provided as collateral to lenders	15,688	18,226	18,580	16.2	1.9	8.3	9.9	8.8
At fair value	162,147	147,569	171,589	-9.0	16.3	85.4	80.4	80.8
Securities borrowed or bought under reverse repurchase agreements	3,090	3,708	2,879	20.0	-22.4	0.2	0.3	0.2
Credit to the public	**866,149**	**903,498**	**950,058**	**4.3**	**5.2**	**66.2**	**64.9**	**65.4**
Allowance for credit losses	12,627	12,930	12,792	2.4	-1.1	1.0	0.9	0.9
Net credit to the public	853,522	890,568	937,266	4.3	5.2	65.3	63.9	64.5
Of which:								
Unindexed local currency	518,832	563,821	622,559	8.7	10.4	60.8	63.3	66.4
Local currency indexed to the CPI	205,443	194,492	185,454	-5.3	-4.6	24.1	21.8	19.8
Foreign-currency indexed and denominated	128,089	130,901	127,806	2.2	-2.4	15.0	14.7	13.6
Of which: In dollars	91,398	99,240	97,570	8.6	-1.7	71.4	75.8	76.3
Nonmonetary items	1,158	1,353	1,448	16.8	7.0	0.1	0.2	0.2
Credit to governments	3,890	4,887	4,517	25.6	-7.6	0.3	0.4	0.3
Investments in subsidiary and affiliated companies	3,936	2,941	1,685	-25.3	-42.7	0.3	0.2	0.1
Premises and equipment	13,185	12,269	12,031	-6.9	-1.9	1.0	0.9	0.8
Intangible assets	756	616	520	-18.6	-15.5	0.1	0.0	0.0
Assets in respect of derivative instruments	33,468	46,910	32,860	40.2	-30.0	2.6	3.4	2.3
Other assets	23,470	28,724	22,041	22.4	-23.3	1.8	2.1	1.5
Total assets	**1,307,538**	**1,392,891**	**1,452,231**	**6.5**	**4.3**	**100**	**100**	**100**
Liabilities and equity								
Deposits of the public	**987,926**	**1,049,237**	**1,121,809**	**6.2**	**6.9**	**75.6**	**75.3**	**77.2**
Of which:								
Unindexed local currency	597,437	628,747	713,887	5.2	13.5	60.5	59.9	63.6
CPI-indexed local currency	95,714	85,686	74,191	-10.5	-13.4	9.7	8.2	6.6
Foreign-currency indexed and denominated	293,348	333,323	332,055	13.6	-0.4	29.7	31.8	29.6
Of which: In dollars	219,795	260,321	264,454	18.4	1.6	74.9	78.1	79.6
Deposits from banks	18,143	17,938	16,357	-1.1	-8.8	1.4	1.3	1.1
Deposits from governments	2,711	2,411	2,452	-11.1	1.7	0.2	0.2	0.2
Securities lent or sold under repurchase agreements	4,538	6,070	5,241	33.8	-13.6	0.3	0.4	0.4
Bonds and subordinated notes	100,749	100,714	102,491	0.0	1.8	7.7	7.2	7.1
Liabilities in respect of derivative instruments	36,520	47,175	34,160	29.2	-27.6	2.8	3.4	2.4
Other liabilities	67,697	76,785	69,926	13.4	-8.9	5.2	5.5	4.8
Of which: Allowance for credit losses in respect of off-balance-sheet credit instruments	1,340	1,441	1,466	7.6	1.7	2.0	1.9	2.1
Total liabilities	**1,218,283**	**1,300,329**	**1,352,437**	**6.7**	**4.0**	**93.2**	**93.4**	**93.1**
Minority interest	1,606	1,733	1,705	7.9	-1.6	0.1	0.1	0.1
Shareholders equity	87,649	90,829	98,089	3.6	8.0	6.7	6.5	6.8
Total equity	89,255	92,562	99,794	3.7	7.8	6.8	6.6	6.9
Total liabilities and equity	**1,307,538**	**1,392,891**	**1,452,231**	**6.5**	**4.3**	**100**	**100**	**100**

[a] On a consolidated basis. Includes the five banking groups (Leumi, Hapoalim, Discount, First International and Mizrahi-Tefahot), and the three independent banks (Union Bank, Bank of Jerusalem and Dexia Bank).

[b] Including deposits at the Bank of Israel.

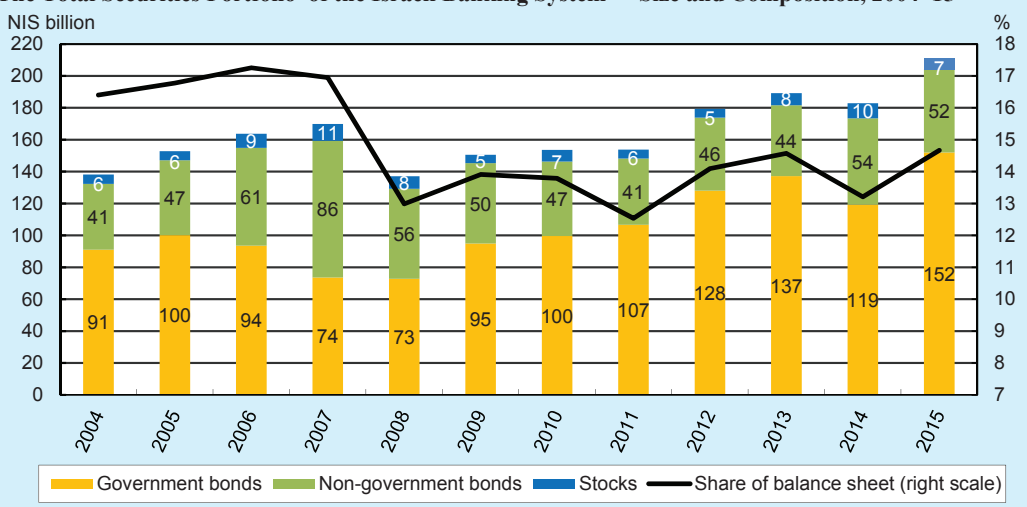
SOURCE: Banking Supervision Department based on published financial statements.

modestly (2 percent). Cash surpluses grew (12 percent) despite the low interest rate environment and the protracted erosion of the interest income that cash generates.[24] The banks also built up their securities portfolios briskly (16 percent) after a slight (3 percent) contraction in 2014 (Table 1.5); the increase took place in the second half of the year due to a surplus of sources. Nearly all of the growth in the portfolio derived from a steep rise in holdings of medium-term (three months to one year) government (Israeli and foreign) bonds available for sale; it does not appear to have derived from short-term liquidity needs. (A smaller part of the increase in the portfolio originated in revaluations of securities.) The share of the securities portfolio in the total balance sheet was 15 percent in the review year as against 13 percent in 2014 (Figure 1.10).

In the second half of the year, the public's deposits increased, against the background of sharp declines in the capital market.

On the liabilities side, there was marked growth in the public's deposits (by about 7 percent) and in banking corporations' equity (about 8 percent) (Table 1.4).[25] This year's growth in the public's deposits occurred despite the low interest rate environment and owes its origins to an increase in retail and corporate deposits. (In 2014, in contrast, the increase traced to larger deposits from institutional players.) Most of the deposit growth occurred in the second half of the year and appears to have been strongly influenced by sharp downturns in the leading domestic equity and bond indices, which caused consumers to revise their preferences and reduce the share of

Figure 1.10
The Total Securities Portfolio[a] of the Israeli Banking System[b]—Size and Composition, 2004–15



[a] Excluding consolidated companies.
[b] Including the five banking groups (Leumi, Hapoalim, Discount, First International, and Mizrahi-Tefahot), as well as Union Bank, Bank of Jerusalem, and Dexia Bank.
SOURCE: Based on published financial statements.

[24] The banks' interest income from cash and deposits with the Bank of Israel has slipped steadily in recent years—from NIS 1.1 billion in 2013 to NIS 550 million in 2014 and only NIS 200 million at December 2015. (For elaboration, see section on financial results.)

[25] The steep (10 percent) appreciation of the shekel against the euro in the review year had a negative impact on the rate of increase in deposits. Excluding the appreciation, the rate of increase would have been 7.3 percent, compared to the actual 6.9 percent in nominal terms.

Table 1.5

Securities portfolio of the total banking system, December 2014 and December 2015

		Bank Leumi				Bank Hapoalim				Discount Bank			
		December 2014		December 2015		December 2014		December 2015		December 2014		December 2015	
		Book value (NIS million)	Distribution (Percent)	Book value (NIS million)	Distribution (Percent)	Book value (NIS million)	Distribution (Percent)	Book value (NIS million)	Distribution (Percent)	Book value (NIS million)	Distribution (Percent)	Book value (NIS million)	Distribution (Percent)
Securities	Of Israeli government	22,205	42.6	35,217	50.7	39,920	67.9	43,642	69.4	19,391	51.9	21,358	54.9
	Of foreign governments	5,220	10.0	11,186	16.1	3,541	6.0	5,622	8.9	1,557	4.2	1,767	4.5
	Of Israeli financial institutions	439	0.8	273	0.4	1,328	2.3	634	1.0	634	1.7	353	0.9
	Of foreign financial institutions	5,942	11.4	6,410	9.2	5,437	9.3	4,737	7.5	2,005	5.4	1,902	4.9
	Asset-backed or mortgage-backed securities[a]	9,125	17.5	10,317	14.8	-	-	-	-	9,059	24.3	8,627	22.2
	Other - Israeli	1,226	2.4	738	1.1	2,304	3.9	2,048	3.3	809	2.2	482	1.2
	Other - foreign	3,262	6.3	2,014	2.9	3,635	6.2	3,667	5.8	2,206	5.9	3,143	8.1
	Stocks	4,694	9.0	3,320	4.8	2,613	4.4	2,534	4.0	1,692	4.5	1,303	3.3
	Total securities, all types	**52,113**	**100**	**69,475**	**100**	**58,778**	**100**	**62,884**	**100**	**37,353**	**100**	**38,935**	**100**

		Mizrahi-Tefahot				First International				Total system[b]			
		December 2014		December 2015		December 2014		December 2015		December 2014		December 2015	
		Book value (NIS million)	Distribution (Percent)	Book value (NIS million)	Distribution (Percent)	Book value (NIS million)	Distribution (Percent)	Book value (NIS million)	Distribution (Percent)	Book value (NIS million)	Distribution (Percent)	Book value (NIS million)	Distribution (Percent)
Securities	Of Israeli government	13,631	95.6	9,788	82.6	7,817	62.3	8,393	51.1	109,013	59.4	127,612	60.1
	Of foreign governments	115	0.8	1,664	14.0	128	1.0	3,244	19.7	11,149	6.1	24,962	11.8
	Of Israeli financial institutions	123	0.9	-	-	611	4.9	590	3.6	3,965	2.2	2,632	1.2
	Of foreign financial institutions	219	1.5	274	2.3	1,670	13.3	1,856	11.3	15,365	8.4	15,296	7.2
	Asset-backed or mortgage-backed securities[a]	-	-	-	-	633	5.0	510	3.1	18,904	10.3	19,537	9.2
	Other - Israeli	1	0.0	-	-	1,289	10.3	1,205	7.3	6,483	3.5	5,308	2.5
	Other - foreign	66	0.5	21	0.2	95	0.8	380	2.3	9,322	5.1	9,267	4.4
	Stocks	104	0.7	98	0.8	311	2.5	261	1.6	9,544	5.2	7,672	3.6
	Total securities, all types	**14,259**	**100**	**11,845**	**100**	**12,554**	**100**	**16,439**	**100**	**183,537**	**100**	**212,286**	**100**

[a] Mortgage-backed securities (MBS) issued by US government agencies (FNMA, FHLMC and GNMA) are included in the "Asset-backed or mortgage-backed" item whether there is a government guarantee for them or not.

[b] Including the five banking groups as well as Union Bank, Bank of Jerusalem, and Dexia Israel Bank.

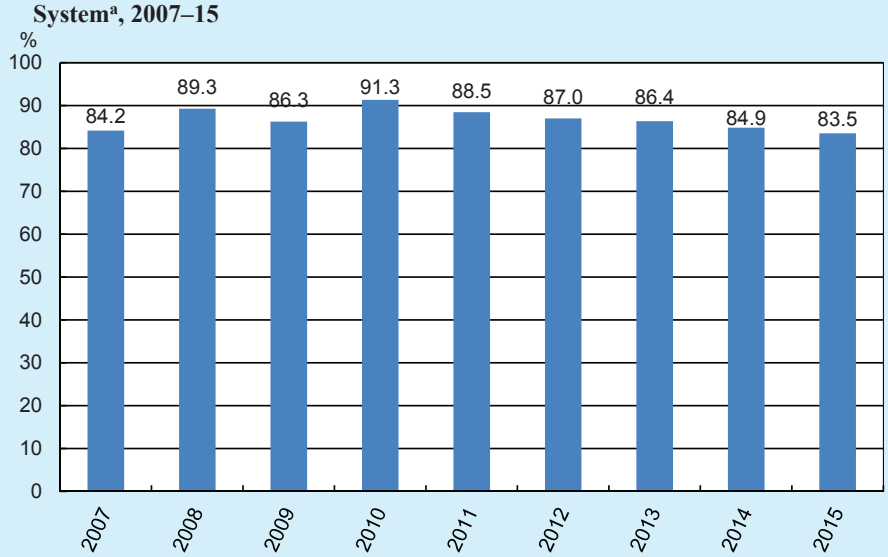
SOURCE: Banking Supervision Department based on published financial statements.

bonds and equities in their portfolios. The precipitous drop in holdings of *makam*, which serve as a substitute for bank deposits, also had an upward effect on deposits in 2015. As for the composition of deposits in domestic activity, a sharp upturn in current account and short-term demand deposits, which rarely earn interest, contrasted with a decline in time deposits, which do pay interest.

This year, there was a sharp increase in non-interest bearing deposits and a decline in scope of interest-bearing deposits.

These developments were mirrored in the ratio of credit to the public's deposits, which has declined over the past five years (Figure 1.11) as credit to the public did not grow as quickly as deposits did during that time. The decline in this ratio mitigates the banks' exposure to liquidity risk but also signals a decrease in their return on the deposits that they accept.

Figure 1.11
Ratio Between Credit to the Public and the Public's Deposits, Total Banking System[a], 2007–15



[a] Including the five banking groups (Leumi, Hapoalim, Discount, First International, and Mizrahi-Tefahot), as well as Union Bank, Bank of Jerusalem, and Dexia Bank.
SOURCE: Based on published financial statements.

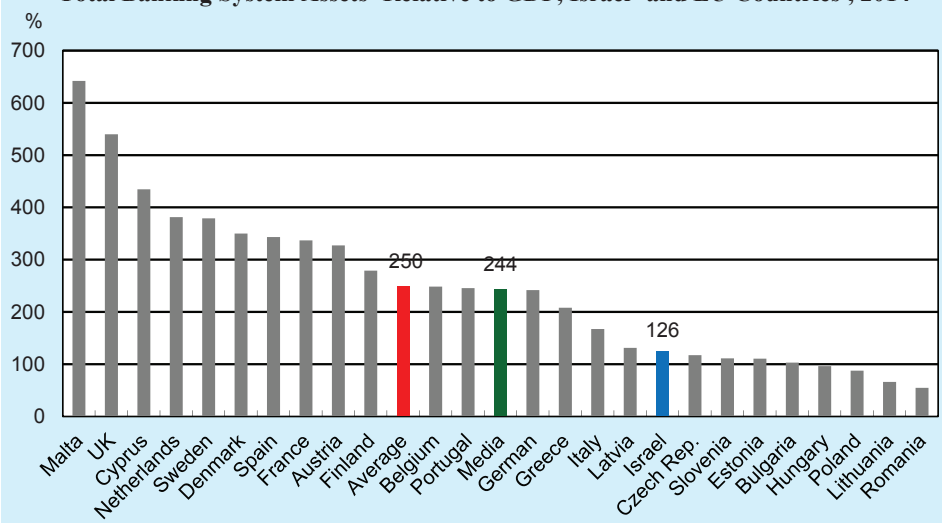
Bonds and subordinated debt notes increased slightly this year (by 2 percent), to NIS 102 billion. The increase stemmed mainly from new issues by the Leumi group in response to strong demand by institutional investors.

Banks' total equity provides them with an important cushion with which to absorb losses occasioned by the realization of unexpected losses. The 8 percent increase in equity in the review year, to NIS 99.8 billion (Table 1.4), marks the continuation of several years of upward movement in equity that began when the banks, at their initiative, used retained earnings to meet the minimum capital requirements that the Banking Supervision Department set in order to implement the Basel III working framework in Israel. The increase in equity was partly offset by distribution of dividends by several groups. (For elaboration, see the section on capital adequacy.)

The share of banking activity in total economic activity is measured by means of the ratio of the banks' assets to Gross Domestic Product. Figure 1.12 shows the ratio in Israel and the EU. Israel's ratio in 2015 was 126 percent, lower than the EU average and closer to the typical level of banking systems in Europe's developing markets. One explanation (although not the only one) for the gap between Israel's ratio and the EU average is related to the extent of foreign banks' activity in each country. Malta, Cyprus, Finland, and Belgium, for example, are typified by intensive foreign bank activity and have high ratios of assets to GDP. Even though a high asset/GDP ratio may be indicative of the depth of banks' financial intermediation, excessively high levels may expose a domestic economy to the risk of having a banking system that is "too big to save" if necessary.

The share of bank activity out of total economic activity in Israel is low compared to the EU average.

Figure 1.12
Total Banking System Assets[a] Relative to GDP, Israel[b] and EU Countries[c], 2014



[a] Total assets is calculated on a consolidated basis and includes all of the banking groups and all of the independent banks operating in the domestic economy, as well as subsidiary companies and banking branches controlled by foreign corporations and active in the domestic economy.
[b] The figure for Israel is as of December 2015.
[c] In Luxembourg (does not appear) the ratio is 1,637. Ireland, Slovakia and Croatia are excluded from the comparison due to a lack of data.
SOURCE: European countries—European Central Bank (ECB) and Eurostat; Israel—published financial statements and Central Bureau of Statistics.

The banks' **off-balance-sheet activity**—guarantees and commitments to provide credit—increased by NIS 12 billion in the review year and came to NIS 533 billion, a slight rise of 2 percent. The developments in off-balance-sheet activity mirror those in the domestic economy, including the growth in housing credit—manifested in a 12 percent increase in guarantees for homebuyers (Table 1.6)—and the upturn in private consumption, expressed in increases in unutilized credit card facilities (4 percent) and irrevocable commitments to provide credit (3 percent). The moderate GDP growth rate was reflected in a slight decline in documentary credit and stability in credit guarantees—transactions indicative of business activity.

Developments in off-balance sheet activity reflect economic developments, including developments in the housing market.

Banking corporations were active in derivative instruments in the sum of NIS 2,365 billion, down 6 percent in notional amounts (Table 1.7). The entire decrease occurred due to a decline in the scope of foreign currency contracts (about 16 percent), against the background of a relatively stable NIS/$ exchange rate during the year, making it less necessary for banks and their customers to hedge exchange rate risk.

Table 1.6
Transactions in off-balance-sheet financial instruments where the par value reflects credit risk, total banking system[a], 2014 and 2015

	End of year balance		Rate of change	Distribution	
	2014	2015		2014	2015
	(NIS million)		(percent)	(percent)	
Documentary credit	5,049	4,804	-4.9	1.0	0.9
Credit guarantees	18,359	18,260	-0.5	3.5	3.4
Guarantees for home purchases	53,987	60,668	12.4	10.4	11.4
Other guarantees and liabilities	60,056	63,884	6.4	11.5	12.0
Unutilized credit card facilities	100,275	104,056	3.8	19.3	19.5
Unutilized credit facilities to the public	132,200	127,503	-3.6	25.4	23.9
Irrevocable commitments to provide credit that has not yet been extended	100,755	103,702	2.9	19.4	19.5
Commitments to issue guarantees	49,978	49,693	-0.6	9.6	9.3
Total	**520,660**	**532,569**	**2.3**	**100**	**100**

[a] The five banking groups, Union Bank, Bank of Jerusalem and Dexia Israel Bank.
SOURCE: Banking Supervision Department based on published financial statements.

Table 1.7
Distribution of the balance of derivative instruments, Israeli banking system[a], 2015 compared with 2014

(NIS million)[b]

	By type of instrument			By type of transaction			
	2014	2015	Rate of change compared with 2014		2014	2015	Rate of change compared with 2014
Interest rate contracts	1,108,035	1,126,800	1.7	Hedging derivatives[d]	25,013	24,726	-1.1
Exchange rate contracts	1,043,213	881,050	-15.5	ALM derivatives[d,e]	2,139,849	2,019,381	-5.6
Other contracts[c]	354,277	357,603	0.9	Other derivatives[f]	340,663	321,346	-5.7
Total	**2,505,525**	**2,365,453**	**-5.6**	**Total**	**2,505,525**	**2,365,453**	**-5.6**

[a] Includes the five banking groups and the independent banks (Union, Jerusalem and Dexia).
[b] In notional amounts, at current prices.
[c] Contracts in respect of shares, commodity contracts and other contracts.
[d] Excluding credit derivatives.
[e] Derivatives constituting part of the bank's assets and liabilities, which were not designated for hedging purposes.
[f] Including credit derivativers and currency swaps.
SOURCE: Banking Supervision Department based on published financial statements.

Box 1.2
The Payment Card Industry and the Activity of Credit Card Companies

- The Banking Supervision Department has worked in recent years to encourage competition in the payment card sector and in order to entrench the safety and fairness in the industry. Steps taken by the Banking Supervision Department include reducing capital requirements imposed on merchant acquirers, easing the process of receiving an acquirer license, facilitating advanced technologies and promoting the use of debit cards.
- The scope of payment card activity has increased consistently in recent years, with marked growth in the number of cards issued independently by credit card companies. The share of such cards among total active cards increased in the review period to about 30 percent.
- The average acquirer fee (merchant service charge) has declined over recent years, among other things due to the reduction of the interchange fee and the opening of the Isracard brand to competition in acquiring. The reduction in the interchange fee being "rolled over" to merchants is an indication of the increased competition in the acquiring sector.
- There has been a marked increase in the scope of credit provided directly by the credit card companies to individuals.
- In recent years, a trend of decline in credit card companies' return on equity can be seen, deriving mainly from erosion in fee revenues and from strengthening of the companies' capital adequacy.
- A proposal to separate credit card companies from the two largest banks has been discussed recently, but a final decision has not yet been reached on the matter.

a. Background

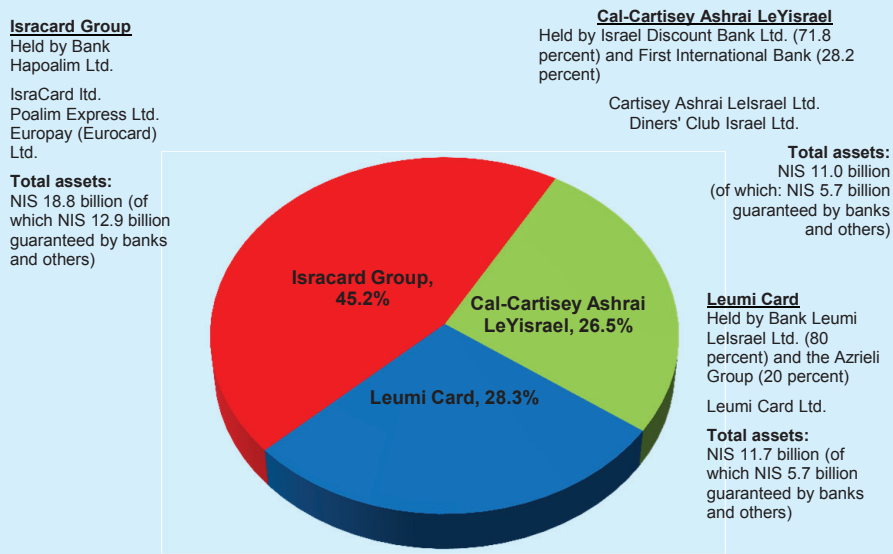
A payment card is an electronic means of payment used to purchase goods and services from businesses, and at times for withdrawing cash from automated teller machines (ATMs). Most payment card activity in Israel occurs through the following credit card companies: Isracard Group, Cal–Cartisey Ashrai LeYisrael (Israel Credit Cards), and Leumi Card (Figure 1). These companies' main areas of activity in Israel include: (1) issuing—supplying the card to the customer (the cardholder) and its processing; (2) acquiring—crediting the merchant for transactions that customers conducted with it using the payment card and transferring the payment to the merchant; (3) financing—providing credit to households and to merchant on the account of, and at the responsibility of, the credit card companies, among other things in the context of nonbank credit cards usage.[1]

According to the Banking (Licensing) Law, 5741-1981, credit card companies are considered auxiliary corporations, and as such their activity in providing credit is similar to banks' activities, though in contrast to the banks they cannot accept deposits. The companies are subject to the supervision of the Banking Supervision Department, and thus the directives of the Supervisor of Banks apply to them.

[1] Nonbank card: A credit card that a credit card company issues independently to a customer, without the involvement of the customer's bank and without dependence on the current account facility (the charge is generally debited through an authorized debit of the account).

Bank card: This type of card is issued to a customer in collaboration with the bank in which the customer's account is held, based on a joint issuing agreement that the credit card company signs with that bank, and the bank distributes the cards through its branches. The card is linked to the customer's current account, and the bank bears the full credit risk inherent in the card.

Figure 1
Distribution of Credit Card Company Assets, December 2015



SOURCE: Reports to the Banking Supevision Department.

There are currently three types of payment cards in Israel: (1) **Debit card**—the customer pays immediately with the execution of the transaction, and the transaction value is debited directly from the customer's current account; (2) **Credit card**—the customer does not pay immediately with the execution of the transaction, and can purchase goods and services up to a maximum credit facility allocated by the issuer. Credit cards are generally divided into two types: a) **Deferred debit card**—the customer pays the total charges on a set date (chosen by the customer) during the month, and does not pay interest on the period of time that elapsed from the purchase date until the debit date; b) **"Revolving" credit card**—the customer pays a fixed monthly amount, and if the total charges exceed this amount, the difference—plus interest—is collected at a later date; (3) **Prepaid card**—a card that the customer loads in advance with a monetary value, and then uses the card to pay for goods and services.

Most cards issued by the credit card companies belong to international brands (Visa, MasterCard, American Express and Diners), and the companies issue the cards through licenses or franchises they received from the brand owners. Isracard also issues cards of a domestic brand (Isracard).

b. Issuing, acquiring, and the decline in acquiring fees

At the end of 2015, there were 7.6 million active cards[2] in Israel, out of which 2.2 million (29 percent) were nonbank cards issued independently by the credit card companies (Table 1). Over the past decade, there was a marked increase in the amount of nonbank cards issued (Figure 2). As noted, these cards serve households as an additional source of credit. The nonbank card distribution is carried out though loyalty programs with the collaboration of retailers and consumer organizations.

2 Active card: a valid card that was used for at least one transaction in the past quarter.

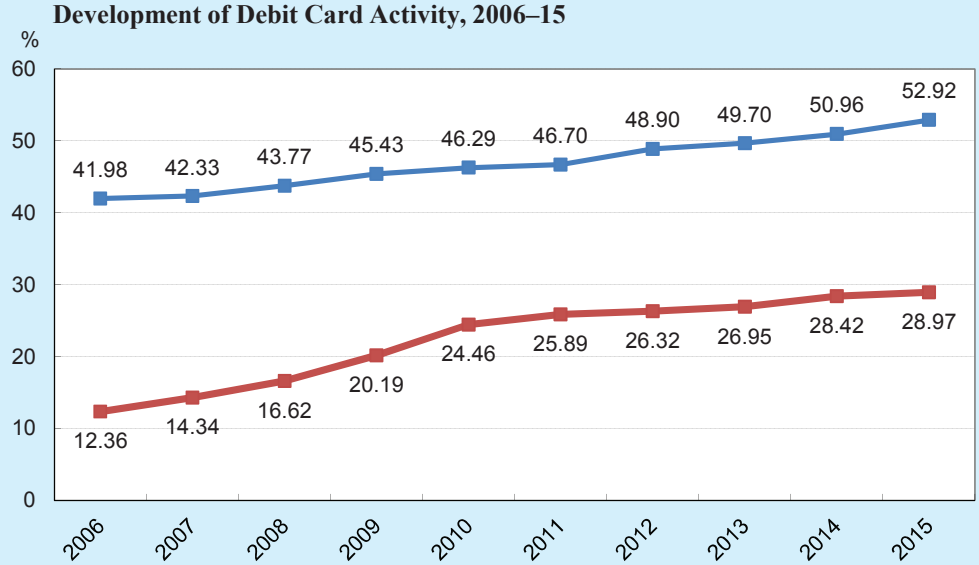
Table 1
Payment card activity, 2012–15

	2012	2013	2014	2015	Rate of change 2014 compared with 2013	Rate of change 2015 compared with 2014
	(Million)				(Percent)	
Number of active cards at year-end	6.4	6.7	7.2	7.6	7.0	5.5
of which: Cards under the sole responsibility of the credit card companies	1.7	1.8	2.0	2.2	12.9	7.5
Number of transactions on cards issued in Israel	901	989	1,083	1,190	9.5	9.9
of which: In Israel	875	955	1,028	1,124	7.6	9.3
Number of transactions settled in Israel	892	986	1,056	1,153	7.1	9.2
	(NIS billion)					
Transaction amounts on cards issued in Israel	214	229	243	262	6.3	7.6
of which: In Israel	203	216	227	242	4.8	6.9
Transaction amounts settled in Israel	212	228	238	254	4.3	6.6
	Activity indices					
Average amount per credit card transaction (NIS)	237.1	231.3	224.6	220.0	-2.9	-2.0
Average monthly credit card expenses (NIS)	2,803	2,844	2,825	2,881	-0.7	2.0
Average transactions per card (per year)	141.9	147.5	150.9	157.1	2.3	4.1

SOURCE: Reports to the Banking Supervision Department.

In addition to the increase in the total number of payment cards, there was also an increase in the scope of their use. In recent years the rate of increase in volume of use was greater than the rate of increase in nonhousing private consumption (Figure 2). This indicates that the use of payment cards is expanding at the expense of cash and checks, and it therefore appears that cards serve as a convenient and available substitute for such means of payment. It likewise indicates growth in e-commerce and payments over the Internet.

Figure 2
Development of Debit Card Activity, 2006–15



SOURCE: Reports to the Banking Supervision Department.

A deferred debit card is the most common type of card in Israel today (at the end of 2015, such cards made up 75 percent of active cards, while revolving credit cards accounted for 17 percent, debit cards accounted for 6 percent, and preloaded cards made up 2 percent). However, it can be seen that the use of cards that do not incorporate a credit facility is strengthening (in the review period the number of debit cards and prepaid cards increased by 18 percent, while the number of deferred debit cards grew by 5 percent.)

The average acquiring fee (merchant service charge) has been on a trend of decline in recent years, among other things impacted on by the reduction of the interchange fee, which is a component in the acquiring fee[3], and the opening of the Isracard brand to competition in acquiring. The average merchant fee for cards issued in Israel declined in the past five years by 22 percent (28 basis points), similar to the decline in interchange

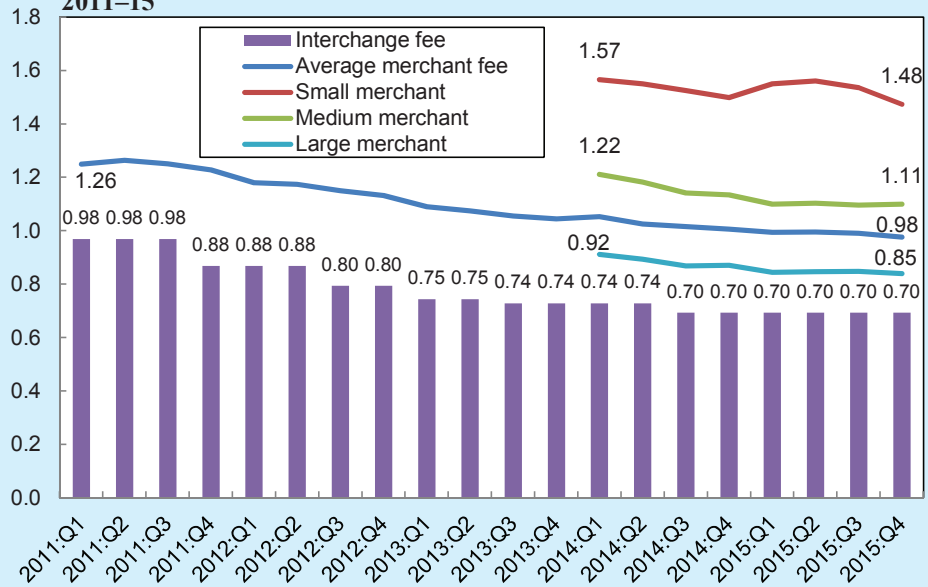
[3] The interchange fee is paid by the acquirer to the card issuer in respect of its share in the costs of the debit transaction. Between 2012 and 2014, the interchange fee was gradually reduced, from 0.975 percent to 0.7 percent, in accordance with an agreement between the Director General of the Israel Antitrust Authority and the credit card companies (the Antitrust Tribunal approved the agreement on March 7, 2012).

fees during the same period (Figure 3). The fact that the entire decrease in the interchange fee was "rolled over" to merchant fees is an indication of the increased competition in acquiring.

The average rate of a merchant fee varies by the size of the business[4], and this variation reflects, among other things, differences in the level of risk and in the operating cost relative to the acquiring turnover. However, in the past two years the gap between large businesses and small businesses contracted. In all categories, there was a decline in the average fee, and the most significant decline was in medium sized businesses (Figure 3).

The issuing and acquiring operations expose the credit card companies to the various operational risks that are typical to banking activity (legal risks, business continuity risks, human error, etc.) In addition, the companies' activity is exposed to adverse impacts resulting from payment card fraud (skimming, loss and theft, etc.) The companies have developed monitoring systems and means of control in order to deal with the fraud risks, and they also implement technological solutions and international security standards (such as EMV). The negative impacts that credit card companies absorbed due to card fraud totaled about NIS 24 million in 2015, similar to the previous year's figure.

Figure 3
Development of Merchant Fees and Interchange Fees, 2011–15



Average merchant fee—regarding transactions on cards issued in israel; Fee according to the size of the merchant—regarding all transactions settled in Israel.

SOURCE: Reports to the Bankng Supervision Department.

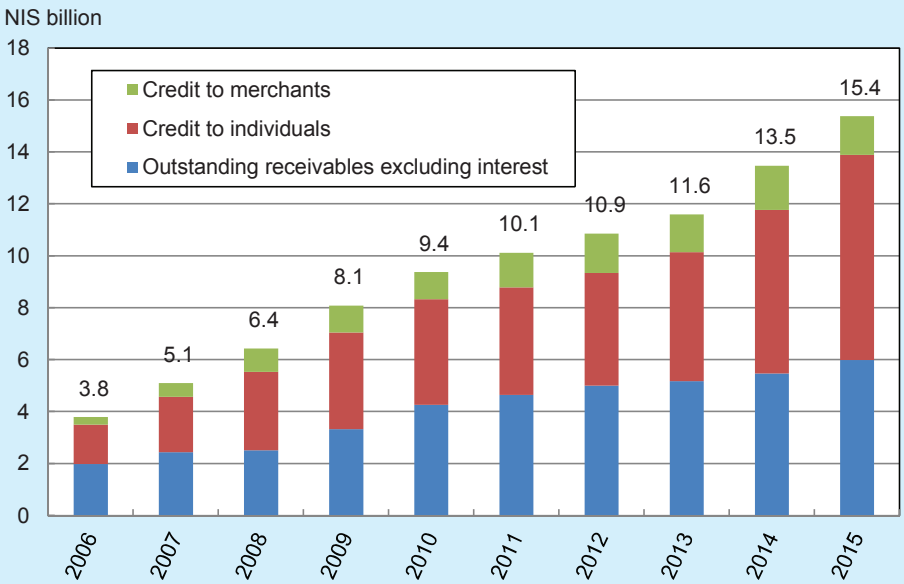
[4] The businesses are classified by the quarterly scope of transactions using the payment card (quarterly acquiring turnover): Small business—turnover of up to NIS 500,000; medium business—turnover between NIS 500,001 and NIS 5 million, and large business—turnover greater than NIS 5 million.

c. Financing: The credit granted by credit card companies

In recent years, there has been a marked increase in the scope of credit to individuals granted directly by credit card companies (Figure 4). Part of the increase derives from the expanded use of credit cards, particularly nonbank cards, and part of it derives from financing activities that are not conducted in the context of to payment transactions at businesses. Credit activity to individuals includes: deferred debit transactions and payments in installments[5], interest-bearing "credit" transactions[6], "revolving" credit, unsecured consumer loans—whether within the card's credit facility or outside of it, car loans, etc. Credit activity to businesses includes: advances and card invoice discounting, factoring, and loans.

Credit and card balances at the responsibility of credit card companies at the end of 2015 totaled NIS 15.4 billion, of which NIS 6.0 billion was card balances that do not bear interest. The average interest rate on interest-bearing balances of credit at the responsibility of credit card companies was 8.3 percent at the end of the period, while the average interest rate on current loan accounts and current accounts with debit balances (overdrafts) at banks was 7.3 percent. An international comparison indicates that the average interest rate charged by credit

Figure 4
Outstanding Receivables and Credit Under the Responsibility of the Credit Card Companies, 2006–15



Outstanding receivables excluding interest—includes regular transactions, transactions in installments funded by the merchant, and other transactions.

SOURCE: Reports to the Banking Supervision Department.

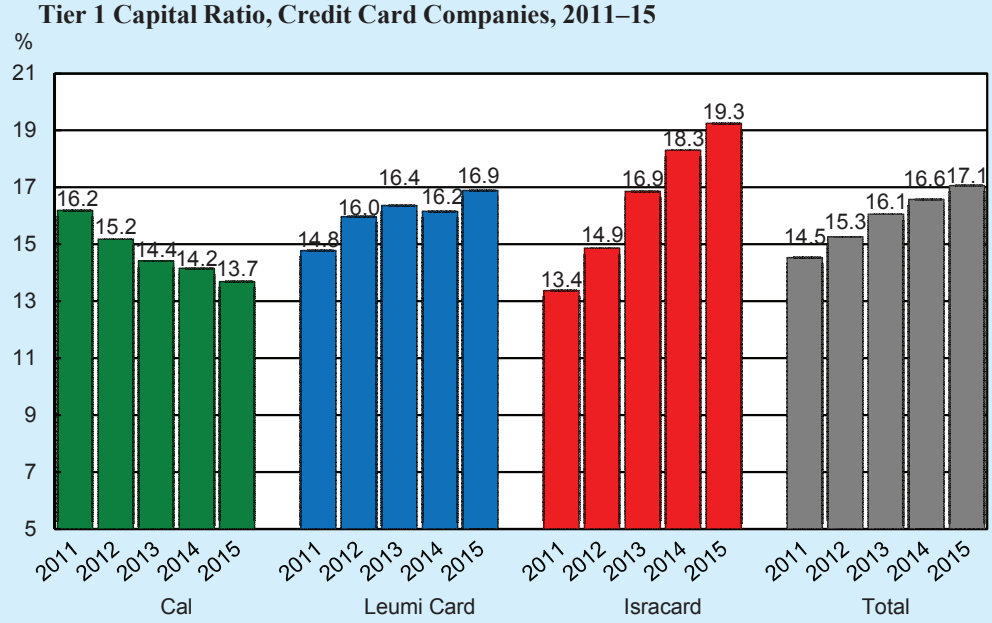
[5] Payment in installments—the business receives the transaction value in parts, in accordance with the number of installments, and provides the credit at its own expense. The cardholder does not bear an interest burden.

[6] "Credit" transaction—the cardholder pays interest from the date that the transaction is executed at the business, and the business is credited soon after the transaction execution.

card companies in Israel is relatively low compared with other advanced economies[7] (comparative data as of December 2015: US, 13.5 percent; UK, 17.9 percent; Eurozone, 17.0 percent; Australia, 16.5 percent, New Zealand, 18.2 percent. Further discussion can be found in the Bank of Israel 2015 Annual Report, Chapter 4).

As credit card companies expanded their independent financing activity, they increased their exposure to credit risk. Although credit to individuals generally is considerably diversified and granted for the short term, it is mostly granted without collaterals. The credit to businesses is granted mainly to firms that receive acquiring services from the credit card company, so that the transaction value from the issuer serves as collateral. In 2015, there was an increase in the share of net write-offs from the credit and card balances at the responsibility of credit card companies, to 0.3 percent. The ratio of problematic debt to and the credit and card balances at the responsibility of credit card companies also increased, to 3.7 percent at the end of 2015. This percentage is higher than the share of problematic debt in retail nonhousing credit in the overall banking system—1.5 percent at the end of 2015—which is likely to indicate that credit extended by credit card companies is higher risk.

Figure 5
Tier 1 Capital Ratio, Credit Card Companies, 2011–15



SOURCE: Based on published financial statements.

[7] Data are taken from the central bank websites. It should be noted that an international comparison of interest rates on credit cards does not take into account potential differences in the composition of products and their features (such as card fees, benefits, and grace period) nor differences in monetary interest rates.

d. Financial results

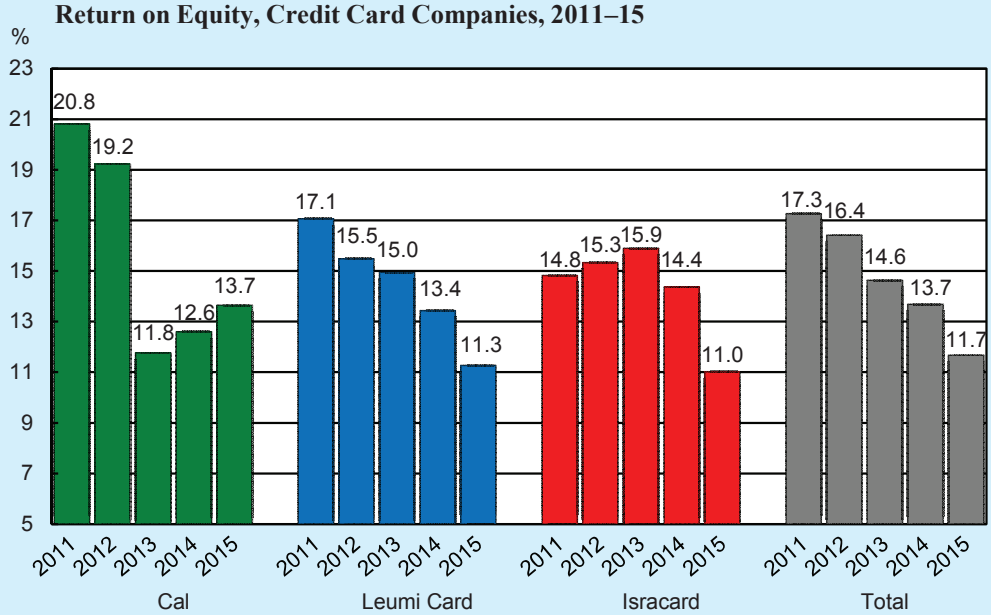
In recent years, a trend of decline can be seen in the profits of credit card companies, as reflected in the development of the return on equity (Figure 6) and return on assets. The decline in return on equity derived mainly from an increase in the companies' capital ratio—which is much greater than the minimum ratio required by the Supervisor of Banks—and from a decline in the interchange fee.

The decline that occurred in recent years in the average acquiring fee adversely impacted the companies' revenue base from processing of payment card transactions. In order to compensate for the erosion of revenues from fees relative to turnover, all the credit card companies acted to expand the credit-activity revenue base. This led to a change in the composition of revenues for credit card companies—gradual growth in the share of revenue from credit activities alongside erosion in the share of revenue from fees charged to businesses (Figure 7).

In the year reviewed, total net income of the credit card companies was NIS 636 million, a decline of 6.1 percent compared with 2014. The credit card companies' average return on equity was 11.7 percent in 2015, compared with 13.7 percent in 2014.

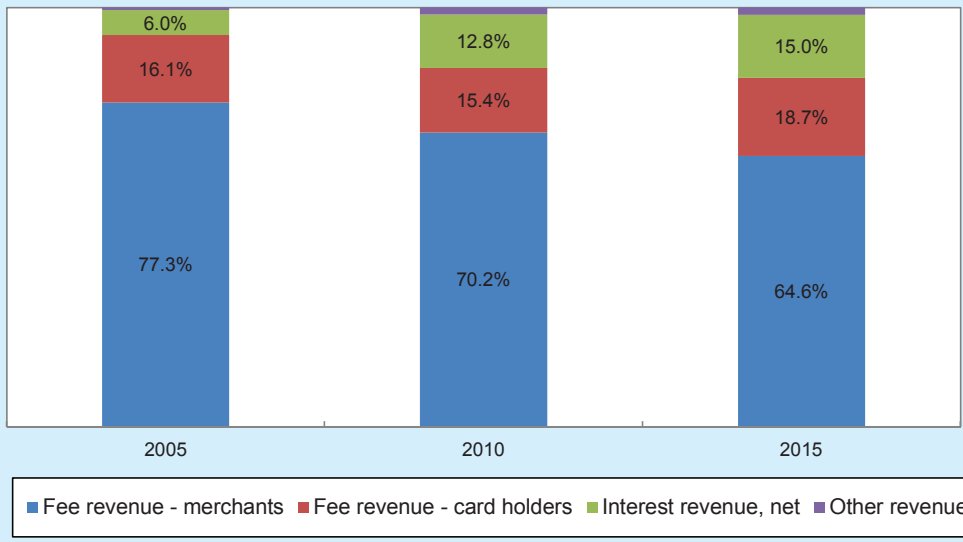
In 2015, credit card activity, including issuing bank cards, contributed about 9.5 percent of income (compared with 9.3 percent in 2014) and 9.2 percent of net profit (compared with 12.8 percent in 2014) of the five large banking groups.

Figure 6
Return on Equity, Credit Card Companies, 2011–15



SOURCE: Based on published financial statements.

Figure 7
Development of the Mix of Income for Credit Card Companies, 2005, 2010 and 2015



Fee revenue, merchants—acquiring fees minus interchange fees to other issuers, plus interchange fees received from other issuers.
SOURCE: Published financial statements.

e. Steps promoted by the Banking Supervision Department to encourage competition and fairness in the acquiring market

The Banking Supervision Department has worked in recent years to encourage competition in the payment card sector and in order to entrench the safety and fairness in the industry. Through its various activities, the Banking Supervision Department reduces barriers to entry by new competitors in the area of credit to households and small businesses and in the payments sector, and also eases day to day activities for those competitors. The Banking Supervision Department's ongoing activities include:

- Increasing the efficiency of the licensing process to new merchant acquirers and markedly easing an acquirer's capital requirements
- Promoting the integration of an advanced international standard in the area of payment card transactions' security (EMV) and removing barriers to connecting new players to the payment card system (further discussion appears in Chapter 2).
- Formulating a more lenient framework for the process of granting a bank license to a credit card company
- Expanding the distribution of debit cards: It was established that the banking system is to offer a card of this type to every customer; a reduced interchange fee was set for debit transactions and regulation was passed regarding the transfer of funds to a business close to the transaction date (beginning April 1, 2016).
- Reducing the number of fees charged in respect of acquiring services and setting a uniform fee schedule for such services to small businesses.

The Banking Supervision Department is currently working to set a new, more lenient, supervisory "level" for entities that do not accept deposits from the public, but that have systemic importance—that is, they are important to the stability of the financial system and to the economy as a whole. Within this framework, the content of Proper Conduct of Banking Business Directives will be adjusted, with an easing of the regulatory requirements from credit card companies and new merchant acquirers.

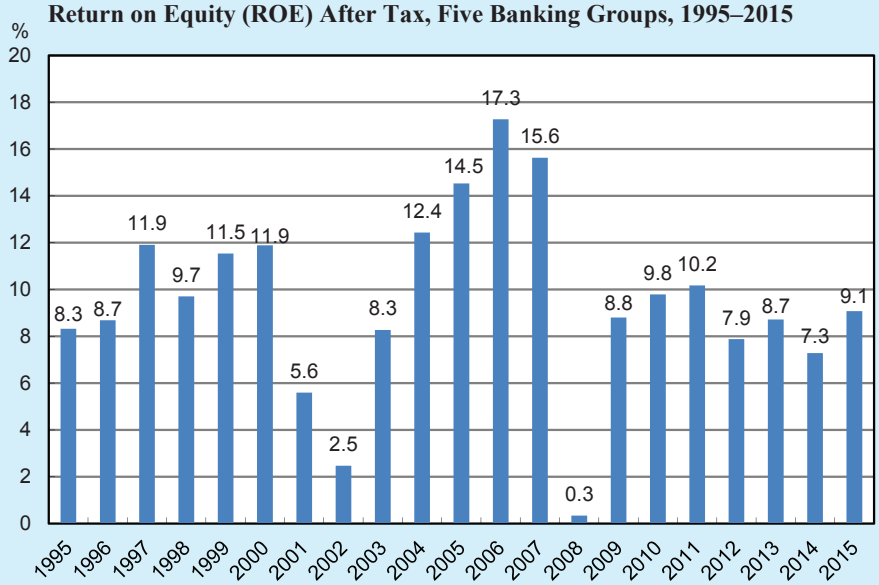
In June 2015, the Minister of Finance and the Governor of the Bank of Israel appointed a Committee to Increase Competition in Common Banking and Financial Services for Households and Small Businesses. The Committee was asked to formulate recommendations regarding the entry of new players into this field, among other ways by separating the ownership of two credit card companies from the large banks. The Committee's interim report was published for public comment in December 2015.

4. FINANCIAL RESULTS

Banking system profitability is similar to average profitability in the OECD.

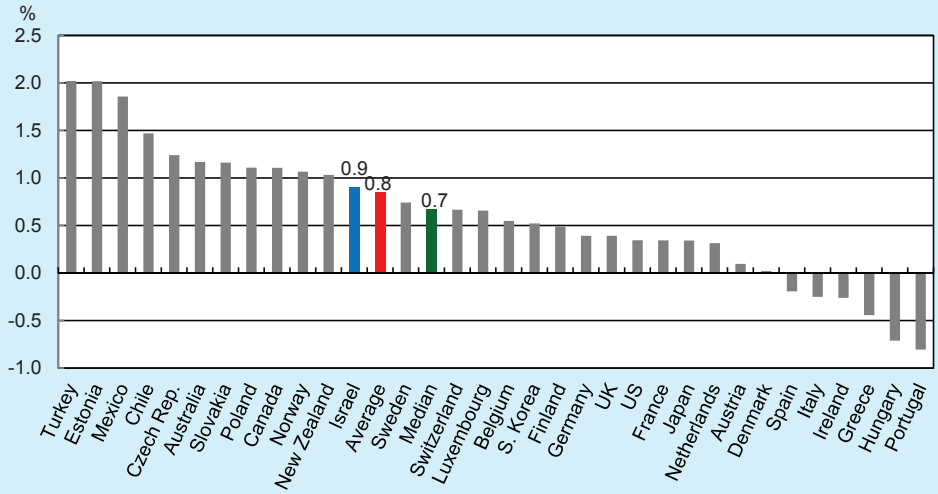
Total net profit of the five large banking groups was NIS 8.2 billion in 2015 (Table 1.8). Return on equity was 9.1 percent, slightly exceeding the average in recent years (Figure 1.13) and similar to the OECD average (Figure 1.14). Although profitability increased in the review year, most of the upturn occurred not because the groups' business environment or activity improved but due to spot and one-off developments that positively impacted earnings in 2015 and negatively impacted them in 2014. In 2015, important developments of this kind were the sale of assets and buildings at the

Figure 1.13
Return on Equity (ROE) After Tax, Five Banking Groups, 1995–2015



SOURCE: Based on published financial statements.

Figure 1.14
International Comparison of the Return on Assets (ROA), Before Tax, in the OECD Countries[a], 3-year average[b]



[a] Iceland was excluded due to lack of data. The figure for Slovenia was omitted as an outlier.
[b] The figure for Israel is the average from 2013 to 2015; The figures for the other countries are the averages for 2012 to 2014. The average and median figures do not include countries where the return was negative.
SOURCE:Foreign countries—International Monetary Fund; Israel—based on published financial statements.

Leumi group;[26] in 2014, the main ones were the realization of compliance risk and the implementation of voluntary retirement programs.[27]

The increase in profit this year derived mainly from specific, one-off, developments last year and this year.

In addition to the one-off developments, the groups' profits in 2015, as in recent years, were affected by exogenous factors that eroded their structural sources of earnings. The low Bank of Israel interest rate environment continued to act to reduce the net interest margin[28] (Figure 1.15) and, in turn, toward a decline in net interest income and its share in total income. In contrast, it should be noted that the low interest rate environment also contributes to low levels of loan loss provisions. In addition, the modest rate of economic growth and intense competition from the nonbank market for business credit left the banks with fewer business opportunities. These developments, along with events in the housing market, had an upward effect on the share of the housing credit portfolio, which typically generates low rates of revenue. (See Table 1.15 in the section on credit.)

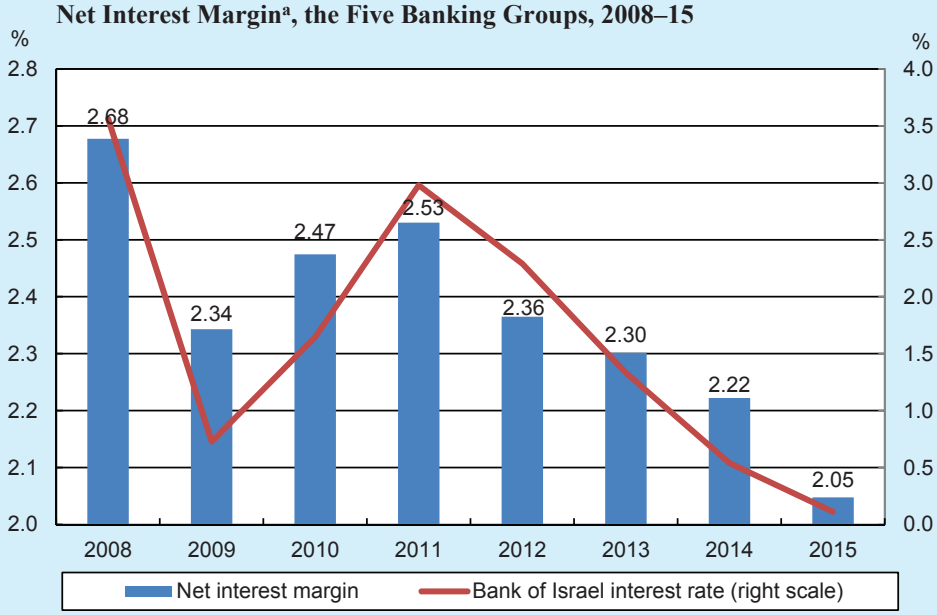
In an attempt to cope with the erosion of their sources of profit, improve the diversity of their interest bearing profit channels, and raise their capital ratios, the

[26] Leumi Group recorded NIS 1,251 million in (pretax) profit in 2015 by selling its stakes in Israel Corp., Mobileye, Derech Eretz, and the Safra Fund, and NIS 380 million from the sale of buildings belonging to its US subsidiary.

[27] In 2014, Leumi Group paid a fine of NIS 1 billion for violations of US tax laws as part of an arrangement with US authorities. The Discount and Hapoalim groups recorded NIS 548 million and NIS 355 million, respectively, in voluntary retirement expenses attending to the implementation of efficiency programs.

[28] The ratio of net interest income to total monetary assets that yield financing revenue.

Figure 1.15
Net Interest Margin[a], the Five Banking Groups, 2008–15



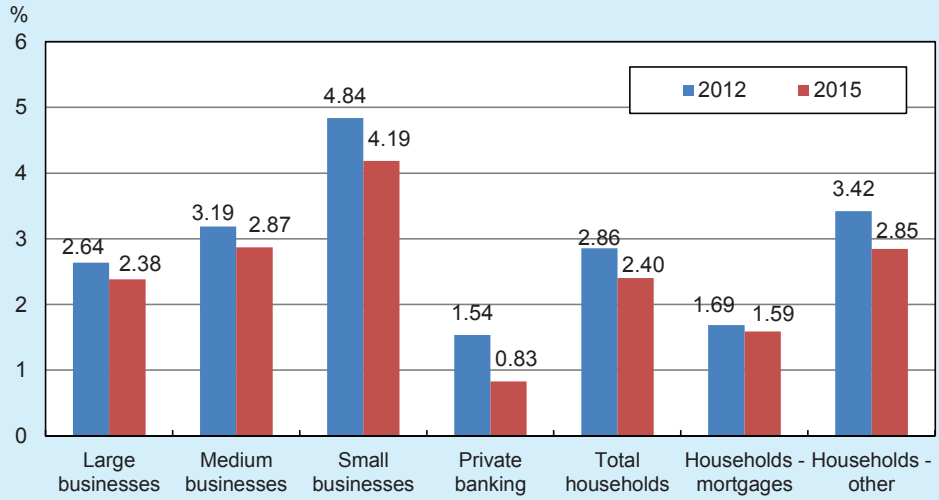
[a] The ratio between net interest income and total monetary assets that generate financing income.
SOURCE: Based on published financial statements.

banks have been acting in recent years to be more active in the small-business and consumer-credit sectors (for elaboration, see section on credit) and this activity has been accompanied by falling margins in these sectors. Similarly, the banks took action to boost their noninterest financing income, chiefly by realizing assets in the available-for-sale portfolio.

The low interest rate environment acts to erode banks' structural sources of profit.

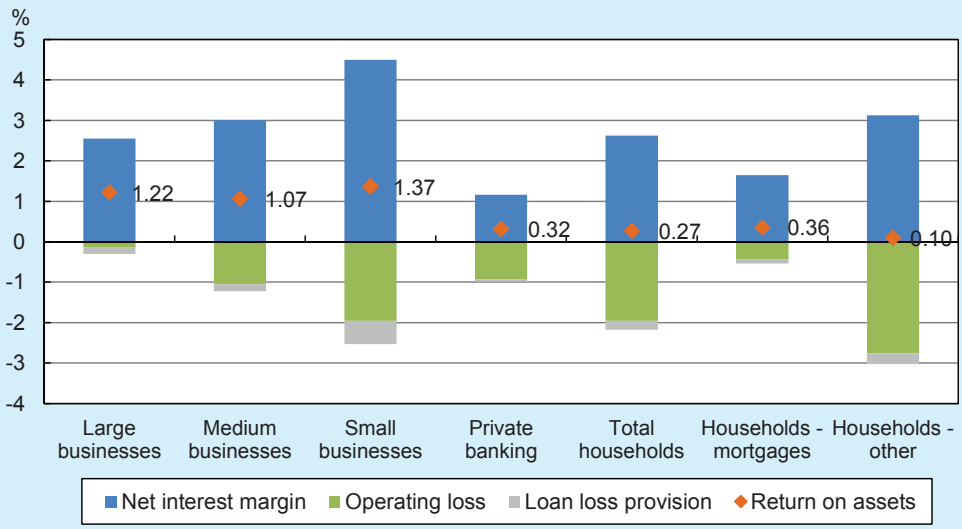
Net interest income was NIS 24.7 billion in 2015, a slight decline of 0.4 percent from the previous year (Table 1.8). This reflects the adverse effect of the low interest rate environment on the banks' structural sources of profit, chiefly credit and deposit activity. The low level of revenue derives from, inter alia, the difficulty of adjusting deposit interest rates in a very low interest environment, as manifested in continued narrowing of the spread between lending interest and deposit interest. The total net interest margin—the return on interest-bearing activity—declined in 2015 for the fourth consecutive year, to 2 percent (Figure 1.15), but remains high by international standards. The decrease encompassed all activity segments, but was notable at segments typified by relatively wide spreads—such as small business and households (excluding mortgage lending)—possibly indicating that they have become more competitive (Figure 1.16). The discrepancies between segments in spreads may trace to differences in characteristics of activity, including the extent of customer risk (manifested in the rate of loan loss provisions), operating cost (including the steep costs associated with maintaining a large array of branches), and levels of competition and the competitive threat (Figure 1.17).

Figure 1.16
The Net Interest Margin[a] in the Various Activity Segments[b], the Five Banking Groups, 2015 Compared With 2012



[a] The ratio between net interest income and the average balance of assets and liabilities.
[b] The figures relate to activity in Israel and do not include the financial management sector, others, and adjustments.
SOURCE: Based on reports to the Banking Supervision Department.

Figure 1.17
Composition of the Average Return on Assets and Liabilities[a] in the Various Activity Segments, the Five Banking Groups, 2012–15 Average



[a] The figures relate to activity in Israel and do not include the financial management sector, others, and adjustments.
SOURCE: Based on reports to the Banking Supervision Department.

Table 1.8
Main items in consolidated profit and loss statements of the five banking groups, 2013–15
(NIS millon, at current prices)

	Leumi				Hapoalim				Discount			
				% change in 2015 compared with				% change in 2015 compared with				% change in 2015 compared with
	2013	2014	2015	2014	2013	2014	2015	2014	2013	2014	2015	2014
Interest income	12,134	10,012	8,784	-12.3	12,961	10,673	9,837	-7.8	6,822	5,736	5,267	-8.2
Interest expenses	4,777	2,649	1,666	-37.1	5,018	2,905	1,952	-32.8	2,572	1,518	1,042	-31.4
Net interest income	**7,357**	**7,363**	**7,118**	**-3.3**	**7,943**	**7,768**	**7,885**	**1.5**	**4,250**	**4,218**	**4,225**	**0.2**
Loan loss provisions	268	472	199	-57.8	874	425	475	11.8	580	164	187	14.0
Net interest income after loan loss provisions	**7,089**	**6,891**	**6,919**	**0.4**	**7,069**	**7,343**	**7,410**	**0.9**	**3,670**	**4,054**	**4,038**	**-0.4**
Noninterest income	**5,431**	**5,141**	**6,297**	**22.5**	**5,721**	**6,254**	**6,477**	**3.6**	**3,356**	**3,153**	**3,053**	**-3.2**
of which: Noninterest financing income	1,127	795	1,610	102.5	480	916	1,044	14.0	632	549	363	-33.9
of which: Stocks[a]	669	485	1,298	167.6	140	136	94	-30.9	137	63	-52	-182.5
Bonds[b]	155	628	248	-60.5	469	343	520	51.6	400	307	239	-22.1
Activity in derivative instruments[c]	-1,376	1,906	-257	-113.5	-949	1,933	588	-69.6	-577	854	-341	-139.9
exchange rate differentials	1,580	-2,252	310	-113.8	818	-1,496	-161	-89.2	642	-675	504	-174.7
of which: Fees	4,188	4,167	4,092	-1.8	5,115	5,207	5,287	1.5	2,704	2,586	2,611	1.0
Total operating and other expenses	**8,817**	**9,371**	**8,836**	**-5.7**	**9,041**	**9,183**	**8,790**	**-4.3**	**5,937**	**6,414**	**5,725**	**-10.7**
of which: salaries and related expenses	5,070	5,151	5,448	5.8	5,451	5,343	4,934	-7.7	3,609	4,086	3,396	-16.9
Pre-tax profit	**3,703**	**2,661**	**4,380**	**64.6**	**3,749**	**4,414**	**5,097**	**15.5**	**1,089**	**793**	**1,366**	**72.3**
Income tax provision	1,380	1,278	1,691	32.3	1,265	1,713	2,097	22.4	269	271	568	109.6
After tax profit	**2,323**	**1,383**	**2,689**	**94.4**	**2,484**	**2,701**	**3,000**	**11.1**	**820**	**522**	**798**	**52.9**
Net income attributed to shareholders	**1,988**	**1,413**	**2,835**	**100.6**	**2,537**	**2,713**	**3,082**	**13.6**	**830**	**505**	**750**	**48.5**
Total pre-tax ROE (percent)	**14.57**	**10.24**	**15.87**		**13.65**	**14.81**	**15.88**		**9.58**	**6.60**	**10.56**	
Total after-tax ROE (percent)	**7.82**	**5.44**	**10.27**		**9.24**	**9.10**	**9.60**		**7.30**	**4.20**	**5.80**	
Total ROA (percent)	**0.54**	**0.37**	**0.70**		**0.67**	**0.69**	**0.73**		**0.41**	**0.25**	**0.36**	

Table 1.8 (cont'd.)
Main items in consolidated profit and loss statements of the five banking groups, 2013–15
(NIS millon, at current prices)

	Mizrahi-Tefahot				First International				Total for all groups			
	2013	2014	2015	% change in 2015 compared with 2014	2013	2014	2015	% change in 2015 compared with 2014	2013	2014	2015	% change in 2015 compared with 2014
Interest income	6,442	5,347	4,906	-8.2	3,322	2,664	2,260	-15.2	41,681	34,432	31,054	-9.8
Interest expenses	2,978	1,972	1,372	-30.4	1,135	563	307	-45.5	16,480	9,607	6,339	-34.0
Net interest income	**3,464**	**3,375**	**3,534**	**4.7**	**2,187**	**2,101**	**1,953**	**-7.0**	**25,201**	**24,825**	**24,715**	**-0.4**
Loan loss provisions	288	173	211	22.0	97	89	18	-79.8	2,107	1,323	1,090	-17.6
Net interest income after loan loss provisions	**3,176**	**3,202**	**3,323**	**3.8**	**2,090**	**2,012**	**1,935**	**-3.8**	**23,094**	**23,502**	**23,625**	**0.5**
Noninterest income	**1,499**	**1,612**	**1,858**	**15.3**	**1,664**	**1,667**	**1,541**	**-7.6**	**17,671**	**17,827**	**19,226**	**7.8**
of which: Noninterest financing income	14	173	358	106.9	200	230	149	-35.2	2,453	2,663	3,524	32.3
of which: Stocks[a]	-1	11	7	-36.4	85	60	22	-63.3	1,030	755	1,369	81.3
Bonds[b]	89	114	180	57.9	174	197	84	-57.4	1,287	1,589	1,271	-20.0
Aactivity in derivative instruments[c]	-599	1,614	34	-97.9	-566	870	-33	-103.8	-4,067	7,177	-9	-
exchange rate differentials	525	-1,566	136	-108.7	507	-897	76	-108.5	4,072	-6,886	865	-
of which: Fees	1,458	1,395	1,426	2.2	1,418	1,375	1,378	0.2	14,883	14,730	14,794	0.4
Total operating and other expenses	**2,951**	**3,039**	**3,226**	**6.2**	**2,860**	**2,912**	**2,710**	**-6.9**	**29,606**	**30,919**	**29,287**	**-5.3**
of which: salaries and related expenses	1,823	1,866	1,944	4.2	1,746	1,780	1,629	-8.5	17,699	18,226	17,351	-4.8
Pre-tax profit	**1,724**	**1,775**	**1,955**	**10.1**	**894**	**767**	**766**	**-0.1**	**11,159**	**10,410**	**13,564**	**30.3**
Income tax provision	593	657	761	15.8	366	328	326	-0.6	3,873	4,247	5,443	28.2
After tax profit	**1,131**	**1,118**	**1,194**	**6.8**	**528**	**439**	**440**	**0.2**	**7,286**	**6,163**	**8,121**	**31.8**
Net income attributed to shareholders	**1,083**	**1,092**	**1,134**	**3.8**	**538**	**455**	**446**	**-2.0**	**6,976**	**6,178**	**8,247**	**33.5**
Total pre-tax ROE (percent)	**18.31**	**17.23**	**17.24**		**14.12**	**11.46**	**11.16**		**13.95**	**12.28**	**14.93**	
Total after-tax ROE (percent)	**11.50**	**10.60**	**10.00**		**8.50**	**6.80**	**6.50**		**8.72**	**7.29**	**9.08**	
Total ROA (percent)	**0.63**	**0.58**	**0.56**		**0.50**	**0.40**	**0.37**		**0.57**	**0.48**	**0.61**	

[a] Includes the profits/losses from investments in shares available for sale, profits from the sales of shares of affiliated companies, dividends and profits/losses from adjustments to fair value of tradable shares.

[b] Includes the profits/losses from investments in bonds held to maturity and available for sale and income/expenses realized and not yet realized from adjustments to fair value of tradable bonds.

[c] Includes derivative instruments not intended for hedging purposes (ALM instruments) and other derivative instruments.

SOURCE: Based on published financial statements.

Table 1.9

The quantity effect[a] and price effect[b] on interest income and expenses, Israel and abroad the five banking groups, 2015 and 2014 (NIS million)

	2015								
	Quantity effect			Price effect			Net change		
	Assets side	Liabilities side	Net	Assets side	Liabilities side	Net	Assets side	Liabilities side	Contribution to net interest income
Credit to the public / deposits of the public in Israel	1,356	-27	1,383	-3,799	-2,180	-1,619	-2,443	-2,207	-236
Credit to the public / deposits of the public abroad	217	21	196	-99	-14	-85	118	7	111
Total credit to the public / deposits of the public	1,573	-6	1,579	-3,898	-2,194	-1,704	-2,325	-2,200	-125
Other interest-bearing assets / liabilities in Israel	213	6	207	-1,172	-1,028	-144	-959	-1,022	63
Other interest-bearing assets / liabilities abroad	22	-2	24	-116	-44	-72	-94	-46	-48
Total other interest-bearing assets / liabilities	235	4	231	-1,288	-1,072	-216	-1,053	-1,068	15
Total interest income / expense	1,808	-2	1,810	-5,186	-3,266	-1,920	-3,378	-3,268	-110
	2014								
	Quantity effect			Price effect			Net change		
	Assets side	Liabilities side	Net	Assets side	Liabilities side	Net	Assets side	Liabilities side	Contribution to net interest income
Credit to the public / deposits of the public in Israel	824	31	793	-6,221	-4,812	-1,409	-5,397	-4,781	-616
Credit to the public / deposits of the public abroad	-86	-13	-73	94	-54	148	8	-67	75
Total credit to the public / deposits of the public	738	18	720	-6,127	-4,866	-1,261	-5,389	-4,848	-541
Other interest-bearing assets / liabilities in Israel	30	-113	143	-1,902	-1,861	-41	-1,872	-1,974	102
Other interest-bearing assets / liabilities abroad	-69	-64	-5	81	13	68	12	-51	63
Total other interest-bearing assets / liabilities	-39	-177	138	-1,821	-1,848	27	-1,860	-2,025	165
Total interest income / expense	699	-159	858	-7,948	-6,714	-1,234	-7,249	-6,873	-376

[a] The quantity effect is calculated as the change in the balance-sheet balance (current year versus previous year) multiplied by the price during the current period, divided by 1000.

[b] The price effect is calculated as the change in price (current year versus previous year) multiplied by the balance-sheet balance for the same period in the previous year, divided by 1000.

SOURCE: Banking Supervision Department based on published financial statements.

Table 1.10

Average balances, interest income and expense rates, and interest rate gap in respect of assets and liabilities, the five banking groups, 2015 and 2014 (NIS million, percent)

2015

Assets	Average yearly balance (NIS million)	Interest income	Income rate (%)	Liabilities	Average yearly balance (NIS million)	Interest expenses	Expense rate (%)	Interest rate gap
Credit to the public	847,929	28,623	3.38	Deposits of the public	757,480	-3,293	-0.43	2.95
Deposits at banks	30,670	180	0.59	Deposits from banks	16,564	-97	-0.56	-
Deposits at central banks	140,438	198	0.14	Deposits from central banks	484	-	-	0.14
Bonds	179,246	1,937	1.08	Bonds	92,910	-2,745	-2.95	-1.87
Other assets[a]	8,603	116	1.35	Other liabilities[a]	9,042	-204	-2.26	-0.91
Total interest-bearing assets	1,206,886	31,054	2.57	Total interest-bearing liabilities	876,480	-6,339	-0.72	1.85
Net yield on interest-bearing assets (net interest margin)[b]	1,206,886	24,715	2.05					

2014

Assets	Average yearly balance (NIS million)	Interest income	Income rate (%)	Liabilities	Average yearly balance (NIS million)	Interest expenses	Expense rate (%)	Interest rate gap
Credit to the public	801,005	30,948	3.86	Deposits of the public	756,110	-5,493	-0.73	3.13
Deposits at banks	26,670	224	0.84	Deposits from banks	15,909	-174	-1.09	-0.25
Deposits at central banks	111,345	551	0.49	Deposits from central banks	89	-	-	0.49
Bonds	167,933	2,584	1.54	Bonds	92,454	-3,694	-4.00	-2.46
Other assets[a]	10,089	134	1.33	Other liabilities[a]	9,603	-246	-2.56	-1.23
Total interest-bearing assets	1,117,042	34,432	3.08	Total interest-bearing liabilities	874,165	-9,607	-1.10	1.98
Net yield on interest-bearing assets (net interest margin)[b]	1,117,042	24,825	2.22					

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

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

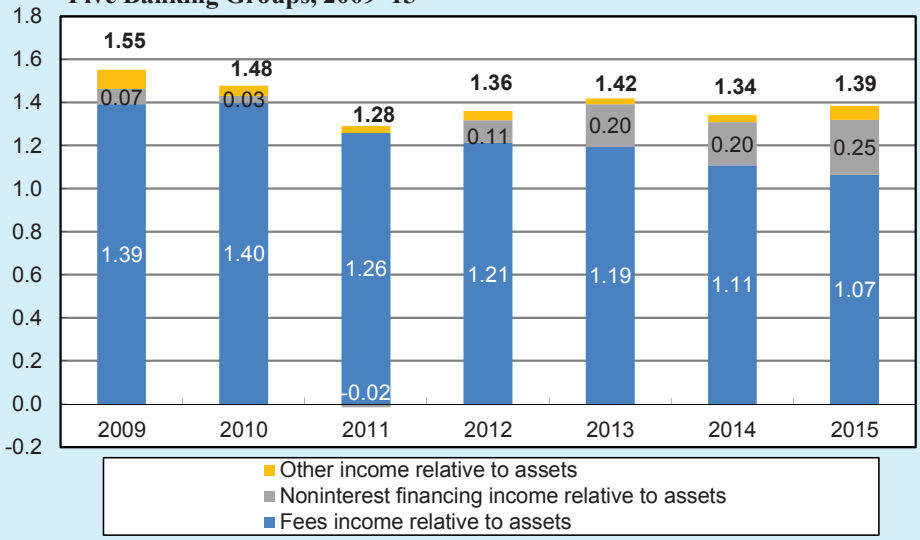
SOURCE: Banking Supervision Department based on published financial statements.

When interest-bearing activity is examined by areas of banking, it becomes evident that net interest income declined in classic banking activity—providing credit to and accepting deposits from the public (Table 1.9)—and in deposits with the Bank of Israel (Table 1.10). The decrease derives from the negative price effect that set in as interest income from lending activity slumped markedly relative to the 2014 level, despite the positive quantity effect that was occasioned by an increase in interest bearing assets (Table 1.9). The latter upturn originated largely in more lending to private individuals—primarily housing credit, an activity that is typically less revenue-intensive. Lending and deposit activity abroad had a favorable effect, offsetting some of the decline that occurred in income from such activity in Israel.

In recent years, there was an increase in the share of noninterest financing income out of total activity, alongside a continued decline in the share of fee income.

Noninterest income increased by about 7.8 percent from 2014 and was higher than in previous years (NIS 19 billion, Table 1.8). The upturn was powered primarily by earnings from the realization of assets by the Leumi group.[29] The share of noninterest financing income in total activity has been rising in the past four years, coupled with a protracted decrease in the share of income from bank fees[30] (Figure 1.18). The banks' fee income was affected by, among other things, regulatory and supervisory actions that the Banking Supervision Department took in recent years to lower the cost of

Figure 1.18
Composition of Noninterest Income Relative to Total Assets, the Five Banking Groups, 2009–15[a]



[a] The sharp decline in 2014 is derived from the accounting reclassification of income from credit activity as a result of a Supervisor of Banks directive.
SOURCE: Based on published financial statements.

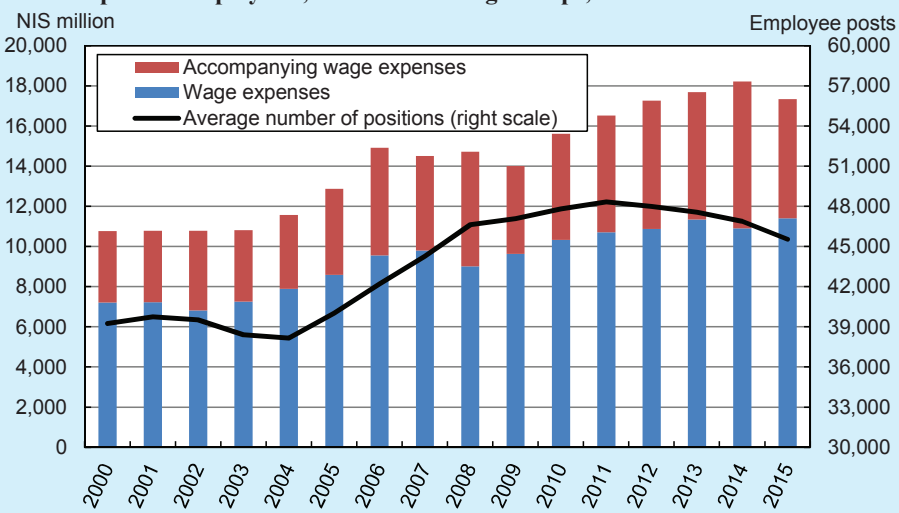
[29] See footnote 26.
[30] The sharp decline in 2014 was brought on by an accounting reclassification of revenues from credit activity pursuant to a directive from the Supervisor of Banks.

these charges to the consumer.[31] Most of the increase in noninterest financing income during these years originated in larger revenues from the sale of bonds and equities in the available-for-sale portfolio, which, while compensating for some of the erosion in net interest income, does not offer the banks a sustainable source of income.

Operating and other expenses were NIS 29.3 billion, down 5.3 percent (Table 1.11). The decrease reflects the level of such expenses in 2014, which was high due to the realization of compliance risk at the Leumi group and voluntary retirement expenditure at the Discount and Hapoalim groups.[32] In recent years, several banks have made moves to increase efficiency on the expenditure side, among other things by cutting back on workforces and branches. Thus, the average number of employee posts declined by 3 percent in 2015, pursuant to the trend in recent years, and the review year saw the first decline since 2009 (5 percent) in wage and related expenditures (Figure 1.19). The decrease comes from a big drop in related expenditures, after rapid increases in previous recent years due to the implementation of voluntary-retirement programs and larger severance pay and benefit outlays. The downturn in employee posts and payroll expense in 2015 took place in the low income levels; at high income levels, in contrast, posts and payroll expenditure headed upward (Table 1.12). Overall,

In recent years some banks acted to increase efficiency on the expenses side, so that this year there was a 3 percent decline in the average number of jobs and a 5 percent decline in wage and related expenses.

Figure 1.19
Average Number of Employee Posts, and Wage and Accompanying Expenses in Respect of Employees[a], the Five Banking Groups, 2000–15



[a] Accompanying expenses include severance, benefits, advanced training fund, pension, vacation, National Insurance and payroll taxes, other peripheral expenses, voluntary retirement expenses, and employee options benefits.

SOURCE: Based on published financial statements.

[31] The regulatory measures include the fee "tracks" service, reducing the minimum fee for management of a current account, broadening the definition of small businesses that are entitled to use the retail rate sheet, disclosure of the cost of securities services to the public, and an amendment to the Banking Order in regard to early repayment of housing loans.

[32] See footnote 27.

these developments lowered the average wage expenditure per employee post by 2 percent.

Loan loss provisions have been low for several years.

Loan loss provisions decreased by 18 percent in 2015 (Table 1.8) and are at the lowest level in several years. The reason included collection of previously written-off debts and a decrease in the individual provision in view of the low interest rate environment. Also impacting the decline was a large group provision in 2014 on account of credit to private individuals per order of the Supervisor of Banks. (For elaboration, see section on credit risks.) Provisions totaled NIS 1.1 billion, 0.12 percent of total balance sheet credit to the public. (See Table 1.16 in the section on credit.)

Table 1.11
Fees and other income, and operating expenses, the five banking groups, 2013 to 2015

	Amounts			Distribution			Changes compared with previous year	
	2013	2014	2015	2013	2014	2015	2014	2015
	(NIS million, at current prices)			(Percent)			(Percent)	
1. Fees and other income								
Income from banking services								
Account management fees	2,997	2,957	2,846	19.7	19.5	18.1	-1.3	-3.8
Credit cards	3,689	3,808	3,928	24.2	25.1	25.0	3.2	3.2
Credit services and contracts	1,224	582	618	8.0	3.8	3.9	-52.5	6.2
Foreign trade activity and special services	383	392	387	2.5	2.6	2.5	2.3	-1.3
Other fees[a]	1,482	1,526	1,592	9.7	10.1	10.1	3.0	4.3
Total income from services	9,775	9,265	9,371	64.2	61.1	59.7	-5.2	1.1
Income from capital market activity								
From securities activity	2,677	2,888	2,736	17.6	19.0	17.4	7.9	-5.3
Financial products[b] distribution fees	779	893	916	5.1	5.9	5.8	14.6	2.6
Management, operational and trust fees for institutional investors	250	238	236	1.6	1.6	1.5	-4.8	-0.8
Total income from capital market activity	3,706	4,019	3,888	24.4	26.5	24.8	8.4	-3.3
Fees from financing transactions	1,402	1,446	1,535	9.2	9.5	9.8	3.1	6.2
Other income[c]	335	434	908	2.2	2.9	5.8	29.6	109.2
Total fees and other income	**15,218**	**15,164**	**15,702**	**100.0**	**100.0**	**100.0**	**-0.4**	**3.5**
2. Operating expenses								
Salaries and related expenses[d]	17,699	18,226	17,351	59.8	58.9	59.2	3.0	-4.8
Of which: Salaries	11,345	10,913	11,412	38.3	35.3	39.0	-3.8	4.6
Maintenance and depreciation of premises and equipment	5,675	5,514	5,535	19.2	17.8	18.9	-2.8	0.4
Amortization and write-down of intangible assets and goodwill	245	209	143	0.8	0.7	0.5	-14.7	-31.6
Other expenses	5,987	6,970	6,258	20.2	22.5	21.4	16.4	-10.2
Of which: Marketing and advertising	937	914	921	3.2	3.0	3.1	-2.5	0.8
Computer expenses	876	885	949	3.0	2.9	3.2	1.0	7.2
Communications	642	630	653	2.2	2.0	2.2	-1.9	3.7
Insurance	116	115	106	0.4	0.4	0.4	-0.9	-7.8
Office expenses	301	302	287	1.0	1.0	1.0	0.3	-5.0
Professional services	764	805	968	2.6	2.6	3.3	5.4	20.2
Total operating expenses	**29,606**	**30,919**	**29,287**	**100.0**	**100.0**	**100.0**	**4.4**	**-5.3**

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

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

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

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

SOURCE: Based on published financial statements.

Table 1.12
Number of employee posts and expenses by annual salary levels, the five banking groups, 2014 and 2015

	2014		2015			
	Number of employee posts	Salaries and related expenses (NIS million)	Number of employee posts	Salaries and related expenses (NIS million)	Annual change in number of employee posts (percent)	Annual change in salary expenses (percent)
Active employees at offices in Israel - yearly salary levels (NIS thousand)						
Up to 60	96	5	83	2	-13.5	-56.4
60 to 120	6,615	638	6,013	566	-9.1	-11.2
120 to 240	15,882	2,893	15,074	2,848	-5.1	-1.6
240 to 360	12,264	3,589	12,054	3,406	-1.7	-5.1
360 to 600	7,488	3,304	7,903	3,478	5.5	5.3
600 to 1,000	1,671	1,187	1,792	1,273	7.2	7.2
Above 1,000	329	494	347	523	5.5	5.7
Total wage and related components attributed to active employees at offices in Israel	**44,345**	**12,111**	**43,266**	**12,095**	**-2.4**	**-0.1**
of which : expenses for external employees, yearly salary levels (NIS thousand)	1,945	488	1,984	600	2.0	23.0
Up to 120	604	61	683	68	13.1	12.0
Above 120	1,341	427	1,301	531	-3.0	24.6
Wage and related components not attributed to active employees at offices in Israel		4,272		3,804		
Bank employees at offices abroad	2,975	1,815	2,874	1,792	-3.4	-1.3
Salary expenses capitalized to assets	-774	-327	-847	-340	9.4	4.2
Total	**46,546**	**17,871**	**45,293**	**17,351**	**-2.7**	**-2.9**

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

Box 1.3
Operating efficiency

- **The efficiency of the banking system in Israel, as measured by the operating efficiency and average cost ratios, is lower than the efficiency of banking systems in advanced economies.** This is even though in recent years, Israeli banks promoted plans in human resources areas to increase efficiency.
- **The implementation of technological innovation in the financial sector is expected to improve the system's efficiency in the coming years.** Implementation of the innovation will lead to improved access to banking services for customers, and to a reduction in customers' physical interaction with the bank, due to consumption of services online. However, at the same time, it will increase the banks' exposure to operational and cyber risks.
- **The banking system's processes to increase efficiency will enable it to benefit the consumer public, to increase competition in the system, and to ensure its stability over time through its adjustment to changing market conditions.**
- **Therefore, the Banking Supervision Department attributes great importance to improving the efficiency in the banking system, and accordingly is promoting ventures that are intended to assist banks in markedly increasing their efficiency in the coming years.**

Background

Operating efficiency is assessed by the ability to generate output or service while minimizing expenses, and making optimal use of production factors. Operating efficiency in the banking system is affected by many factors, on both the income and the expenses sides. In general the factors can be divided into two types: (1) External factors—these are not directly impacted by the bank's activities, and they include, among other things, the macroeconomic environment—in particular the interest rate in the economy; banking regulation; the level of competition in the system, and technological developments. (2) Internal factors—these are directly impacted by the bank's activities, and include the features of the bank's activity; its organizational and managerial structure; labor agreements; extent of technological innovation, and the output of the factors of production. There is a wide range of ways to improve operating efficiency, such as reducing expenditure, changing the existing ratios of physical to human capital, improving the managerial or organizational structure, diversifying and expanding the sources of profit, changing the characteristics of the activity, and improving technology.

The Banking Supervision Department attributes great importance to improving the efficiency in the banking system, and therefore recently began to promote the initiatives that will be presented below in this box. Underlying these initiatives is the assumption that when a bank improves its efficiency, it is able to increase its competitiveness, to adjust to changing market conditions, to ensure its long-term stability, and to benefit the public. It should be taken into account that increasing efficiency from the most fundamental level involves a prolonged and challenging process for the bank's management and employees, and in the beginning it may lead to notable costs, such as the cost of offering a voluntary retirement program to

employees. Moreover, care should be taken that the drive to increase efficiency does not cause a bank to reduce expenditures in a manner that adversely impacts the quality of service or the controls that are crucial to maintaining its stability.

Efficiency and technological innovation

Many areas of day to day life have been undergoing a technological revolution in recent years, and this is the case in banking as well. This requires banks to adapt to the dynamic market environment and to adjust themselves to it[1], and thus in recent years they have been undergoing processes to increase efficiency, as a result of the entrance of new technologies to the financial industry and the expansion of digital banking.[2]

The technological revolution enables customers to consume a wide range of banking services at any time, and from any place, and to reduce the physical interaction with the bank at the branch. Furthermore, the technology creates new business opportunities for the banks, and in addition helps them to reduce costs: First, the technology improves the output of production factors. Second, as many bank customers prefer to consume services remotely, particularly basic services, the technology enables banks to reduce the physical capital (branch deployment) and human capital (bank employees) necessary to provide the services. This phenomenon—that is, increased efficiency and reduction in number of branches—has in fact been seen in Europe and the US[3] since the financial crisis. In contrast, it is important to note that implementing new technologies also creates risks for the banking system, among other reasons because it increases the banks' exposure to operational and cyber risks, and the banks and customers must deal with these risks.

Operating efficiency—international comparison

It is not simple to compare the efficiency of Israel's banking system with the efficiency of banking systems in other advanced economies: The characteristics of the activity of Israel's banks are somewhat different than the characteristics of the activity of banks in other countries, among other reasons in that they do not deal with marketing insurance, with real estate, or with market making in stocks and corporate bonds. In order to make a comparison, the focus will be on two simple and accepted efficiency ratios that do not take into account the activity characteristics of the bank or the regulatory environment in which it operates—the operating efficiency ratio[4] and the average cost per unit of output.[5]

According to these measures, the efficiency of the banking system in Israel is lower compared with that of banking systems in other OECD countries (Figure 1 and Figure 2). This raises the question of whether the gap derives from the expenditure side or the income side. An examination of the income side indicates that the return on equity and the return on assets in Israel are similar to the OECD average. As the average cost

1 These changes are likely to markedly impact the banks' future. A wider discussion appears in a box that deals with technological developments in the financial services industry—fintech companies and banking digitization.

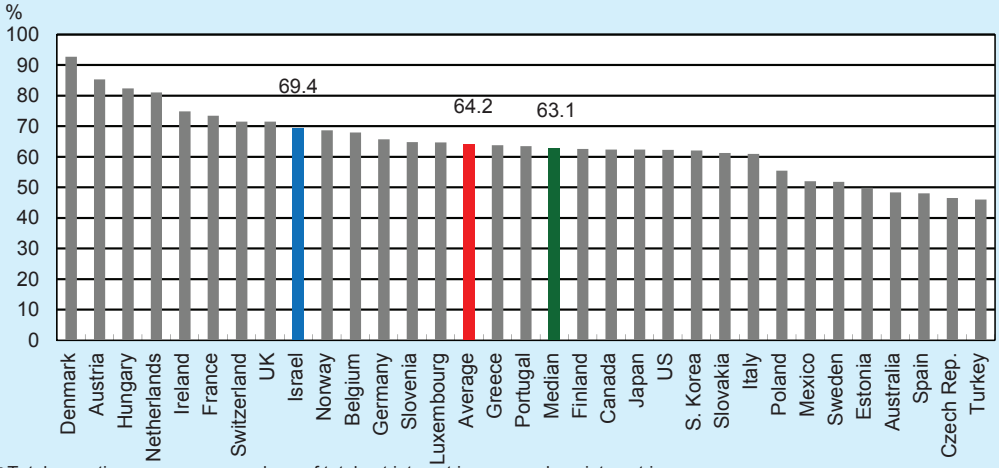
2 "Brick-and-Mortar Banking Remains Prevalent in an Increasingly Virtual World", FDIC Quarterly 2015, Vol. 9, No. 1.

3 It should be qualified that it is likely that the number of branches and positions has been declining for reasons that are not necessarily related to increasing efficiency. Between 2008 and 2014, the number of branches per capita in Europe declined by 15 percent (more than 33,000 branches) and the number of employees in the European banking system declined during that period by about 11.5 percent (about 370,000 positions). The number of branches per capita in the US declined by 8 percent between 2009 and June 2014.

4 The ratio of total operating and other expenses to the total of net interest income and noninterest income (Cost to Income).

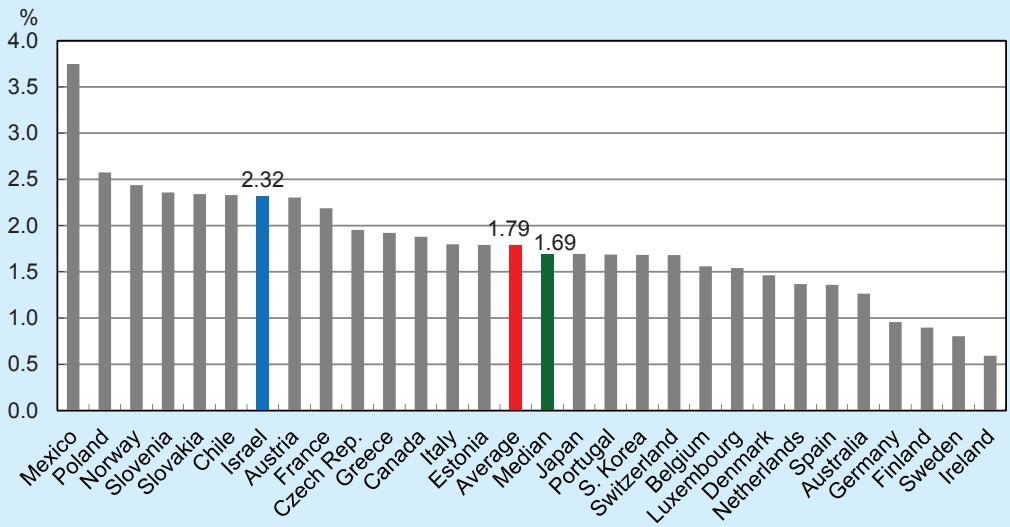
5 The ratio of total operating and other expenses to the average balance of assets (Average Cost).

Figure 1
Operating Efficiency Ratio[a] in Banking Systems of OECD Countries[b], 3-year Average[c]



[a] Total operating expenses as a share of total net interest income and noninterest income.
[b] Chile is excluded due to a lack of data.
[c] Data for Australia, Austria, Belgium, Canada, Denmark, Ireland, Italy, Luxembourg, Mexico, Netherlands, Norway, Slovakia, Spain, S. Korean, Poland, Sweden, UK, Switzerland, Turkey, Czech Rep., Estonia, Greece, Hungary, Japan, Slovenia, Portugal, and the US are equal to their 2012–14 averages. Data for Finland, France and Germany are equal to their 2011–13 averages. The figure for Israel is equal to the 2013–15 average of the five banking groups.
SOURCE: Foreign countries—International Monetary Fund; Israel—based on published financial statements.

Figure 2
Average Cost[a], Israel and Other OECD Countries[b], 3-year Average[c]



[a] Total operating expenses relative to the average balance of assets.
[b] US, UK and Turkey are excluded due to a lack of data. Hungary is omitted due to an outlier figure.
[c] Data for foreign countries are equal to their 2012–14 averages. Data for France, Portugal, Sweden and Finland are equal to their 2011–13 averages. The figure for Israel is equal to the 2013–15 average.
SOURCE: Foreign countries—International Monetary Fund; Israel—based on published financial statements.

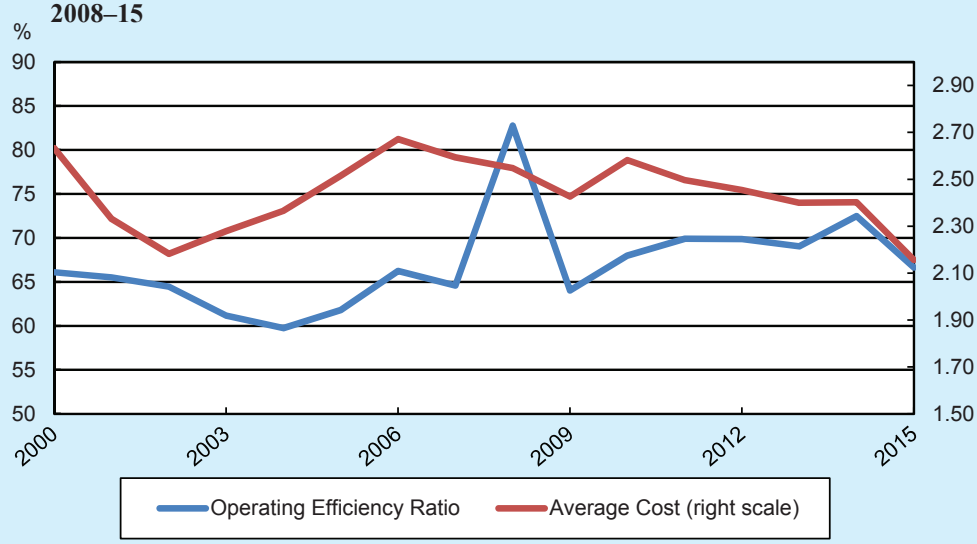
ratio indicates the banks in Israel are not markedly efficient relative to the OECD country median, it appears that the gap in efficiency derives mainly from the expenditure side.

A possible explanation for the gap on the expenditure side relates to human resources expenses—their share in total operational and other expenses in Israel is higher than their share in other OECD countries. It is important to note that wage expenses in Israel also include expenses in respect of wage taxes[6], which in recent years have accounted for about 12 percent of total wage expenditures.

Operating efficiency—the banking system in Israel

When examining the operating efficiency of Israel's banking system over time, it is found that in recent years there has not been a significant change in the operating efficiency ratio, but there has been some improvement in the average cost ratio (Figures 3 and 5). When examining operating efficiency at the bank level, it is found that except for a one-off deterioration in some banks in 2014[7], the measure has been stable over the past four years (Figure 4). Likewise, it can be seen that there is relatively wide variation between different banks in the system. This derives from, among other things, differences in characteristics of activity, organizational culture, and the extent of implementation of technology.

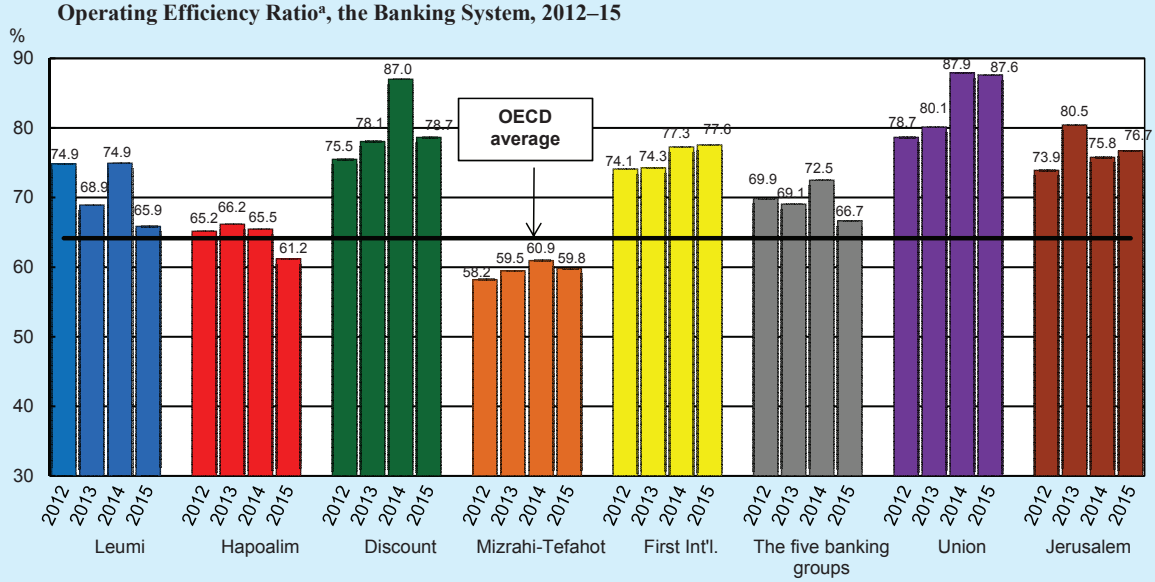
Figure 3
Operating Efficiency Ratio[a] and Average Cost[b], the Five Banking Groups, 2008–15



[a] The ratio between total operating and other expenses and total net interest and noninterest expenses (cost to income).
[b] The ratio between total operating and other expenses and the average balance of assets (average cost)
SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

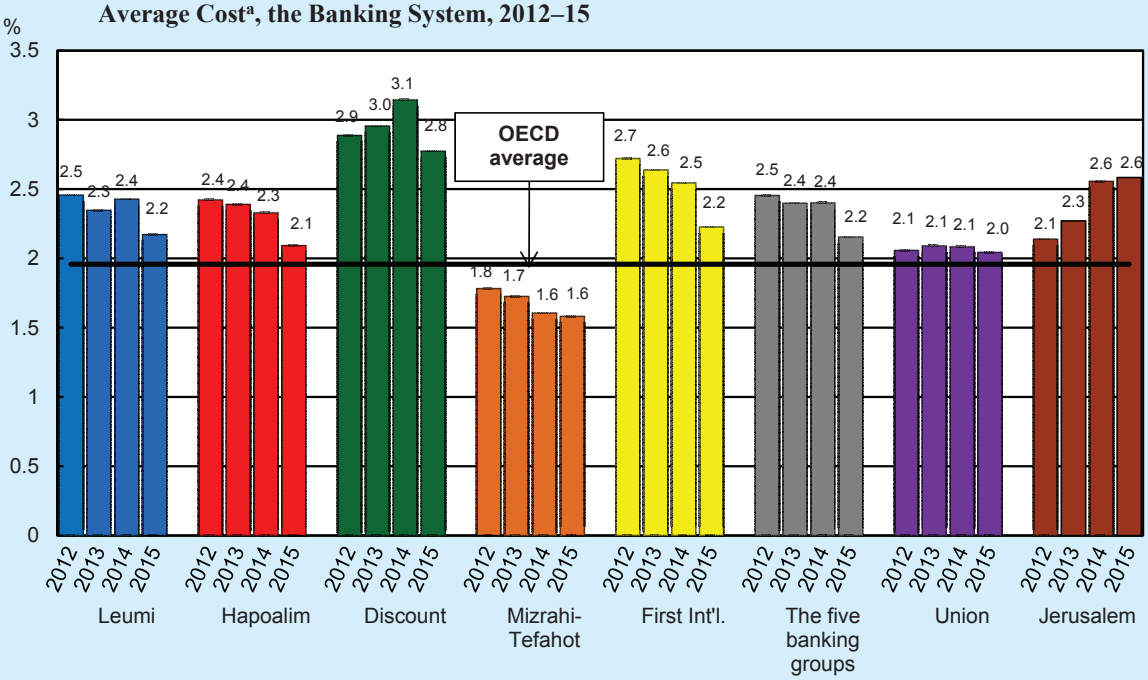
6 In the comparison countries these expenses are not included in wage expenses but in tax expenses.
7 Due to a fine imposed within the framework of an agreement with US authorities in respect of tax offenses in the US, and due to voluntary-retirement expenses resulting from implementation of plans to increase efficiency.

Figure 4
Operating Efficiency Ratio[a], the Banking System, 2012–15



[a] The ratio between total operating and other expenses and total net ineterst and noninterest income (cost to income).
SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

Figure 5
Average Cost[a], the Banking System, 2012–15



[b] The ratio between total operating and other expenses and the average balance of assets (average cost).
SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

The factor that is most influential on operating expenses in the banking system (about 60 percent) is related to expenditures on human capital—wages and associated expenses.[8] Beginning in 2009, these expenses have been on an upward trend[9], even though the number of posts in the system has been in a trend of decline (see Figure 1.19 in the section dealing with financial results). This fact may be explained by a sharp increase in expenditures for voluntary retirement due to voluntary retirement programs implemented at several banks, as well as a marked increase in the severance pay and employee benefits item.

Another main component in total operating expenses represents expenditures in respect of the bank's physical capital.[10] In the past three years, a change in trend can be seen in the number of branches in the system: their number is declining, particularly in large cities, among other things due to a change in consumer preferences—customers arrive less at the branches and are switching to consuming services remotely, a general process of increasing efficiency, technological innovation, and an increase of the competitive threat.

The initiatives adopted by the Banking Supervision Department to promote increased efficiency

The Banking Supervision Department attributes great importance to the increased efficiency of the banking system, particularly against the background of the erosion of profits as a result of the low interest rate environment and against the background of promotion of competition and digitization in banking. Accordingly, the Banking Supervision Department began to promote initiatives intended to encourage the banks to markedly increase efficiency and to help the banks with that goal.

Specifically, the Banking Supervision Department distributed a letter related to operational efficiency in which it requires that the banks outline a multiyear plan to increase efficiency. At the same time the Banking Supervision Department will take steps to remove material barriers to the implementation of the plan, chiefly capital barriers.[11] Likewise, the Banking Supervision Department published a permit to open partial and mobile branches, in order to increase the accessibility of banking services to the entire population, including in outlying localities, and to support increased competition in the system.[12] Finally, the Banking Supervision Department published a directive on online banking[13], which is intended, among other things, to enable customers to switch banks and to open a new account without entering the branch and without the move imposing restrictions on their new account, to sign up remotely for an online account at the existing bank, and to create an infrastructure for establishing a digital, branchless bank. This step encourages customers to use digital means that will enable them to execute a wide range of activities without arriving at a branch and with a more attractive price.

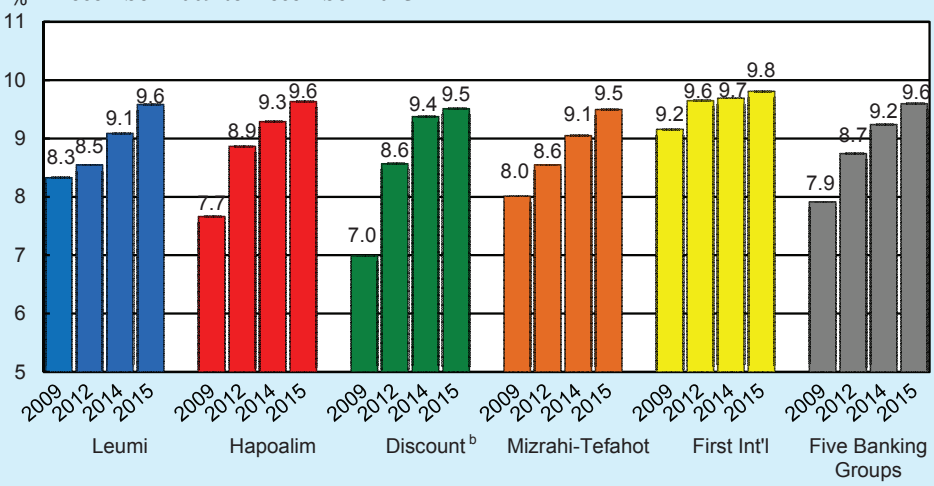
[8] Associated expenses include severance pay, benefits, advanced training funds, pension, vacation, national insurance and tax on wages, other associated expenses, voluntary-retirement expenses, and a benefit resulting from allocating options to employees.
[9] Excluding 2015, which may indicate a change in trend.
[10] Maintenance expenses and depreciation in respect of buildings and equipment, office expenses, etc.
[11] See Supervisor's letter regarding increasing operating efficiency of Israel's banking system, dated January 12, 2016.
[12] See Circular regarding a permit to open partial and mobile branches, dated February 28, 2016.
[13] See Policy Document of the Banking Supervision Department regarding online banking, dated January 31, 2016.

5. CAPITAL ADEQUACY

Similar to previous years, in 2015 Israeli banks strengthened capital, and are expected to reach higher levels than the targets set in March 2012.

As part of the lessons learned from the global financial crisis, the Basel Committee has emphasized the importance of core capital[33] as the main component for absorbing losses, during the normal course of business as well. Accordingly, it determined that core capital would be composed primarily of common equity and retained earnings. As a result, supervisory authorities and banks worldwide, including in Israel, acted to increase core capital. Thus, the Common Equity Tier 1 capital ratio of the five large banking groups has grown during the last six years by 1.7 percentage points, to a level of 9.6 percent (Figure 1.20). The banks reached this level through retained earnings and only moderate growth in risk assets. This occurred in parallel with the adoption of the Basel III framework (starting from January 1, 2014) and the implementation of additional directives that led to a reduction in equity (such as the implementation of the directive with respect to impaired debt starting from January 1, 2011 and the directive regarding employee benefits starting from January 1, 2015; Figure 1.21). Following these, the quality of the capital of Israeli banks improved and their leverage reached an adequate level (Figure 1.22). In coming years, the banks are expected to attain capital targets that even exceed those decided on in March 2012.[34]

Figure 1.20
Common Equity Tier 1 Capital Ratios[a], the Five Banking Groups, December 2009 to December 2015



[a] Data for 2009 and 2012 are in Basel II terms (Core Tier 1 capital ratio). Data from 2014 onwards are in Basel III terms (Common Equity Tier 1 capital ratio) in accordance with the transition directives.
[b] The Core Tier 1 capital ratio of the Discount Group does not include the deduction in respect of the Group's investment in the First International Group.
SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

[33] The primary capital that is meant to absorb losses is called "Core capital" in the Basel II principles while in the Basel III principles it is called Common Equity Tier 1 capital.

[34] In March 2012, the Supervisor of Banks published targets for the minimal Core capital ratio (in terms of Basel III these apply to Common Equity Tier 1 capital). All of the banks were to reach a Core capital ratio of at least 9 percent by January 1, 2015 and Bank Leumi and Bank Hapoalim are to reach 10 percent by January 1, 2017.

Table 1.13

Distribution of capital and capital ratios at the five banking groups[a], December 2014 and December 2015

	Leumi		Hapoalim		Discount		Mizrahi-Tefahot		First International		The five groups	
	Dec 2014	Dec 2015	Dec 2014	Dec 2015	Dec 2014	Dec 2015	Dec 2014	Dec 2015	Dec 2014	Dec 2015	Dec 2014	Dec 2015
	(NIS million)											
Equity[b,c]	26,138	29,107	31,216	33,219	12,989	13,634	11,304	12,415	7,043	7,337	88,690	95,712
Common Equity Tier 1 capital[d]	27,723	29,001	31,482	33,246	13,284	13,549	11,273	12,299	7,157	7,349	90,919	95,444
Tier 1 capital[d]	27,723	29,001	33,436	34,955	14,709	14,796	11,273	12,299	7,157	7,349	94,298	98,400
Tier 2 capital[d]	14,684	12,593	16,041	14,593	6,285	5,610	4,883	4,916	3,357	2,580	45,250	40,292
Total capital base	42,407	41,594	49,477	49,548	20,994	20,406	16,156	17,215	10,514	9,929	139,548	138,692
Total balance sheet	396,984	416,499	408,033	431,638	207,185	205,260	198,513	209,158	117,807	125,476	1,328,522	1,388,031
Credit risk	273,881	277,034	311,329	317,891	126,716	127,695	116,159	120,793	66,148	67,766	894,233	911,179
Market risks	10,839	5,167	5,269	4,562	2,629	2,435	1,020	950	1,226	995	20,983	14,109
Operational risk	20,317	20,432	22,275	22,671	12,345	12,330	7,383	7,743	6,459	6,141	68,779	69,317
Total risk-weighted assets	305,037	302,633	338,873	345,124	141,690	142,460	124,562	129,486	73,833	74,902	983,995	994,605
	(Percent)											
Common Equity Tier 1 capital ratio	**9.1**	**9.6**	**9.3**	**9.6**	**9.4**	**9.5**	**9.1**	**9.5**	**9.7**	**9.8**	**9.2**	**9.6**
Tier 1 capital ratio	9.1	9.6	9.9	10.1	10.4	10.4	9.1	9.5	9.7	9.8	9.6	9.9
Tier 2 capital ratio	4.8	4.2	4.7	4.2	4.4	3.9	3.9	3.8	4.5	3.4	4.6	4.1
Total capital adequacy ratio	**13.9**	**13.7**	**14.6**	**14.4**	**14.8**	**14.3**	**13.0**	**13.3**	**14.2**	**13.3**	**14.2**	**13.9**

[a] The banking corporations allocate capital in accordance with Basel III rules, and as per the transition directives.

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

[c] Equity to December 2014 is restated due to the retroactive implementation of the guidelines regarding employee rights and regarding the capitalization of software development costs.

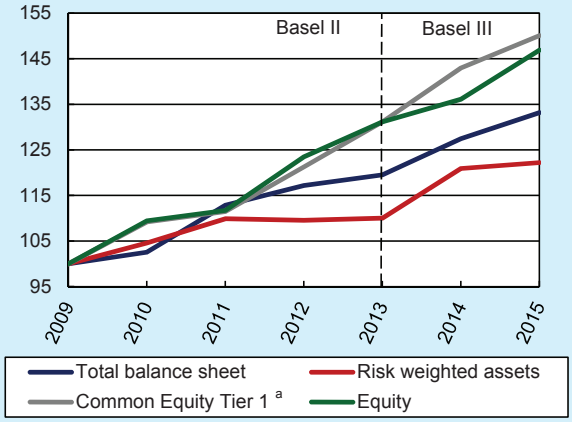
[d] After deductions.

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

The leverage ratio indicates that the level of capital in Israel's banking system is adequate relative to levels in advanced economies.

In recent years, Israeli banks have increased their credit to the economy. This occurred simultaneously with a change in the composition of the credit portfolio, which involved an increase in credit to households and small businesses at the expense of credit to large corporate borrowers, which are given higher risk weights. This development led to a decline in the ratio of risk-weighted assets to the total credit exposure[35] from 66.4 percent in December 2010 to 61.4 percent in December 2015 (Table 1.14). Despite the changes in the composition of the credit portfolio, the ratio of risk-weighted assets to total assets in the Israeli banking system is higher than the OECD average. The reason is related to the fact that the banks in Israel are required to allocate capital according to the conservative Standardized Approach, which generally gives higher risk weights to risk assets than the Internal Ratings Based Approach. This is also one of the reasons that the Common Equity Tier 1 capital ratio in Israel appears to be lower than for other banking systems worldwide. However, when looking at the proportion of Tier 1 capital within total exposure without taking into account the risk-weights of the assets (the leverage ratio is calculated according to the Basel III rules), i.e., when creating a uniform basis for comparison which leads to a more relevant comparison, it is found that the level of capital in the Israeli banking system is adequate relative to banks worldwide (Figure 1.22). In addition, the banking system's ability to absorb credit losses by means of capital buffers[36] is high relative to the banking systems in the OECD (Figure 1.23).

Figure 1.21
Development of Equity and the Balance Sheet, the Five Banking Groups, 2009–15
(Index: December 2009=100)



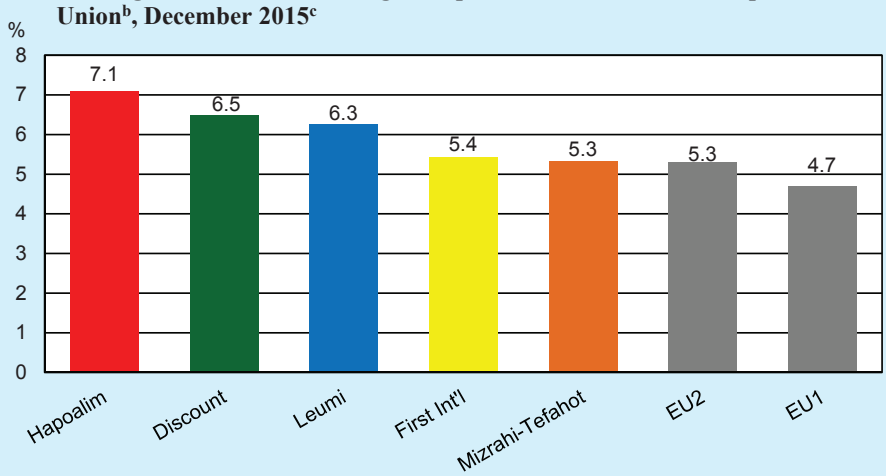
[a] Data up to December 2013 are in Basel II terms (Core Tier 1 capital ratio). Data from January 2014 onwards are in Basel III terms (Common Equity Tier 1 capital ratio) in accordance with the transition directives.
SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

The Banking Supervision Department established that the leverage ratio is to be 5 percent at banking corporations, and 6 percent at Leumi and Hapoalim. Today all banking groups meet the target.

As part of the Basel III reforms and in view of the experience accumulated worldwide, which points to weaknesses in the application of approaches based on internal models, in January 2014 the Basel Committee published a working framework and disclosure requirements for the leverage ratio.[37] Within this framework, the Committee defined a simple, transparent and non-risk based leverage ratio to act as a credible supplementary measure to the risk-based capital requirements. In addition, it

[35] The ratio of risk-weighted assets to the value of the exposure after multiplying by credit conversion factors (CCF).
[36] The ratio of impaired loans and nonimpaired loans 90 days or more past due, net, to total equity.
[37] Basel III Leverage Ratio Framework and Disclosure Requirements (January 2014).

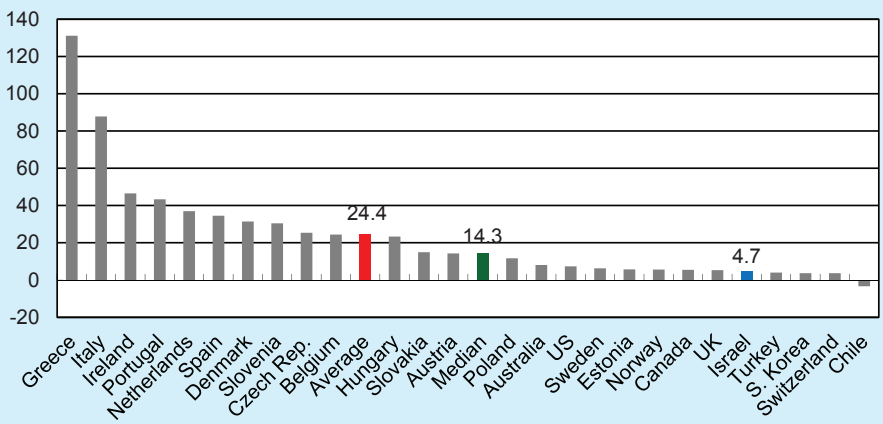
Figure 1.22
Leverage Ratio[a] in the Banking Groups in Israel and in the European Union[b], December 2015[c]



[a] Calculated as the ratio between Tier 1 capital and total exposures, in accordance with Basel III rules.
[b] The EU1 group includes banks with total Tier 1 capital of more than €3 billion with international activity (parallel to Leumi, Hapoalim and Discount in Israel). The EU2 group includes banks with total Tier 1 capital of less than €3 billion or more than €3 billion but with no international activity (parallel to all other Israeli banks).
[c] For the European Union, average values for June 2015 are presented.

SOURCE: Data on the European Union—EBA; Data on Israel—Based on reports to the Banking Supervision Department.

Figure 1.23
International Comparison of Impaired Loans and Unimpaired Loans 90 Days or More Past Due, Net, as a Share of Total Equity, OECD Countries[a], 2014 to 2015[b]



[a] Mexico, Luxembourg, Japan, Germany, France and Finland were excluded from the comparison due to a lack of data.
[b] Data for S. Korea are as of June 2014. Data for Switzerland and the UK are as of December 2014. Data for Belgium, Italy, Norway, Poland and Portugal are as of June 2015. Data for Australia, Austria, Canada, Czech Republic, Denmark, Greece, Hungary, Irealnd, Netherlands, Slovakia, Slovenia, Spain, Sweden, Turkey and the US are as of September 2015. Data for Israel, Chile and Estonia are as of December 2015.

SOURCE: Foreign countries—IMF; Israel—Based on published financial statements.

Table 1.14
Main capital indices of the five banking groups, December 2008 to December 2015

(percent)

	Year	Leumi	Hapoalim	Discount	Mizrahi-Tefahot	First International	Five Groups
Common Equity Tier 1 capital ratio[a]	2010	8.57	8.23	7.89	8.01	8.11	8.25
	2011	8.07	7.90	8.07	7.77	8.48	8.01
	2012	8.55	8.87	8.57	8.55	9.65	8.74
	2013	9.32	9.30	9.30	9.01	9.92	9.32
	01/01/2014[b]	9.09	9.08	8.92	8.73	9.98	9.08
	2014	9.09	9.29	9.38	9.05	9.69	9.24
	2015	9.58	9.63	9.51	9.50	9.81	9.60
The ratio between credit risk assets and total exposure to credit[c]	2008	69.46	72.28	64.83	66.87	59.09	68.32
	2009[d]	64.17	67.88	60.56	67.15	54.44	64.12
	2009[e]	67.01	69.16	63.89	59.59	55.50	65.22
	2010	68.30	68.62	67.17	58.66	61.00	66.39
	2011	67.67	67.33	60.45	58.26	60.02	64.59
	2012	65.67	64.83	61.27	58.03	57.69	63.05
	2013	64.56	64.98	59.09	56.12	55.66	61.91
	2014[b]	66.36	67.72	60.07	55.82	56.21	63.44
	2015	62.98	65.64	59.77	54.86	53.73	61.38
Leverage ratio[f]	30/06/2015	6.54	7.16	6.60	5.24	5.47	6.45
	2015	6.27	7.10	6.55	5.32	5.43	6.36
Equity to total balance-sheet assets	2010	7.19	7.13	6.01	5.62	6.12	6.67
	2011	6.46	6.76	5.44	5.36	5.93	6.19
	2012	6.71	7.19	6.04	5.70	6.41	6.59
	2013	7.07	7.65	6.25	5.75	6.33	6.86
	2014	6.58	7.65	6.27	5.69	5.98	6.68
	2015	6.99	7.70	6.64	5.94	5.85	6.90
Impaired loans and unimpaired loans 90 or more days past due, net, to total equity	2011	17.10	21.92	37.86	18.31	7.51	21.18
	2012	18.15	20.41	33.22	18.70	9.05	20.48
	2013	11.32	17.54	17.94	10.26	6.35	13.87
	2014	6.67	9.78	9.49	3.88	2.43	7.49
	2015	4.10	5.36	9.56	3.46	2.37	5.10

[a] Until December 31, 2013, the banking corporations presented the Core Tier 1 capital ratio, in accordance with Basel II principles. From January 1, 2014, they present the Common Equity Tier 1 capital ratio, in accordance with Basel III principles.

[b] As of this date, the ratio is calculated in accordance with Basel III rules in accordance with the transition directives.

[c] Calculated as the ratio between credit risk assets and the value of exposure after conversion to credit.

[d] The ratio is calculated in accordance with Basel I rules.

[e] As of this date, the ratio is calculated in accordance with Basel II rules.

[f] Calculated as the ratio between Common Equity Tier 1 capital and Total exposures, in accordance with the Basel III rules

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

specified a minimum leverage ratio of 3 percent during the parallel run period, while continuing to assess the appropriateness of that level. Several supervisory authorities worldwide felt this level was too low and set higher requirements.[38] In April 2015, the Supervisor of Banks published a directive that adopts the Basel III framework with regard to the leverage ratio.[39] The directive specified that all banks must reach a leverage ratio of not less than 5 percent on a consolidated basis by January 1, 2018, and the Leumi and Hapoalim groups—the largest groups in the system—must reach a ratio of at least 6 percent.[40,41] As of December 2015, all of the five banking groups had achieved the required ratio (Table 1.14).

The aggregate capital adequacy ratio of the five banking groups has in recent years remained basically unchanged, primarily because the banks have not issued instruments that are eligible to be included in additional Tier 1 capital and in Tier 2 capital, according to the recommendations of Basel III. In addition, starting from January 1, 2014, the banks have been gradually reducing the balance of additional Tier 1 capital and Tier 2 capital instruments that are no longer eligible to be supervisory capital. In recent months, the Banking Supervision Department has for the first time approved several issues of Contingent Convertible (CoCo) capital instruments. These instruments are eligible to be included in Tier 2 capital according to the Basel principles and some of the banks have begun to use them in order to raise capital.[42] (For further details, see Box 2.1.)

For the first time, the Banking Supervision Department approved the issuance of Contingent Convertible (CoCo) securities, which can be included in Tier 2 Capital.

[38] Banks in the US with systemic importance have to maintain a leverage ratio of 6 percent, and in the Netherlands a recommendation is being formulated to set a leverage ratio of 4 percent for such banks.

[39] The leverage ratio is defined in the directive as the ratio of Tier I capital to total exposure, i.e., on-balance sheet exposure, exposure to derivatives, and securities-financing transactions exposure, as well as off-balance-sheet items.

[40] If a bank already meets the leverage ratio requirement on the date of the publication of the directive, it is not permitted to drop below the level specified for it. If a bank does not meet the requirement on the day of the publication of the directive, it must increase the ratio at a fixed quarterly pace until January 1, 2018.

[41] The directive specified that when the total balance-sheet assets of a bank, on a consolidated basis, constitute at least 20 percent of total balance-sheet assets in the banking system, it must maintain a leverage ratio of at least 6 percent.

[42] In December 2015, Mizrahi-Tefahot Bank raised NIS 417 million in a private placement of CoCo type contingent subordinated debt notes, which include a mechanism for absorbing losses by means of a write-off of principal. In January 2016, the bank raised another approximately NIS 183 million.

In January 2016, Bank Leumi raised NIS 926 million through an issue of CoCo type contingent subordinated debt notes, which include a mechanism for absorbing losses, in which the subordinated debt notes will be converted into common shares of the bank in certain situations.

6. THE CREDIT PORTFOLIO AND CREDIT RISK[43]

a. Main developments in the banks' credit portfolio

This year the banks continued to expand the credit to households and small businesses and to reduce credit to large companies and concentration in the overall credit portfolio.

Credit risk is considered to be one of the main financial risks facing the banking system and it is influenced primarily by the size of the credit portfolio, its quality and the extent of its diversification. In recent years, there has been a major change in the composition of the banks' credit portfolio: credit to large borrower groups has declined to a large extent, a process that has reduced the concentration of the portfolio, while credit to households and small businesses—which is more diversified—has increased. In 2015, the indices measuring the quality of the credit portfolio and the concentration of capital by size of borrower continued to improve. However, the growth in credit to households (housing and nonhousing) and credit to the construction and real estate industry, as well as the correlation between them, continue to increase the risk to the banking system.

The credit risk[44] and balance-sheet risk[45] of the five banking groups increased in 2015 for the fifth year in a row, while the change in the composition of the credit portfolio continued. Total credit risk grew by 3 percent this year and totaled NIS 1,384 billion. At the same time, balance-sheet risk increased by 5 percent, similar to the rate of increase in nominal GDP, to a total of NIS 911 billion (Table 1.15).

As in recent years, the expansion of the balance-sheet credit portfolio this year is primarily due to the growth in the two components of household credit: housing credit and consumer credit (nonhousing; Figure 1.24, Figure 1.25). In addition, the banks continued to increase credit to small businesses—credit that grew by about 8 percent, increasing business credit as a whole, though at a more moderate rate. Overall, the banks have adopted a policy of focusing on households and small businesses in recent years, in parallel to the reduction in credit to large borrowers. This policy is contributing to competition for retail customers and small businesses.

This year the improvement in credit portfolio quality indices and the decline in borrower concentration continued.

Alongside the moderate growth of the economy this year, the indices of the quality of the credit portfolio continued to improve. In particular, impaired loans and unimpaired loans in arrears 90 days or more as a share of total credit continued to decline and it is lower than the median level in the OECD countries (Table 1.16, Figure 1.26). As a result, the increase in the coverage rate with respect to problematic credit[46] continued this year. As in recent years, the loan loss provision rate remained

[43] The analysis in this section is based on aggregate data for the five banking groups.

[44] Total credit risk includes the amount of balance-sheet credit to the public, investment in public bonds, other assets based on derivative instruments, and credit risk in off-balance-sheet financial instruments as calculated to determine the limits of the borrower›s liability.

[45] Outstanding balance-sheet credit (debts) includes credit to the public, apart from bonds and securities borrowed or purchased as part of repo agreements.

[46] The ratio of the credit loss provision to impaired loans and unimpaired loans in arrears more than 90 days.

Table 1.15
Outstanding credit to the public, by principal industries, the five banking groups, 2014 and 2015

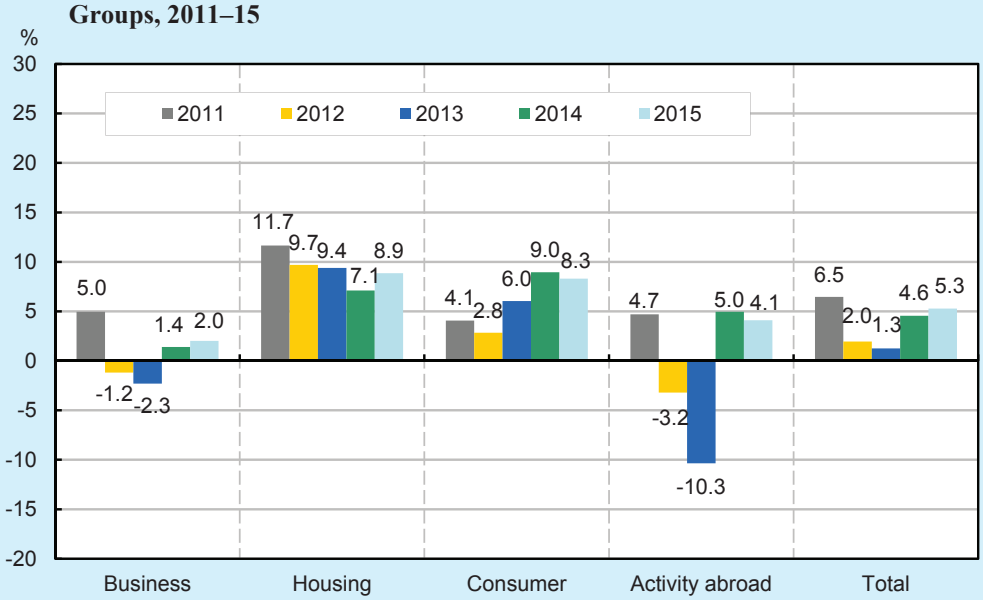
	Total balance of credit risk[a]					Balance-sheet credit[b] (debts)				
	Balance		Distribution of credit to the public		Change in credit	Balance		Distribution of credit to the public		Change in credit
	2014	2015	2014	2015	2015	2014	2015	2014	2015	2015
	(NIS million)		(percent)		(percent)	(NIS million)		(percent)		(percent)
Borrower activity in Israel	**1,183,323**	**1,220,479**	**88.1**	**88.2**	**3.1**	**783,350**	**825,683**	**90.5**	**90.6**	**5.4**
Business sector	**660,437**	**659,321**	**49.2**	**47.6**	**-0.2**	**384,931**	**392,706**	**44.5**	**43.1**	**2.0**
Agriculture	7,397	7,645	0.6	0.6	3.4	5,873	5,838	0.7	0.6	-0.6
Manufacturing	106,919	97,618	8.0	7.1	-8.7	59,258	55,740	6.8	6.1	-5.9
Mining and quarrying	5,318	5,666	0.4	0.4	6.5	3,555	3,737	0.4	0.4	5.1
Construction and real estate	215,769	226,387	16.1	16.4	4.9	110,994	115,110	12.8	12.6	3.7
Of which: construction	149,068	156,312	11.1	11.3	4.9	53,757	54,969	6.2	6.0	2.3
real estate	66,701	70,075	5.0	5.1	5.1	57,237	60,141	6.6	6.6	5.1
Electricity and water	23,644	22,165	1.8	1.6	-6.3	12,001	12,275	1.4	1.3	2.3
Commerce	98,959	99,640	7.4	7.2	0.7	75,566	77,010	8.7	8.5	1.9
Tourism	17,037	17,235	1.3	1.2	1.2	14,371	14,990	1.7	1.6	4.3
Transport and storage	19,945	22,621	1.5	1.6	13.4	15,787	18,048	1.8	2.0	14.3
Communications and computer services	19,953	19,562	1.5	1.4	-2.0	13,174	11,839	1.5	1.3	-10.1
Financial services	95,683	87,635	7.1	6.3	-8.4	38,604	39,978	4.5	4.4	3.6
Other business services	29,178	31,417	2.2	2.3	7.7	19,793	21,293	2.3	2.3	7.6
Public and community services	20,635	21,730	1.5	1.6	5.3	15,955	16,848	1.8	1.8	5.6
Private individuals	**522,886**	**561,158**	**38.9**	**40.5**	**7.3**	**398,419**	**432,977**	**46.0**	**47.5**	**8.7**
Of which: housing loans	279,479	304,500	20.8	22.0	9.0	265,053	288,526	30.6	31.7	8.9
nonhousing loans	243,407	256,658	18.1	18.5	5.4	133,366	144,451	15.4	15.9	8.3
Borrowers' activity abroad	**159,722**	**163,949**	**11.9**	**11.8**	**2.6**	**82,169**	**85,549**	**9.5**	**9.4**	**4.1**
Total	**1,343,045**	**1,384,428**	**100.0**	**100.0**	**3.1**	**865,519**	**911,232**	**100.0**	**100.0**	**5.3**

[a] Includes balance-sheet and non-balance-sheet credit risk.

[b] Includes credit to the public, excludes bonds and securities borrowed or purchased under reverse repurchase agreements.

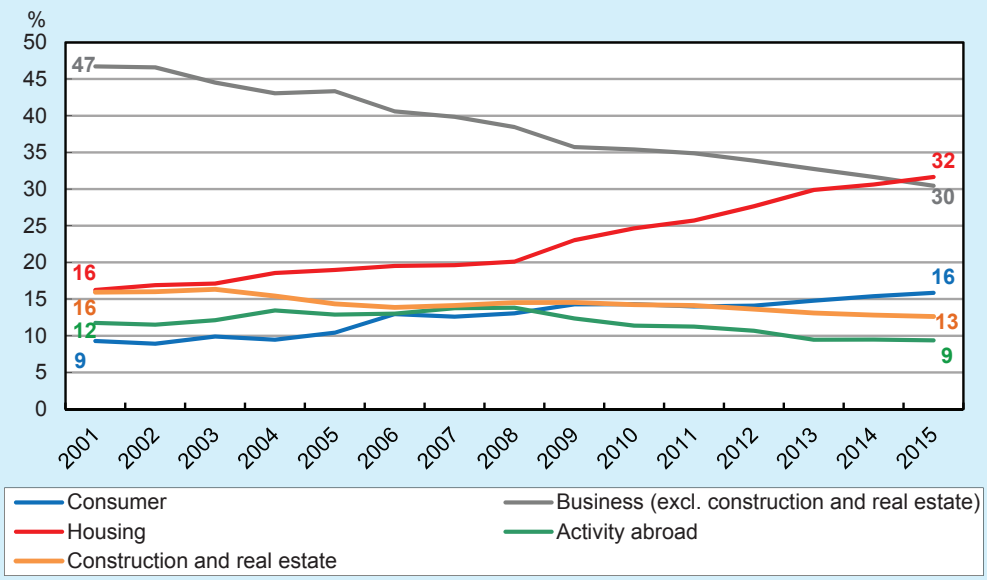
SOURCE: Banking Supervision Department based on published financial statements.

Figure 1.24
Annual Change in Balance-Sheet Credit to Principal Sectors, the Five Banking Groups, 2011–15



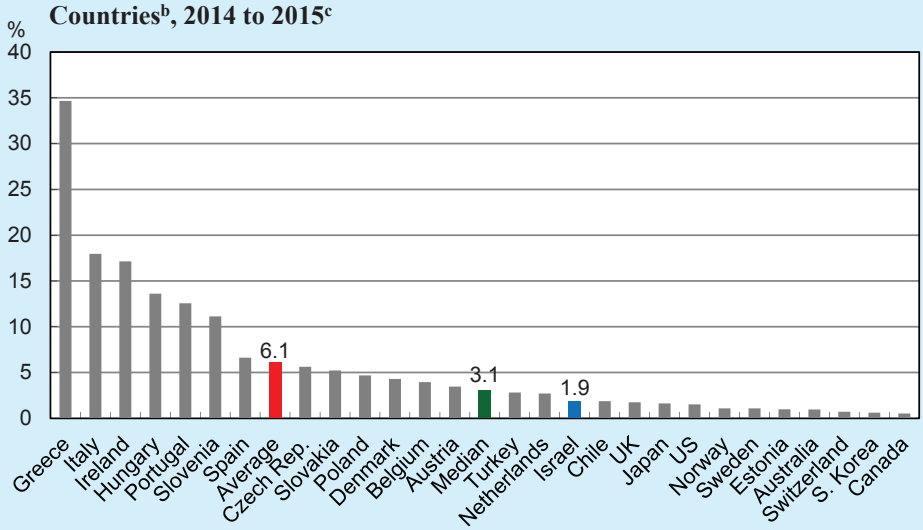
SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

Figure 1.25
Distribution of Balance-Sheet Credit by Sector, the Five Banking Groups, 2001–14



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

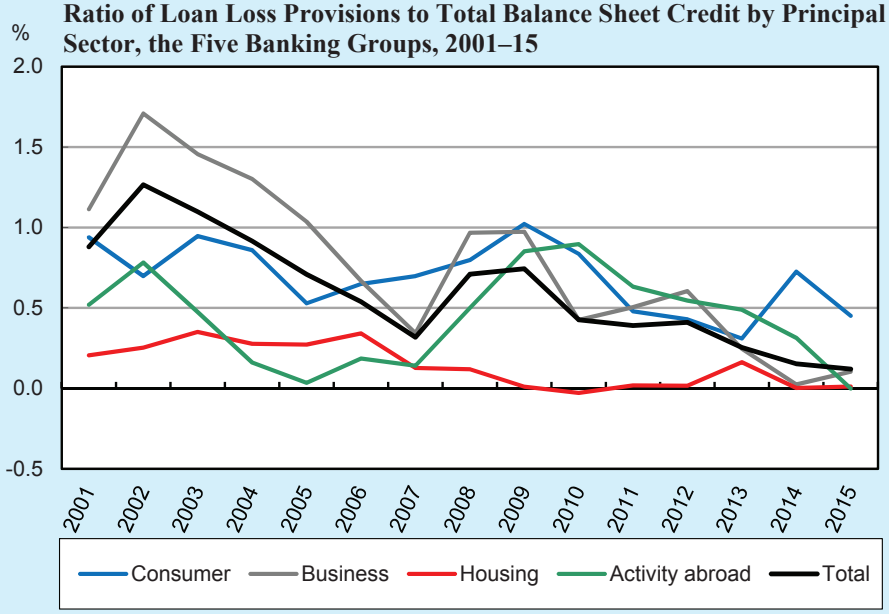
Figure 1.26
International Comparison of Impaired Loans and Unimpaired Loans 90 Days or More Past Due[a] as a Share of Total Credit to the Public, OECD Countries[b], 2014 to 2015[c]



[a] Such credit is commonly referred to as NPL (Nonperforming Loans).
[b] Mexico, Luxembourg, Germany, France and Finland are excluded due to a lack of data.
[c] Data for S. Korea are as of June 2014. Data for Switzerland and the UK are as of December 2014. Data for Belgium, Italy, Norway, Poland and Portugal are as of June 2015. Data for Australia, Austria, Canada, Czech Republic, Denmark, Greece, Hungary, Irealnd, Netherlands, Slovakia, Slovenia, Spain, Sweden, Turkey and the US are as of September 2015. Data for Israel, Chile and Estonia are as of December 2015.

SOURCE: Foreign countries—International Monetary Fund; Israel—based on published financial statements.

Figure 1.27
Ratio of Loan Loss Provisions to Total Balance Sheet Credit by Principal Sector, the Five Banking Groups, 2001–15



SOURCE: Based on published financial statements.

Table 1.16
Indices of credit portfolio quality of the five banking groups, 2010 to 2015
(percent)

	Year	Leumi	Hapoalim	Discount	Mizrahi Tefahot	First International	Five groups
Loan loss provision to total balance-sheet credit to the public[a]	2010	0.26	0.46	0.69	0.44	0.18	0.41
	2011	0.30	0.48	0.65	0.28	0.14	0.39
	2012	0.50	0.39	0.61	0.21	0.20	0.41
	2013	0.11	0.34	0.49	0.21	0.14	0.25
	2014	0.18	0.16	0.13	0.12	0.13	0.15
	2015	0.08	0.17	0.15	0.13	0.02	0.12
Net write-offs to total gross balance-sheet credit to the public	2011	0.84	0.84	0.72	0.44	0.15	0.71
	2012	0.47	0.38	0.51	0.26	0.24	0.39
	2013	0.21	0.38	0.42	0.40	0.13	0.32
	2014	0.12	0.06	0.24	0.10	0.05	0.11
	2015	0.20	0.08	0.12	0.09	0.14	0.13
Allowance for credit losses to total balance-sheet credit to the public	2010 [b]	2.30	2.12	1.66	1.62	1.33	1.96
	2011	1.62	1.64	1.67	1.35	1.33	1.57
	2012	1.68	1.61	1.74	1.22	1.22	1.56
	2013	1.59	1.54	1.81	0.94	1.19	1.46
	2014	1.55	1.56	1.68	0.90	1.25	1.44
	2015	1.53	1.56	1.59	0.87	1.12	1.40
Problematic loans to total balance-sheet credit to the public	2012	4.95	5.28	6.58	2.88	3.49	4.84
	2013	4.42	6.05	5.73	1.99	3.50	4.62
	2014	3.96	4.46	4.84	1.38	3.45	3.75
	2015	3.14	3.43	3.54	1.38	2.39	2.91
Impaired loans and non-impaired loans 90 days or more past due to total balance-sheet credit to the public	2010 [b]	4.13	5.06	5.38	2.90	2.31	4.29
	2011	3.26	3.74	5.19	2.57	2.02	3.49
	2012	3.54	3.79	5.11	2.55	2.11	3.57
	2013	2.81	3.54	3.71	1.70	1.83	2.89
	2014	2.23	2.70	2.69	1.20	1.50	2.20
	2015	1.83	2.19	2.60	1.14	1.36	1.89
Allowance for credit losses to impaired loans and non-impaired loans more than 90 days past due	2010 [b]	55.6	41.8	30.8	55.8	57.6	45.7
	2011	49.5	43.7	32.1	52.6	66.1	44.9
	2012	47.3	42.5	34.1	47.9	57.7	43.6
	2013	56.4	43.6	48.7	55.4	65.0	50.5
	2014	69.6	57.8	62.4	75.4	83.7	65.2
	2015	83.5	71.3	61.1	76.5	82.6	74.0

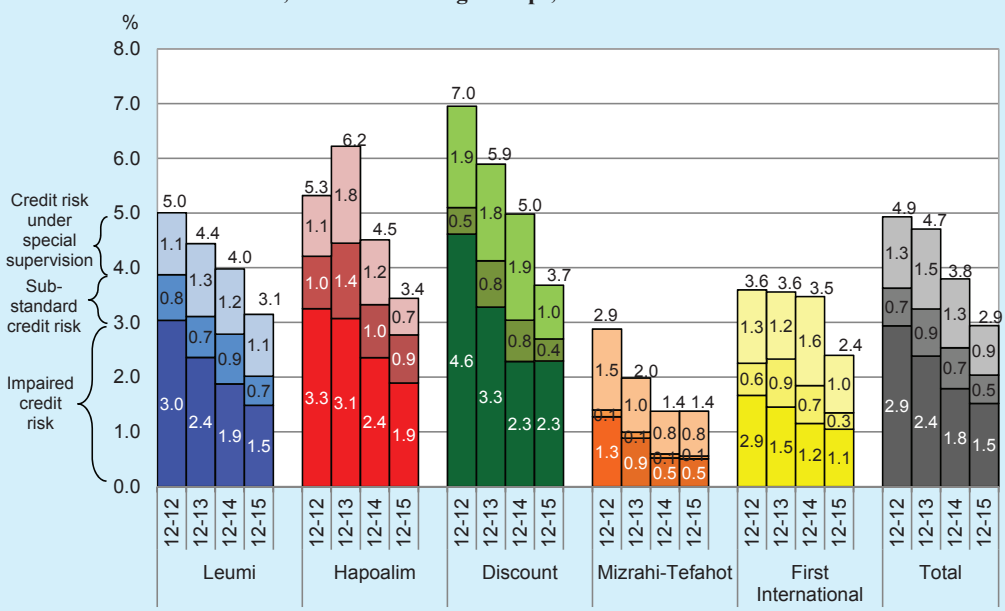
[a] Until December 2010, net credit to the public was used; since 2011, gross credit to the public has been used.
[b] Data calculated as of January 1, 2011—after the implementation of the directive for the measuring and disclosure of impaired debt, credit risk and credit loss allowance.
SOURCE: Banking Supervision Department based on published financial statements.

lower[47] than the average in recent decades (Figure 1.27). In addition, the decline in the concentration of borrowers in the credit portfolio continued this year and the credit balances of large borrowers declined (Figure 1.29).

The growth in scope of credit to households and to the construction and real estate industry, and the correlation between those types of credit, continued to increase the risk to the banking system.

The growth in total credit to households and in credit to the construction and real estate industry, as well as the correlation between them, continued to increase the risk to the banking system. This is particularly because the proportion of housing credit and credit to the construction and real estate industry (together) climbed to 45 percent of the total credit portfolio at the end of the reviewed period. In addition, the fact that the interest rate has been low for a long time has increased credit risk—from a forward-looking perspective—because, among other things, it is liable to encourage investors to take larger risks in search of yield. It also increases the risk of excess leverage among borrowers and therefore is liable to lead to an increase in the price of assets and perhaps even underpricing of the risk implicit in them, although the concern regarding underpricing in fact declined this year.[48] It appears that the underpricing of

Figure 1.28
Outstanding Problematic Balance-Sheet Credit Risk As A Share of Total Balance-Sheet Credit to the Public, the Five Banking Groups, December 2012 to December 2015



SOURCE: Based on published financial statements.

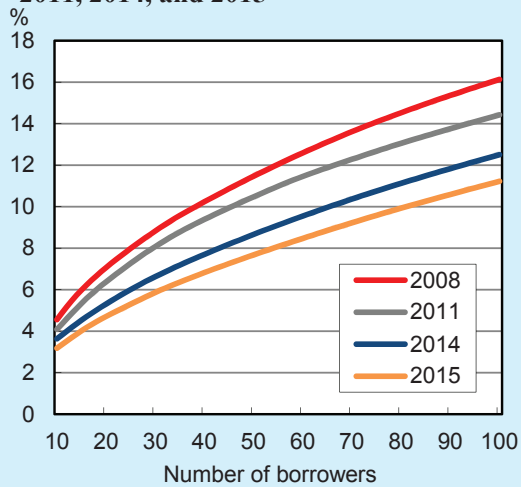
[47] The loan loss provision is low due to, among other things, the collection of loans that had been previously written off and the reduction in the individual credit loss provision recorded in previous years.

[48] The concern regarding underpricing of risk has declined this year due to the moderate rise in yields on government bonds. This increase occurred even though Israel's CDS level is low compared to other countries.

risk in the corporate bond market is partly reflected in the low spreads between yields on corporate bonds and those on government bonds (Figure 1.30).

With the goal of improving their capital adequacy ratios, diversifying their sources of profit and facilitating flexibility in the management of risk, the banks this year continued carrying out syndication transactions and selling risk to other financial bodies by selling part of the credit portfolio.

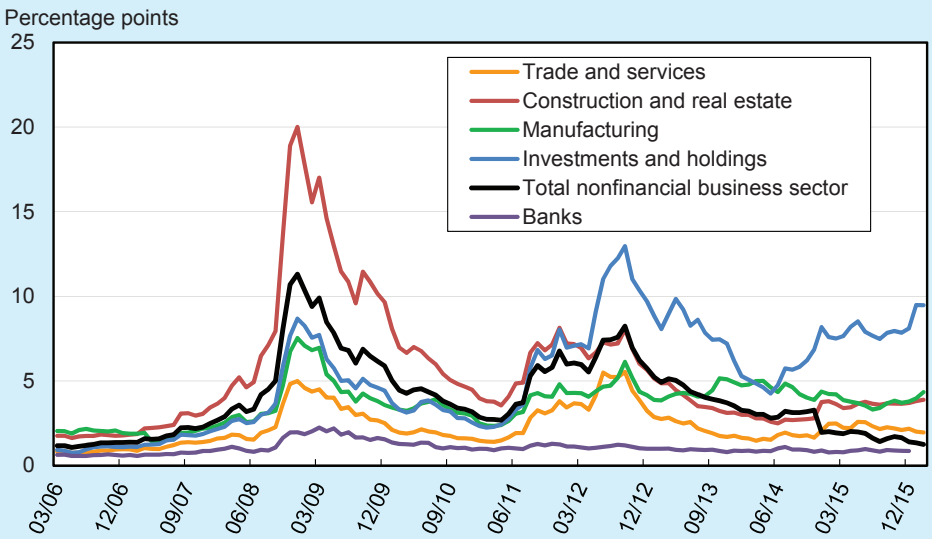
Figure 1.29
Credit Risk of the 100 Largest Borrowers[a] As A Share of Total Credit Risk, the Five Banking Groups, 2008, 2011, 2014, and 2015



[a] The large borrowers do not include banking corporations.

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

Figure 1.30
Yield Spread Between Corporate Bonds[a] and CPI-indexed Government Bonds, by Industry, March 2006 December 2015 (monthly average)



[a] Bonds traded on the Tel Aviv Stock Exchange, excluding convertible bonds and structured bonds.

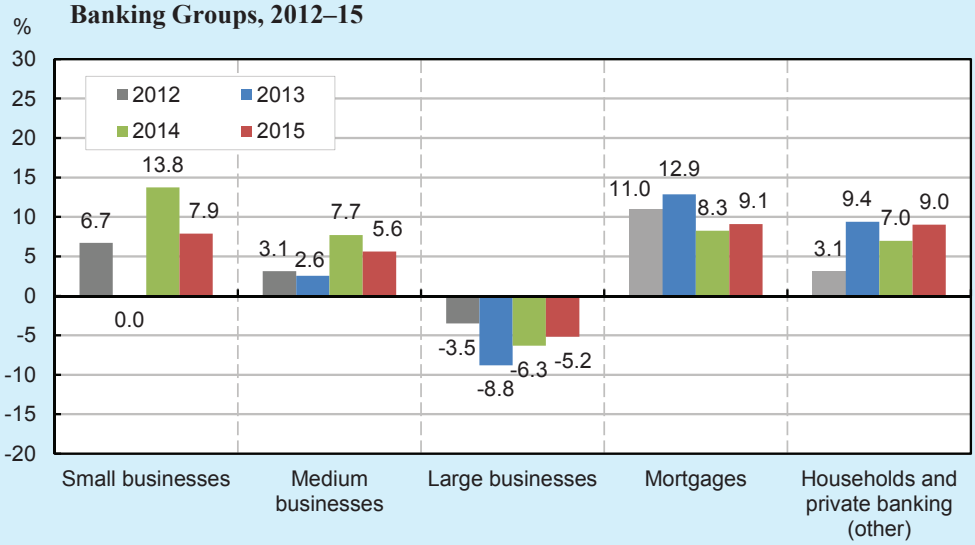
SOURCE: Bank of Israel.

b. Business credit

Business balance-sheet credit grew this year by 2 percent, which is higher than during the last three years, and totaled NIS 393 billion (Table 1.15, Figure 1.24). Business credit grew for the second year in a row, following two years in which it declined, and its proportion of the total bank credit portfolio fell for the sixth year in a row to a level of only 43 percent (Figure 1.25). Alongside the increase in business credit, nominal business output grew by 5.4 percent and the ratio between them continued to decline again this year, to a low point of 46 percent, after reaching a level of about 70 percent a decade ago. These processes were accompanied by growth in substitutes for bank credit, which began in the previous decade.

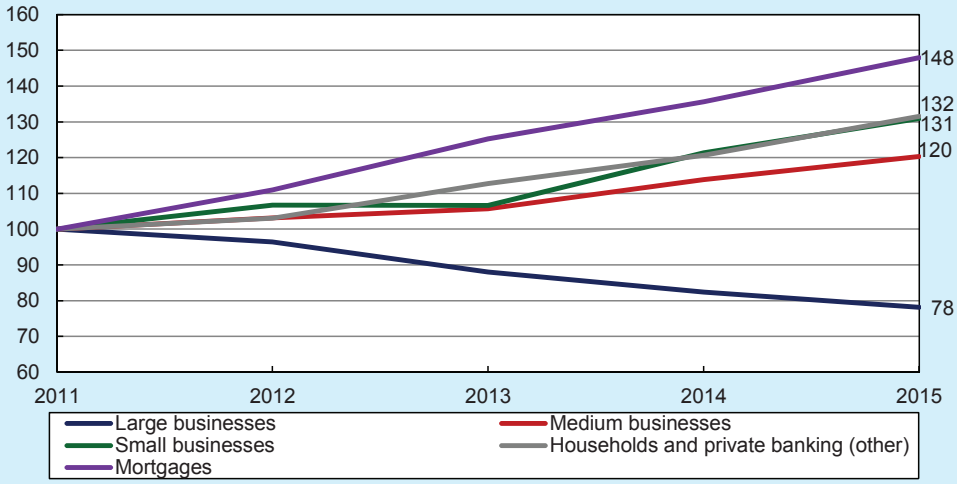
The supply of business credit from the banks has grown moderately in recent years as a result of the deliberate policy adopted by the banks to reduce their exposure to large borrowers and large business groups, with the goal of focusing on the household sector and small business borrowers. As a result, credit to small businesses has grown by an average rate of 7 percent annually, higher than the growth rate of GDP and of business credit as a whole. In contrast, credit to large businesses has fallen at an average rate of 6 percent annually (Figure 1.31, Figure 1.32). This policy was also influenced by the measures taken by the Banking Supervision Department in recent years to reduce the banking system's exposure to large borrowers by means of, among other things, placing limits on the total liability of a borrower and that of

Figure 1.31
Change in Outstanding Credit in the Various Activity Segments[a,b], the Five Banking Groups, 2012–15



[a] In the first quarter of 2013, the Discount Group reclassified credit to the various activity segments, and in the fourth quarter of 2014, the First International Group reclassified credit to the activity segments. As such, the data were standardized.
[b] The figures relate to activity in Israel and do not include the financial management sector, others, and adjustments.
SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

Figure 1.32
Development of Credit[a,b] in the Various Activity Segments, the Five Banking Groups, 2011–15 (Index: December 2011=100)



[a] In the first quarter of 2013, the Discount Group reclassified credit to the various activity segments, and in the fourth quarter of 2014, the First International Group reclassified credit to the activity segments. As such, the data were standardized.
[b] The figures relate to activity in Israel and do not include the financial management sector, others, and adjustments.
SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

a group of borrowers.[49,50] Furthermore, as part of the processes that the banks have undergone with the goal of strengthening their capital base and achieving the new capital targets[51], they have acted to moderate the rate of growth in risk assets by, among other things, reducing credit to large borrowers and increasing retail credit and credit to small businesses, which have lower risk weights.

On the demand side, there has been a major decline in recent years in the leverage of companies in the economy, due to, among other things, the change in the composition of demand, that is, the shift from export-intensive and credit-intensive industries, such as manufacturing, to industries that are dependent on domestic demand and which

[49] In May 2015, the Supervisor of Banks published a draft directive that updated the existing instructions regarding the limits on the indebtedness of a borrower and a borrower group. The draft was published as a continuation of the measures adopted by the Banking Supervision Department to reduce the concentration in the credit portfolio of the banking system and against the background of the recommendation published by the Basel Committee regarding large exposures (Supervisory Framework for Measuring and Controlling Large Exposures, April 2014). The main changes in the directive were: 1) The definition of the capital that can be used in the calculation of limits on the indebtedness of a borrower and of a borrower group was restricted to Tier 1 capital. 2) The limit on the proportion of capital that the indebtedness of a bank borrower group accounts for was reduced from 25 to 15 percent. 3) The method of calculating the deduction permitted by Directive 313 was modified to that of calculating eligible credit risk reducers included in Directive 203. The Directive goes into effect on January 1, 2016.

[50] The Directive dealing with the indebtedness of a borrower or a borrower group was influenced by, among other things, the Promotion of Competition and Reduction of Concentration Law, 5774–2013, which sets limits on the control of multi-layered business groups.

[51] For further details, see the section on capital adequacy and leverage.

require less credit, such as the trade and services industries. In addition, demand for bank business credit has been influenced by the competition between institutional lenders and the banks in recent years.

In recent years, there have been indications that competition in the small business segment has been increasing both within the banking system and outside of it.

Credit to small businesses constitutes 23 percent of total business credit. In recent years the banks have been focusing on this sector and in 2015 they increased their credit to the sector by about 8 percent. The growth in this sector is the result of, among other things, the following factors: (a) The Basel principles require less capital against this type of credit. (b) This sector is more profitable than other business sectors and the return on assets in that sector is relatively high, although this profitability has eroded in recent years. It should be taken into account that small businesses involve a higher level of risk than the other sectors[52], and this can be seen from the fact that the average rate of loan loss provisions in this sector is higher than the rate in other sectors. (c) The credit market for small businesses is characterized by a low level of competition relative to the large business sector, since there is only a limited supply of nonbank credit available to small businesses and most of the credit is therefore provided by the banks. Nonetheless, there are indications that the level of competition in the small business sector is increasing since the banks and nonbank financial institutions are expanding their activity in this sector and view it as a business opportunity. This is reflected in, among other things, the findings of the Companies Survey carried out at the end of 2015, which indicate that the financing difficulties of small businesses have declined in recent years, and in the narrowing of the financial spread in this sector.

The banks' focus on retail and small business customers has, among other things, led to a continued downward trend in concentration in the credit portfolio. This is reflected in the improvement in concentration indices: a drop in credit to the 100 largest borrowers as a share of the total credit portfolio (10 percent) and of equity (14 percent) of the five large banking groups, and a decline in the total credit risk of the 10 largest borrower groups (12 percent), in their weight in credit (15 percent), and in the equity (18 percent) of the five large banking groups (Figure 1.29, Table 1.17).

Credit to the construction and real estate industry constitutes 30 percent of the total business credit portfolio and expanded by 4 percent during the reviewed period, to NIS 115 billion (Table 1.15). Alongside the expansion that has occurred in recent years in the supply of bank credit to this sector, it continues to also rely on nonbank sources of credit, including the issue of stocks and bonds. For example, total net issuances[53] of companies in the construction and real estate industry during the last three years stood at about NIS 15 billion, while the total net issuances of corporate bonds in the domestic market (including the construction and real estate industry) stood at only about NIS 6 billion during the same period (the total redemption of

[52] This is a result of two main factors. The first is information asymmetry between the banks and small businesses, which is a result of the lack of high-quality accessible information on the situation of the borrower. The second is that owners of small businesses do not generally have managerial or financial training. In practice, the credit risk is manifested in the rate of loan loss provisions, which is significantly higher in the small business sector than in other sectors.

[53] Issues minus redemptions.

corporate bonds excluding construction and real estate exceeded total issuances). The risk facing the banks from exposure to the construction and real estate industry is the result, first and foremost, of its high level, which is reflected in the large weight of the industry in the total bank portfolio. The fact that the level of risk in the construction and real estate industry is high relative to other industries is also manifested in the average internal rating of the industry relative to that of other industries[54] and in the fact that the companies in this industry are characterized by a high EDF.[55] Nonetheless, the various indices, and in particular the drop in impaired loans, continued to indicate a decline in the risk of companies in the construction and real estate industry this year (Table 1.18).

The business credit provided by the banks to their customers is composed in part of **leveraged credit**, which includes, among other things, credit provided in order to acquire the means of control in corporations. This year the total amount of leveraged credit declined, which was a continuation of the trend in recent years. This included the portion of credit for acquisition of means of control within the business credit portfolio, which stood at 2 percent at the end of 2015. This decline occurred against the background of, among other things, the measures taken by the Supervisor of Banks in recent years to reduce the exposure of the banks to leveraged credit[56], and it is working to reduce risk in the banks' credit portfolio.

Nonbank credit to the business sector continued to account for about half (48 percent) of total credit[57] (bank and nonbank) to the business sector (Figure 1.33). In recent years, there has been only a moderate rise in total nonbank business credit, and most of that increase was due to the increase in direct loans from institutional investors. These loans grew at the expense of nontradable bonds, a result of, among other things, the restrictions and obligations placed on institutional investors with respect to investment in the corporate bond market.[58]

[54] According to Reporting to Banking Supervision Department Directive 809A, "Allowance for Loan Losses", the banks are required to report the internal rating of the groups in their internal rating system, according to the probability of credit losses in the various industries.

[55] Expected Default Frequency, which expresses the probability of expected default.

[56] In May 2015, the Supervisor of Banks published Proper Conduct of Banking Management Directive 327 "Leveraged Lending Management", which specified the minimum standards regarding their underwriting, management, monitoring and reporting. Accordingly, the quantitative limits on financing of capital transactions in Directive 323 were updated. In addition, Directive 311, "Credit Risk Management", was amended and various requirements within it were updated, including: quantitative limits on leveraged loans and leveraged borrowers, the receipt of information on the shareholders of the borrower corporations and decision making regarding loan restructuring. In parallel, the Supervisor of Banks published Reporting to Banking Supervision Department Directive 811, which required that the banks submit a quarterly report to the Banking Supervision Department regarding problematic debts that have been rescheduled.

[57] Including supplier's credit from abroad.

[58] The restrictions and obligations were imposed following the conclusions reached by the Hodak Committee.

Table 1.17

Indices of concentration of the portfolio of credit to the public[a] of the five banking groups, 2009–2015

	Year	Leumi	Hapoalim	Discount	Mizrahi-Tefahot	First International	The five groups
Concentration by principal industries							
Herfindahl-Hirschman Index (HHI) of the concentration of the aggregate credit portfolio excluding credit to individuals [b,c]	2009	0.09	0.08	0.09	0.04	0.07	0.08
	2010	0.09	0.08	0.09	0.04	0.07	0.08
	2011	0.09	0.08	0.08	0.04	0.06	0.07
	2012	0.09	0.08	0.08	0.04	0.05	0.07
	2013	0.08	0.07	0.07	0.03	0.06	0.07
	2014	0.08	0.08	0.07	0.03	0.06	0.07
	2015	0.08	0.07	0.07	0.02	0.05	0.06
Herfindahl-Hirschman Index (HHI) of business credit portfolio concentration [d,e]	2009	0.20	0.17	0.17	0.19	0.18	0.18
	2010	0.20	0.18	0.17	0.20	0.18	0.18
	2011	0.21	0.17	0.17	0.19	0.17	0.18
	2012	0.21	0.17	0.17	0.21	0.17	0.18
	2013	0.20	0.17	0.17	0.23	0.18	0.18
	2014	0.21	0.17	0.18	0.24	0.18	0.19
	2015	0.22	0.17	0.17	0.23	0.18	0.19
Credit to individuals as a share of total credit [f] (percent)	2009	29.9	29.5	27.8	54.4	37.5	33.1
	2010	30.5	30.9	28.9	54.7	37.2	34.2
	2011	31.5	30.8	29.2	57.0	41.1	35.2
	2012	33.0	32.0	29.7	59.0	42.9	36.7
	2013	35.4	32.6	32.3	60.9	42.8	38.5
	2014	36.5	32.3	32.5	61.6	43.1	38.9
	2015	37.9	33.5	33.6	64.5	45.0	40.5
Credit for borrowers' activity abroad as a share of total credit portfolio (percent)	2009	18.6	13.1	23.0	3.1	4.4	14.3
	2010	17.3	11.5	21.9	2.4	3.9	13.0
	2011	15.6	11.0	26.8	1.9	3.0	13.0
	2012	15.9	10.6	25.2	2.7	2.3	12.6
	2013	15.3	10.2	22.2	2.9	1.8	11.7
	2014	15.0	11.0	23.2	2.4	1.9	11.9
	2015	15.0	11.2	22.4	2.5	2.1	11.8
Concentration by borrower size							
Gini Index[g] of credit diversification by borrower size	2009	0.91	0.90	0.91	0.81	0.85	0.90
	2010	0.91	0.91	0.91	0.81	0.85	0.90
	2011	0.90	0.92	0.91	0.81	0.85	0.90
	2012	0.90	0.92	0.92	0.81	0.85	0.90
	2013	0.88	0.92	0.91	0.81	0.85	0.90
	2014	0.87	0.92	0.90	0.80	0.84	0.90
	2015	0.89	0.91	0.90	0.79	0.84	0.89
Credit granted to borrowers whose indebtedness exceeds NIS 40 million as a share of total credit (percent)	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	41.8	48.9	44.5	24.6	29.3	41.2
	2012	40.1	47.7	43.4	23.1	27.9	39.6
	2013	38.0	46.6	39.7	22.7	28.2	38.0
	2014	36.6	46.4	38.8	21.0	27.3	37.1
	2015	35.2	44.7	38.6	19.4	27.6	35.8
Credit granted to borrowers whose outstanding indebtedness exceeds 5% of the group's equity[h] as a share of the group's total credit (percent)	2009	5.2	11.6	9.4	7.5	10.6	
	2010	5.5	8.2	7.9	7.6	10.4	
	2011	5.6	8.4	13.0	5.2	9.1	
	2012	5.2	7.8	10.9	4.3	7.5	
	2013	5.7	6.6	9.3	3.9	7.1	
	2014	3.8	5.9	8.6	3.1	4.8	
	2015	1.8	3.8	7.9	2.1	5.7	

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

[b] 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). The index increases with an increase in concentration.

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

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

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

[f] Refers only to credit issued in Israel.

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

[h] Plus minority interest.

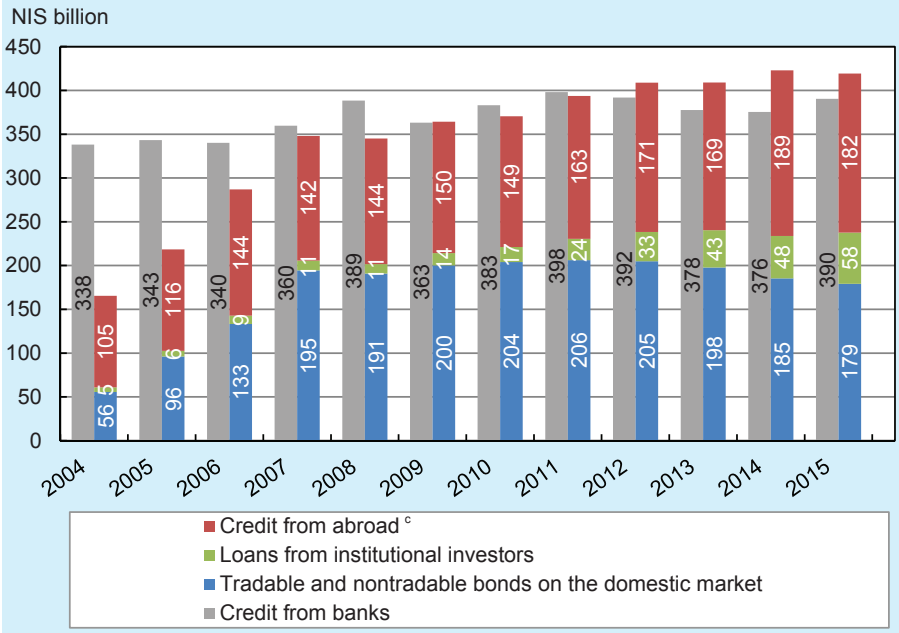
SOURCE: Banking Supervision Department based on published financial statements.

Table 1.18
Credit quality indices, by principal industry, the five banking groups, 2014 and 2015

	Impaired loans to total balance-sheet credit to the industry		Loan loss provisions to total balance-sheet credit to the industry		Net write-offs to total balance-sheet credit to the industry		Allowance for credit losses to total balance-sheet credit to the industry		Coverage ratio: Allowance for credit losses to impaired loans to the industry	
	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015
	(Percent)									
Borrowers' activity in Israel	**1.83**	**1.63**	**0.14**	**0.13**	**0.06**	**0.12**	**1.59**	**1.53**	**87.0**	**94.2**
Business	**3.46**	**3.17**	**0.02**	**0.10**	**0.00**	**0.04**	**2.15**	**2.18**	**62.1**	**68.7**
Agriculture	1.86	1.68	-0.19	0.33	0.12	-0.19	1.16	1.66	62.4	99.0
Manufacturing	3.76	3.46	2.51	2.71	-0.02	-0.26	2.51	2.71	66.6	78.4
Mining and quarrying	0.06	0.00	0.56	0.37	-0.11	0.00	0.56	0.37		
Construction and real estate	4.38	3.64	-0.28	-0.24	-0.23	-0.22	2.51	2.34	57.37	69.99
Of which : Construction	3.71	3.09	-1.51	-0.19	-0.88	-0.27	2.44	2.44	65.9	78.8
Real estate	5.00	3.57	0.88	-0.30	0.38	-0.18	2.57	2.25	51.4	63.0
Electricity and water	0.12	0.09	0.42	-0.01	0.01	-0.01	0.67	0.81	540.0	909.1
Commerce	2.74	3.59	0.78	1.07	0.28	0.55	2.34	2.85	85.5	79.4
Tourism	5.57	3.96	-0.25	0.27	-0.24	0.26	1.06	1.02	19.0	25.8
Transportation and storage	3.79	3.06	-0.19	-0.10	0.28	-0.08	1.04	0.91	27.4	29.7
Communications and computer services	10.60	14.35	-0.27	1.50	1.06	0.37	3.44	4.45	32.4	31.0
Financial services	2.19	1.71	0.38	-0.67	-0.19	-0.01	2.21	1.71	100.7	100.4
Other business services	1.29	0.88	0.22	0.41	0.38	0.36	1.43	1.41	111.4	160.4
Public and community services	0.83	0.58	-0.37	-0.17	-0.51	0.04	0.93	0.72	111.3	124.7
Private individuals	**0.26**	**0.24**	**0.25**	**0.16**	**0.12**	**0.18**	**1.06**	**0.95**		
Of which: Housing loans	0.01	0.01	0.00	0.01	0.02	0.05	0.72	0.62		
Nonhousing loans	0.77	0.66	0.73	0.45	0.31	0.46	1.75	1.61		
Borrowers' activity abroad	**2.97**	**1.96**	**0.31**	**0.00**	**0.56**	**0.25**	**0.56**	**0.25**		

SOURCE: Banking Supervision Department based on published financial statements.

Figure 1.33
Bank[a] and Nonbank Credit[b] in the Business Sector, 2004–15



[a] Total banking system.
[b] Estimated credit from the borrowers' perspective: The debt that the borrowers must repay is equal to bank credit before allowance for credit losses, and bonds (tradable and nontradable) are equal to the adjusted par value.
[c] Credit from abroad includes suppliers' credit.
SOURCE: Bank of Israel.

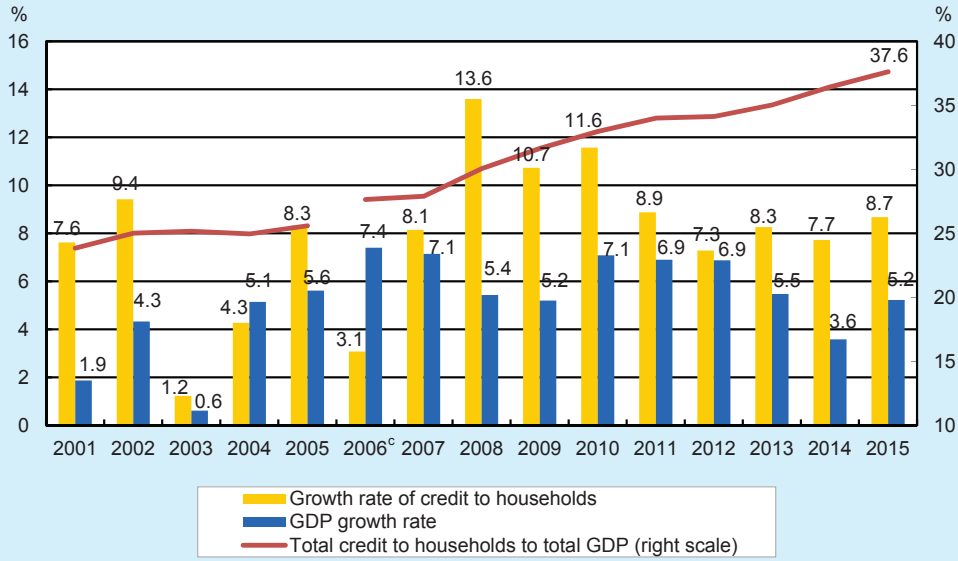
c. Credit to households

Credit to households, both housing and nonhousing, expanded in recent years, and today makes up about half of the bank credit portfolio.

Credit to households increased rapidly in recent years against the background of the low interest rate environment, the increase in demand for homes, and the increase in private consumption. The proportion of credit to households as a share of the bank credit portfolio reached a record level of close to half (Figure 1.25).

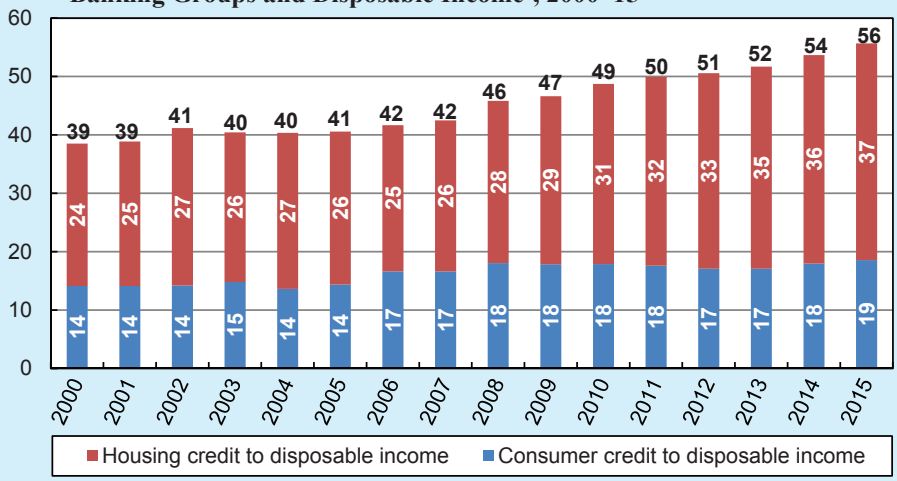
Outstanding balance-sheet credit to households continued to increase during 2015, by 9 percent to NIS 433 billion. In the past decade, credit to households as a share of the total bank credit portfolio has increased significantly, and the leverage of households in the banking system increased as well—the ratio between credit to households and GDP increased from 28 percent to 38 percent, and the ratio of household credit to disposable income in the economy increased from 42 percent to 56 percent (Figure 1.34, Figure 1.35). With that, the leverage of households in Israel is still lower than the level in the other advanced economies, as a result of the fact that housing credit is characterized by low leverage, and even though consumer debt relative to GDP is actually not low. Credit to households in Israel is provided mainly by the banks (about

Figure 1.34
Growth Rate of Nominal GDP[a] and of Credit to Households[b], and Ratio of Credit to Households to Nominal GDP, the Five Banking Groups, 2001–15



[a] During 2013, the Central Bureau of Statistics changed the method of calculation of the National Accounts, and revised all of the data series dating back to 2006. The level of GDP over the period from 2001 to 2006 was reclaculated according to the rate of change.
[b] Until December 2010, net balance-sheet credit was used. From 2011, gross credit to the public was used.
[c] Until 2005, open credit card transactions were recorded as non-balance-sheet credit, and from 2006, they were recorded as balance-sheet credit.
SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

Figure 1.35
The Ratio Between Total Housing and Consumer Credit in the Five Banking Groups and Disposable Income[a], 2000–15[b,c]



[a] Net private disposable income from all sources.
[b] Until December 2010, net balance-sheet credit was used. From 2011, gross credit to the public was used.
[c] During 2013, the Central Bureau of Statistics made methodological adjustments to the calculation of National Accounts data, and revised all of the data series dating back to 2006.
SOURCE: Based on published financial statements.

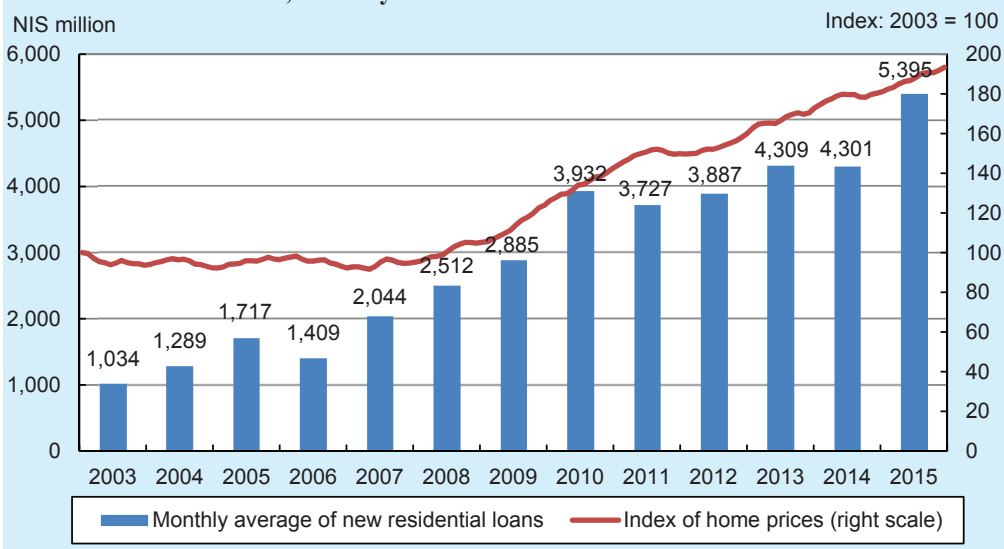
91 percent), and in recent years the banks' share of household debt increased, though by relatively low rates. In parallel, the volume of credit to households provided by nonbank lenders continued to increase, although the proportion of such debt remains low.

Housing credit[59] constitutes about two-thirds of total credit to households and, similar to previous years, it expanded rapidly this year as well, growing by 9 percent to NIS 289 billion (Table 1.15, Figure 1.24). In parallel, the proportion of this credit in the bank credit portfolio continued to increase. Housing credit has expanded in recent years mainly due to the increase in home prices and the low interest rate environment.

Total new loans for residential purposes continued to grow this year and reached a monthly average of NIS 5.4 billion, as compared to NIS 4.3 billion in the previous year. In June the figure reached a record high of NIS 7 billion, against the background of an expected increase in the minimum purchase tax on investment homes (Figure 1.36).

As a result of the measures taken by the Banking Supervision Department in recent years relating to housing credit, the risk characteristics of new housing loans remained low this year and the downward trend in the proportion of credit in arrears 90 days or more out of total housing loans continued. This was a result of the expansion of housing credit alongside the decline in loans in arrears (Figure 1.37, Figure 1.38).

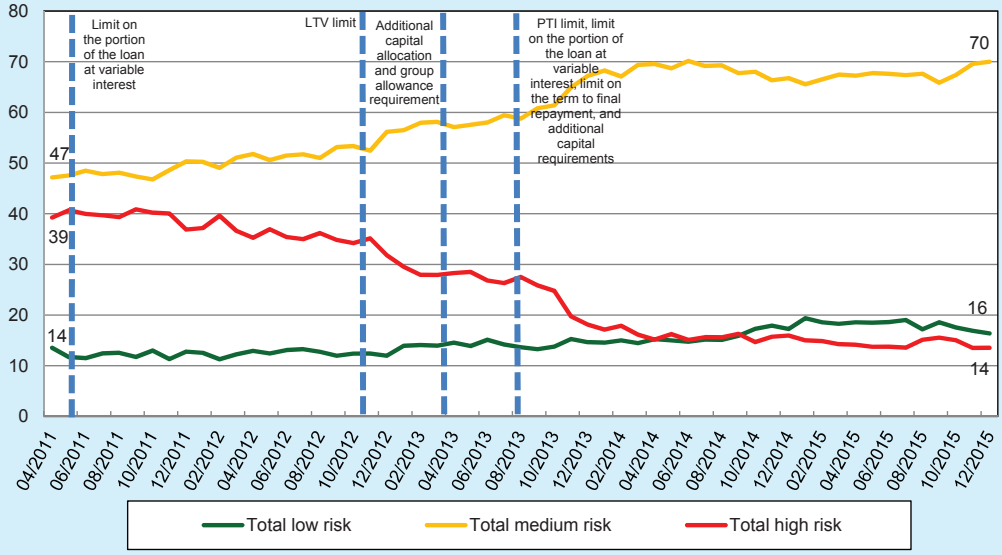
Figure 1.36
Monthly Average of New Housing Loans Granted, Total Banking System, and Index of Home Prices, January 2003 to December 15[a]



[a] The index of home prices is up to date as of October 2015.
SOURCE: Based on reports to the Banking Supervision Department.

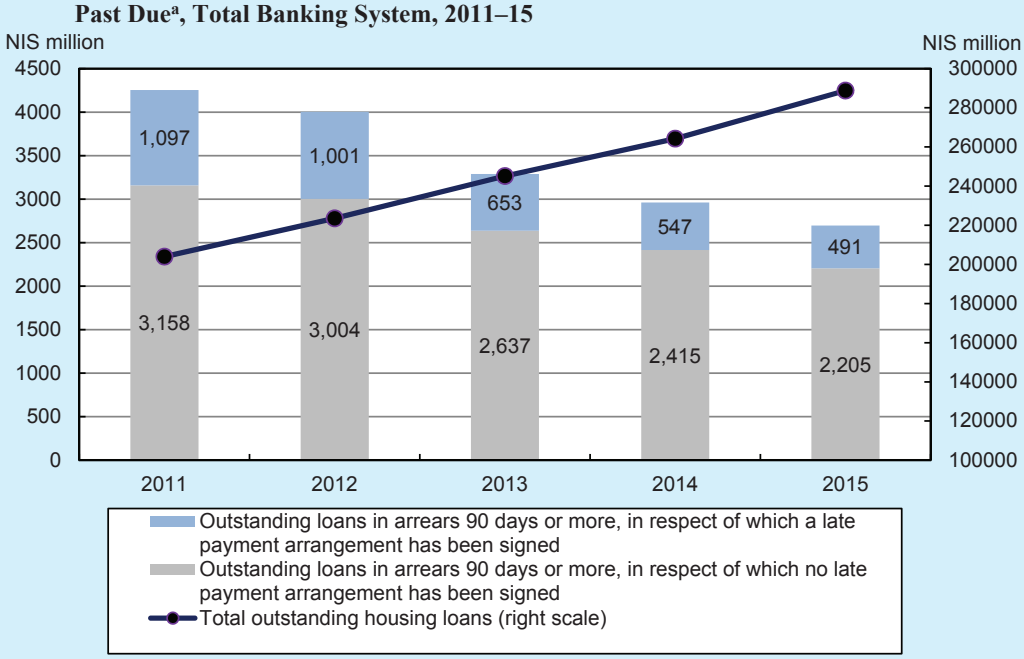
[59] Credit for the purpose of housing, and credit for any purpose that is collateralized through a residential property.

Figure 1.37
Distribution of New Housing Loans by Risk Levels[a], Total Banking System, April 2011 to December 2015



[a] The risk levels are set by the loan-to-value (LTV) and payment-to-income (PTI) rates.
The risk is low if (PTI ≤ 20% and LTV ≤ 60%).
The risk is medium if (20% < PTI ≤ 40% and LTV < 60%) or (PTI ≤ 30% and 60% < LTV ≤ 75%) or (PTI ≤ 10% and LTV > 75%).
The risk is high if (PTI > 40%) or (30% < PTI ≤ 40% and LTV > 60%) or (10% < PTI ≤ 30% and LTV > 75%).
SOURCE: Based on reports to the Banking Supervision Department.

Figure 1.38
Outstanding Housing Loans and Outstanding Housing Loans 90 Days or More Past Due[a], Total Banking System, 2011–15



[a] Loans for which the allowance is calculated by the duration past due.
SOURCE: Published financial statements and reports to the Banking Supervision Department.

Despite the drop in risk implicit in the housing credit portfolio, the banking system is exposed to the risk of a major decline in housing prices, against the background of a high level of outstanding mortgages, the continuing rise in housing prices and the low level of interest rates, as well as the correlation between housing credit and credit to the construction and real estate industry.

The Banking Supervision Department conducted a stress test again this year for the housing credit portfolio, as part of the uniform macroeconomic stress test (for further details, see the section on stress tests). The stress scenario tested was characterized by, among other things: unemployment rising to 9.8 percent, housing prices dropping by 25 percent and the Bank of Israel interest rate rising sharply to 5.6 percent. The effect of the scenario on the housing credit portfolio indicates that it will have an adverse effect on borrowers. Thus, the Probability of Default (PD) of mortgage holders reaches a high of 5 percent in the scenario, which represents about 38,000 borrowers, and the average rate of loss in the housing credit market reaches 0.7 percent in the scenario as a whole, which represents about NIS 7 billion before tax. The results of the test point to an improvement in the risk characteristics of the housing credit portfolio, following the regulatory steps taken in recent years, which can be seen in the improvement, though limited, in the PD of borrowers and in the rates of loss. It should be noted that the calculation of the loss that will be absorbed by the banks took into account the sale of some of the assets that serve as collateral, as well as restructuring arrangements reached with borrowers that default.

Consumer credit

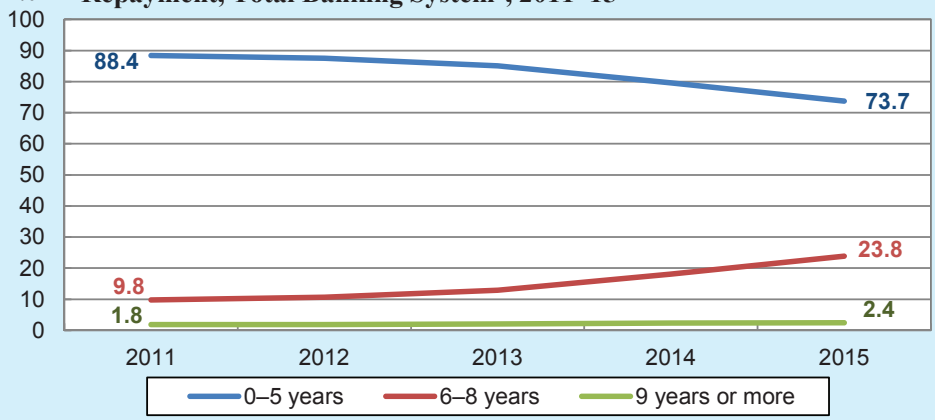
As in recent years, consumer credit[60] grew rapidly again this year, by a rate of 8 percent, and reached a total of NIS 144 billion (Table 1.15, Figure 1.24). Consumer credit expanded in recent years following the accelerated increase in private consumption against the background of low interest rates, which increased its proportion of the bank credit portfolio and of GDP (Figure 1.25). Due to the rapid increase in consumer credit, the Supervisor of Banks published a directive in January establishing that, starting with the 2014 financial statements, the rate of qualitative adjustments included within the group provision for credit losses due to consumer credit will not be less than 0.75 percent.[61]

The increase in the share of new loans with long terms (6–8 years) and the decline in the share of new loans with shorter terms (0–5 years) continued this year. This trend, as well as others, may indicate a gradual increase in risk (Figure 1.39).

For about 9 percent of consumer credit, the source is one of the credit card companies, and this includes credit card debt and loans offered to households which do not necessarily hold a credit card. This year, as in the previous year, consumer credit from the credit card companies increased at a rapid rate (19 percent).

[60] Nonhousing credit to households.
[61] The minimum rate will not apply to credit card borrowers (without interest).

Figure 1.39
Distribution of New Private Credit Taken Out[a] by Term to Repayment, Total Banking System[b], 2011–15



[a] Credit to private customers that is not necessarily consumer credit.
[b] The eight large banks: Leumi, Hapoalim, First International, Mizrahi-Tefahot, Discount, Bank of Jerusalem, Union Bank and Dexia Israel Bank.
SOURCE: Banking Supervision Department.

d. Exposure to countries

An analysis of the banks' exposure to countries indicates that, as in previous years, they are primarily doing business with foreign financial institutions with a credit rating of A- or above (about 90 percent; Table 1.19). About half of the exposure to foreign countries is accounted for by the US, and about one-quarter by countries in Europe. The exposure to European countries with a high level of risk[62] declined this year and remained limited (about NIS 1.2 billion, Table 1.20).

In 2015, the five banking groups reduced their exposure to foreign countries, which totaled NIS 166 billion (12 percent of total assets), compared to NIS 180 billion in 2014 (14 percent of total assets; Table 1.20). It can be seen that the banks primarily reduced their exposure to the UK, while more moderately increasing their exposure to the US. Most of the decline was recorded in deposits with foreign banks (32 percent), which was brought about by, among other things, the appreciation of the shekel against the euro.

[62] Portugal, Ireland, Italy, Greece and Spain.

Table 1.19

Current credit exposure to foreign financial institutions[a,b], the five banking groups, December 2015

(NIS million)

Credit rating[c]	Leumi		Hapoalim		Discount		Mizrahi-Tefahot		First International		Five groups, total	
	Total credit risk	Of which: Balance sheet credit risk	Total credit risk	Of which: Balance sheet credit risk	Total credit risk	Of which: Balance sheet credit risk	Total credit risk	Of which: Balance sheet credit risk	Total credit risk	Of which: Balance sheet credit risk	Total credit risk	Of which: Balance sheet credit risk
AAA to AA-	15,837	13,048	5,849	3,769	2,957	2,349	983	981	1,359	1,356	26,985	21,503
A+ to A-	2,377	2,323	12,271	11,272	3,999	3,897	1,385	1,309	2,560	2,543	22,592	21,344
BBB+ to BBB-	681	440	2,654	2,423	274	260	38	38	723	707	4,370	3,868
BB+ to B-	3	1	113	93	19	16	14	0	53	53	202	163
Below B-	35	35	-	-	0	0	-	0	0	0	-	-
Unrated	181	173	249	226	166	70	34	34	40	33	670	536
Total credit exposure to foreign financial institutions	**19,114**	**16,020**	**21,136**	**17,783**	**7,415**	**6,592**	**2,454**	**2,362**	**4,735**	**4,692**	**54,819**	**47,414**
Balance of problematic debts	0	0	0	0	102	102	0	0	0	0	102	102
Exposure as a share of assets (%)		0.04		0.04		0.03		0.01		0.04		0.03
Exposure as a share of equity (%)	0.66	0.55	0.64	0.54	0.54	0.48	0.20	0.19	0.65	0.64	0.57	0.50

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

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

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

SOURCE: Banking Supervision Department based on published financial statements.

Table 1.20
Exposure to foreign countries, the five banking groups, December 2015
(NIS million)

	Balance sheet exposure abroad			Net balance sheet exposure of overseas offices[b] of the banking corporation to local residents[c]	Total balance sheet exposure	Total balance sheet exposure to equity (%)	Total balance sheet exposure to assets (%)	Total off balance-sheet exposure[d]
	To governments[a]	To banks	To others					
US	19,266	9,077	17,746	37,865	83,954	87.7	6.0	25,250
UK	168	11,015	7,215	4,947	23,345	24.4	1.7	6,692
Germany	280	2,541	1,880	0	4,701	4.9	0.3	414
France	667	2,640	1,554	0	4,861	5.1	0.4	2,388
Switzerland	0	838	1,226	7,484	9,548	10.0	0.7	641
Belgium	-	-	-	0	-	-	-	-
Turkey	-	6	13	1,120	1,139	1.2	0.1	976
Netherlands	0	-	-	0	-	-	-	-
Italy	82	6	56	0	144	0.2	0.0	157
Spain	42	161	69	0	272	0.3	0.0	44
Portugal	0	0	14	0	14	0.0	0.0	-
Ireland	0	3	171	0	174	0.2	0.0	208
Greece	0	0	0	0	0	0	0	2
Other countries	2,219	13,453	20,077	1,656	37,405	39.1	2.7	7,551
Total exposure to foreign countries	**22,724**	**39,740**	**50,021**	**53,072**	**165,557**	**173.0**	**11.9**	**44,323**
Of which: Total exposure to LDCs[e]	393	##### ##	2,964	1,653	6,426	6.7	0.5	4,042
Exposures to Portugal, Ireland, Greece, Italy, and Spain, which were not included above.	0	71	473	0	641	0.7	0.0	273
Total exposure to Europe	**1,239**	**17,204**	**12,185**	**12,431**	**43,059**	**45**	**3**	**10,546**
***Of which:* Total exposure to Portugal, Ireland, Greece, Italy, and Spain**	**124**	**241**	**783**	**0**	**1,245**	**1**	**0**	**684**

[a] Governments, official entities, and central banks.

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

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

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

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

SOURCE: Banking Supervision Department based on published financial statements.

7. MARKET RISK

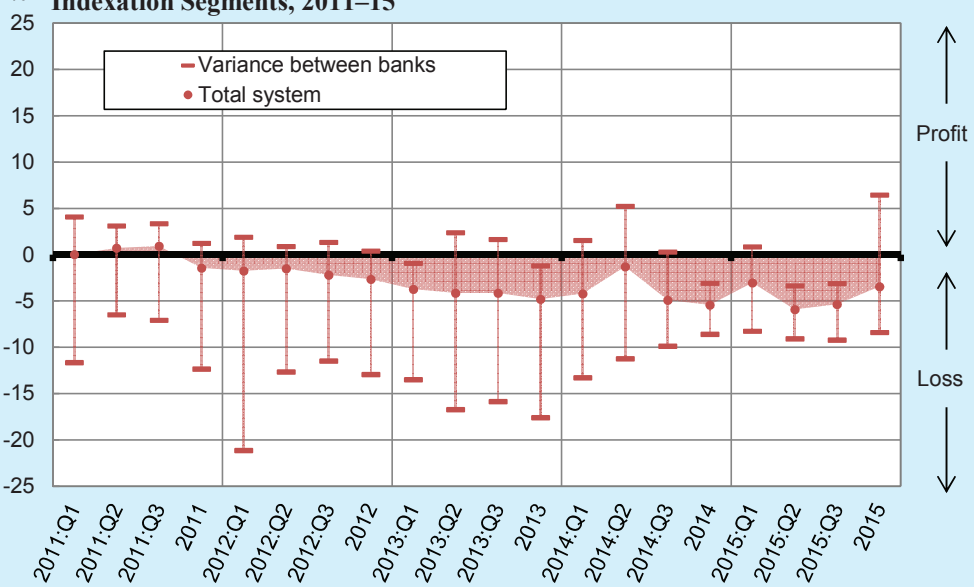
The analysis of market risk in this section deals with the erosion of the fair value of the banks' capital as a result of changes in market conditions, i.e., the interest rate, the foreign exchange rate, inflation and stock prices.[63] The level of banking system exposure to market risk (according to the measures described below) is lower than its exposure to credit risk, although the realization of market risk is liable to cause immediate losses to the banking system and a reduction in its equity capital, since the measurement of financial and other instruments in the financial statements is directly affected by market conditions. The following section will focus on two main risks to which the banking system is exposed: interest rate risk and indexation base risk.

a. Interest rate risk

In recent years, there has been some increase in the banking system's exposure to interest rate risk, although the variance between the banks remains high (Figure 1.40, Figure 1.41). The exposure to interest rate risk in 2015 remained at a level similar to that in the previous year for all of the banking groups, apart from Leumi, and these

In recent years, there has been some increase in banks' exposure to interest rate risk, and they are exposed to an interest rate increase.

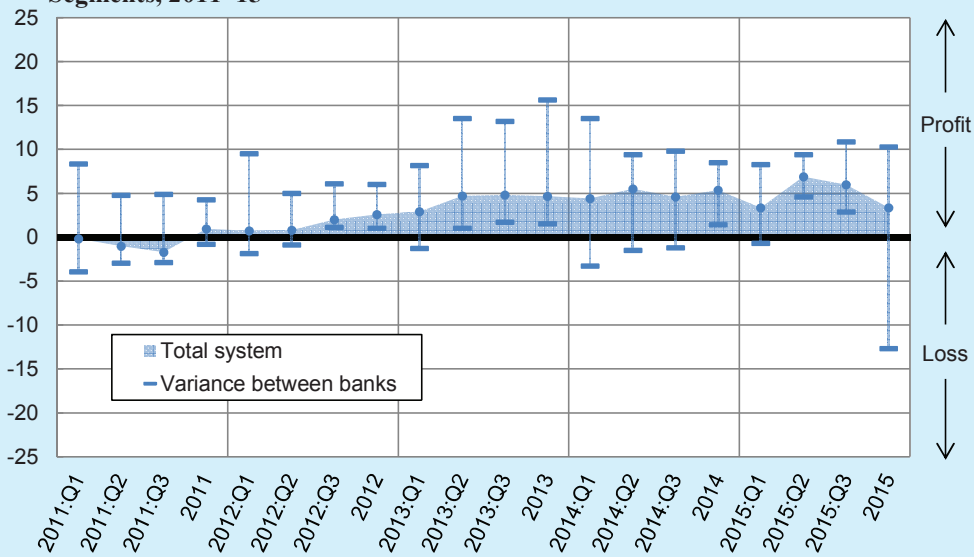
Figure 1.40
Rate of Change in the Net Fair Value of Capital of the Five Banking Groups as a Result of an Increase of One Percentage Point in the Interest Rate, Total Indexation Segments, 2011–15



The plot area reflects a loss (or profit) as a result of an increase in the interest rate.
SOURCE: Published financial statements and reports to the Banking Supervision Department.

[63] It should be emphasized that the risk as a result of change in the interest rate is measured using other approaches as well, including the adverse effect on profits or equity. In these approaches, risk is not necessarily manifested in the adverse effect on the fair value of the bank's capital. In this chapter, we will not discuss other approaches but only the potential erosion of the fair value of the bank's capital.

Figure 1.41
Rate of Change in the Net Fair Value of Capital of the Five Banking Groups as a Result of a Decline of One Percentage Point in the Interest Rate, Total Indexation Segments, 2011–15



The plot area reflects a loss (or profit) as a result of a decline in the interest rate.
SOURCE: Published financial statements and reports to the Banking Supervision Department.

groups are exposed to an increase in the interest rate in all segments. The erosion of net fair value of capital[64] in the four groups as a result of a potential rise of one percentage point in the interest rate ranges from 2.8 to 8.4 percent[65] as of the end of 2015, and relative to the previous year there was no major change (Table 1.21). Unlike the rest of the banking system, Bank Leumi is exposed in the CPI-indexed segment to a decline in the interest rate, since the interest rate has a major effect on its liabilities to its employees.[66] The erosion in net fair value of the bank's capital as a result of a potential decrease of one percentage point in the interest rate was 12.7 percent at the end of 2015, compared with 5.6 percent in the previous year as a result of a potential increase in the interest rate.

64 The net fair value of the bank's capital is equal to the difference between the fair value of financial assets and the fair value of financial and other liabilities in all of the indexation segments, in addition to the effect of derivative financial instruments.

65 The calculation is taken from the Board of Directors reports from the banking groups. These reports show how parallel hypothetical changes in the interest rate affect the net fair value of the financial instruments of a bank and of its consolidated companies.

66 It should be noted that it is impossible to compare the 2015 data for Bank Leumi to the 2014 data, due to the update of the Banking Supervision Department's directive regarding employees' right at the beginning of 2015. Therefore, the measurement of interest rate risk for 2015 (2014) includes (does not include) the liabilities for employees' rights according to fair value.

It is worth mentioning that the analysis relates to the risk resulting from a parallel shift in the yield curve and does not take into account the risk of a change in the slope of the yield curve.

In the **unindexed segment,** the exposure of the banking system to interest rate risk increased only somewhat during 2015, as a result of the upward trend in net positions[67], which continued in most of the banking groups. In a significant portion of the groups, the duration gap between assets and liabilities widened, which reflects sensitivity to the interest rate. This year, as in the previous year, the banking groups were exposed to an increase in interest rate. The erosion of net fair value of capital at the end of 2015, as a result of an increase of one percentage point in the interest rate, ranged from 2.4 percent to 8.5 percent in the unindexed segment.

In the **CPI-indexed segment,** the sensitivity of assets and liabilities to changes in the interest rate is higher than in the other indexation segments, since most of the assets and liabilities bear a fixed interest rate and they have medium to long terms to maturity. This segment is characterized by a high level of variance over time and between the banks. This year, exposure to the interest rate in some of the banking groups rose, while in others it declined. The exposure to the interest rate direction also varies among banks. The erosion of the net fair value of the banks' capital (in those banks that are sensitive to an interest rate increase) as a result of an increase of one percentage point in the interest rate ranged from 0.3 percent to 1.4 percent at the end of the reviewed period.

In the **foreign currency segment,** most of the banking groups have in recent years adopted a policy of maintaining low net positions with regard to their assets. All of the large banking groups were exposed to the risk of a rise in the interest rate in 2015,[68] as in previous years. The erosion in the net fair value of the banks' capital as a result of a potential increase of one percentage point in the interest rate ranged from 0.9 percent to 4.3 percent. It is worth noting that while there is a large positive correlation between the interest rates in the shekel segments of activity, the correlation is much lower between the shekel interest rate and the interest rates in foreign markets.

b. Indexation base risk

Total exposure of the banking system to indexation base risk declined in 2015, against the background of a reduction in net positions among some of the banks, both in the CPI-indexed segment and in the foreign currency segment. In addition, there was also a decline in the volatility of the foreign exchange rates and in inflation expectations during the past year, which also acted to reduce the potential loss as a

Banks' exposure to the CPI and the exchange rate declined a bit this year, and most of the groups were exposed to a CPI decline and to a depreciation similar to those of recent years.

[67] The net positions in the segment are equal to the difference between the fair value of financial assets and the fair value of financial and other liabilities in the indexation segment, in addition to the effect of derivative financial instruments.

[68] In the foreign currency segment, this refers to exposure to the interest rates in foreign markets.

Table 1.21

Exposure to changes in interest rates, the five banking groups, December 2014 and December 2015

(NIS million)

	Leumi		Hapoalim		Discount		Mizrahi-Tefahot		First International		Total system	
	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015
Unindexed segment												
Net position in segment[a]	21,555	20,805	19,937	20,085	2,405	5,232	1,372	-368	4,250	5,734	49,519	51,488
The change in the fair value of the net position in the segment as a result of an interest rate change[b]												
1 percentage point increase	-871	-842	-686	-810	-132	-245	-289	-242	-223	-347	-2,201	-2,486
1 percentage point decrease	961	838	716	895	289	446	189	260	255	417	2,410	2,856
The change in the fair value of the net position in the segment as a percentage of the net fair value of the bank's total equity												
Interest rate increase	-4.0	-8.5	-3.0	-3.1	-1.6	-2.4	-3.7	-2.8	-4.4	-6.0	-3.3	-4.1
Interest rate decrease	4.4	8.5	3.1	3.4	3.5	4.4	2.4	3.0	5.0	7.2	3.6	4.7
CPI-indexed segment												
Net position in segment[a]	2,758	-8,832	4,099	6,507	3,090	2,228	6,997	9,109	866	109	17,810	9,121
The change in the fair value of the net position in the segment as a result of an interest rate change[b]												
1 percentage point increase	-123	1,746	13	-68	-86	-142	52	79	-104	-82	-248	1,533
1 percentage point decrease	153	-2,229	20	51	87	190	-88	-104	130	105	302	-1,987
The change in the fair value of the net position in the segment as a percentage of the net fair value of the bank's total equity												
Interest rate increase	-0.6	17.6	0.1	-0.3	-1.0	-1.4	0.7	0.9	-2.0	-1.4	-0.4	2.5
Interest rate decrease	0.7	-22.5	0.1	0.2	1.0	1.9	-1.1	-1.2	2.6	1.8	0.5	-3.3
Foreign currency segment[c]												
Net position in segment[a]	-2,538	-2,056	-895	-569	2,797	2,613	-547	-77	-28	-21	-1,211	-110
The change in the fair value of the net position in the segment as a result of an interest rate change[b]												
1 percentage point increase	-216	-265	-387	-300	-493	-435	-2	-76	-37	-58	-1,135	-1,134
1 percentage point decrease	168	136	360	532	249	326	11	85	47	77	835	1,156
The change in the fair value of the net position in the segment as a percentage of the net fair value of the bank's total equity												
Interest rate increase	-1.0	-2.7	-1.7	-1.2	-5.9	-4.3	0.0	-0.9	-0.7	-1.0	-1.7	-1.9
Interest rate decrease	0.8	1.4	1.6	2.0	3.0	3.2	0.1	1.0	0.9	1.3	1.3	1.9
Total												
Total fair value of bank's total equity[d]	21,775	9,917	23,141	26,023	8,292	10,073	7,822	8,664	5,088	5,822	66,118	60,499
The change in the fair value of the bank's total equity as a result of an interest rate change[b]												
1 percentage point increase	-1,210	639	-1,060	-1,178	-711	-822	-239	-239	-364	-487	-3,584	-2,087
1 percentage point decrease	1,282	-1,255	1,096	1,478	625	962	112	241	432	599	3,547	2,025
The change in the fair value of the bank's total equity as a percentage of the net fair value of the bank's total equity												
Interest rate increase	-5.6	6.4	-4.6	-4.5	-8.6	-8.2	-3.1	-2.8	-7.2	-8.4	-5.4	-3.4
Interest rate decrease	5.9	-12.7	4.7	5.7	7.5	9.6	1.4	2.8	8.5	10.3	5.4	3.3

[a] The difference between the fair value of assets and the fair value of liabilities, including the effect of futures transactions in each indexing segment.
[b] Based on published financial statements - directors report: "The effect of potential changes in interest rates on the net fair value of financial instruments".
[c] Including the foreign-currency-indexed segment.
[d] The total of net positions in the three indexing segments.
SOURCE: Banking Supervision Department based on published financial statements.

result of the maximum estimated change in the foreign exchange rate and in inflation.[69] The potential loss in this scenario stood at about NIS 380 million, which constitutes 0.5 percent of the capital[70] of the five groups (Table 1.22). This represents a decline relative to 2014, since in that year the potential loss stood at about NIS 610 million (0.9 percent of capital). There is a high level of variation in the level of exposure between the banking groups, with the potential loss ranging from 0 to 1.9 percent of the bank's capital.

In the CPI-indexed segment, most of the banking groups this year were characterized by a surplus of assets over liabilities, as has been the case in recent years. Therefore they were exposed to an unexpected drop in the CPI, although their exposure declined somewhat relative to last year. The CPI fell by 1.0 percent in 2015, and was lower than the average of inflation expectations during the year as derived from the capital market (-0.1 percent). At least part of the risk implicit in the exposure was therefore realized.

In the foreign currency segment, the large banking groups' exposure to the foreign exchange rate declined in 2015 relative to the previous year. All of the large banking groups, apart from the Discount group[71], were exposed this year to a depreciation of the shekel due to a surplus of liabilities over assets in this segment. During 2015, the exchange rate of the shekel against the dollar was virtually unchanged, which may indicate that the risk implicit in the exposure to foreign currency was not realized this year.[72]

[69] The maximum estimated change in inflation and the exchange rate is calculated according to the monthly changes that occurred, respectively, in inflation expectations and in the nominal exchange rate of the shekel against the dollar during the last 7 years, on the assumption of a normal distribution and with a confidence level of 99 percent.

[70] For the purposes of this section, the bank's capital is equal to the total net balance-sheet balance of the financial items and the non-balance-sheet effect of the derivative instruments in the various indexation segments.

[71] Following the change in the accounting definition of investment for IDB New York (as a result of a Circular issued by the Supervisor of Banks, dated February 14, 2012 regarding the currency of activity of branches that are active abroad), the immunity of investment was cancelled at Bank Discount in order that the ratio of capital to risk components would not be sensitive to changes in the exchange rate.

[72] The assets and liabilities of the banking groups in foreign currency reflect, for the most part, assets and liabilities in dollars (between 70 and 90 percent) with a lower proportion of assets and liabilities in euros and other currencies.

Table 1.22

Exposure to changes in the CPI and the exchange rate, the five banking groups, December 2014 and December 2015

(NIS million)

	Leumi		Hapoalim		Discount		Mizrahi-Tefahot		First International		Total system	
	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015	2014	2015
Unindexed segment												
Total assets (excluding futures transactions and options)	235,891	270,159	245,915	281,512	119,482	126,463	119,977	134,438	82,577	92,050	803,842	904,622
Total liabilities (excluding futures transactions and options)	190,179	219,518	222,768	247,782	104,242	111,717	109,051	121,142	68,109	77,439	694,349	777,598
Effect of futures transactions and options	-18,927	-25,208	-3,487	-13,910	-13,678	-11,063	-9,111	-12,558	-10,308	-9,321	-55,511	-72,060
Total position in the segment[a]	26,785	25,433	19,660	19,820	1,562	3,683	1,815	738	4,160	5,290	53,982	54,964
The bank's total equity[b,c]	**17,802**	**22,424**	**24,778**	**27,022**	**8,655**	**9,846**	**9,733**	**10,778**	**4,795**	**5,477**	**65,763**	**75,547**
CPI-indexed segment												
Total assets (excluding futures transactions and options)	54,203	51,672	55,301	51,782	21,772	19,257	54,602	52,733	15,393	13,241	201,271	188,685
Total liabilities (excluding futures transactions and options)	56,971	50,997	43,111	41,391	16,919	13,969	39,116	36,800	13,887	12,539	170,004	155,696
Effect of futures transactions and options	-2,177	-1,308	-5,925	-2,106	-759	-2,047	-7,258	-5,911	-841	-505	-16,960	-11,877
Total position in the segment[a]	-4,945	-633	6,265	8,285	4,094	3,241	8,228	10,022	665	197	14,307	21,112
Maximum change in the CPI[d] (percent)	1.3	0.9	1.3	0.9	1.3	0.9	1.3	0.9	1.3	0.9	1.3	0.9
Loss as a result of the maximum change in the CPI												
CPI increase	62	6	-	-	-	-	-	-	-	-	62	6
CPI decline	-	-	79	76	52	30	104	92	8	2	243	199
Foreign currency segment[e]												
Total assets (excluding futures transactions and options)	94,589	85,592	99,573	91,289	61,364	55,338	22,115	20,174	15,154	16,165	292,795	268,558
Total liabilities (excluding futures transactions and options)	121,081	114,880	110,132	108,388	72,802	65,526	38,798	38,624	26,333	26,001	369,146	353,419
Effect of futures transactions and options	22,454	26,912	9,412	16,016	14,437	13,110	16,373	18,468	11,149	9,826	73,825	84,332
Total position in the segment[a]	-4,038	-2,376	-1,147	-1,083	2,999	2,922	-310	18	-30	-10	-2,526	-529
Maximum change in the exchange rate[f] (percent)	6.6	5.3	6.6	5.3	6.6	5.3	6.6	5.3	6.6	5.3	6.6	5.3
Loss as a result of the maximum change in the exchange rate[g]												
Weakening of the shekel (depreciation)	267	127	76	58	-	-	20	-	2	1	365	185
Strengthening of the shekel (appreciation)	-	-	-	-	198	156	-	1	-	-	198	157
Total maximum loss to the bank's total equity as a result of indexation base risk	**329**	**133**	**155**	**134**	**250**	**186**	**124**	**93**	**10**	**2**	**608**	**384**
As a percentage of the bank's total equity	1.8	0.6	0.6	0.5	2.9	1.9	1.3	0.9	0.2	0.0	0.9	0.5

[a] The total position in the segment as the difference between assets and liabilities in the segment, including the effect of futures transactions.

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

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

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

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

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

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

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

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

8. OPERATIONAL RISK

Operational risk is defined in the Banking Supervision Department's directives as "the risk of loss occasioned by the inadequacy or failure of internal processes, personnel, and systems, or by external events. This definition includes legal risk but does not include strategic risk and reputational risk".[73]

In recent years, operational risks have strengthened, particularly cyber and compliance risks. The banking system and the Banking Supervision Department are aiming to reduce exposures and improve preparedness for them.

The operational risk faced by banks in Israel and other countries has increased in recent years as a result of the development of banking activity and its complexity. The financial statements of the leading banks worldwide indicate that in recent years they have had to pay numerous large fines due to a wide variety of compliance events, including violations in the areas of money laundering, financing of terrorism, and tax laws; unfair practices in selling products to customers; manipulation of interest rates and foreign exchange rates, and so forth. Therefore, the banks in Israel are taking various measures to improve their ability to reduce operational risk, including business continuity and emergency preparedness risks. However, operational risk in the Israeli banking system remains high, against the background of global developments and the threat created by the geopolitical environment. This is particularly true in the case of cyber risk and compliance risk.

With respect to cyber risk, the threat to the banking system in Israel and worldwide is growing over time as a result of, among other things, the growing ability and sophistication of adversaries, the increasing difficulty in identifying attackers, and the increasing scale of potential damage. The realization of cyber risks is liable to disrupt the normal and secure functioning of a banking corporation and to cause, among other things, prevention of service to customers, the exposure of private information, the deletion and disruption of the bank's data and that of its customers, harm to public confidence, damage to the image of the bank and a disruption of its ability to properly manage its assets and those of its customers. In this context, it should be noted that in recent years, the scale of information security incidents, the leakage of information and the risk of fraud and embezzlement in financial institutions in Israel and worldwide has increased. The occurrence of these events is liable to compromise the privacy of customers, cause significant financial damage, harm the confidence of the public and even undermine the stability of a bank. These and other threats are intensifying in the short run, against the background of, among other things, structural and organizational changes that are part of the processes to increase efficiency that the banking system must implement in order to provide long-term solutions in a changing financial environment, reduce risk, and boost profitability in an environment of increasing competition. (These efficiency measures include, for instance, greater preparedness for the digital banking era, the merger of banks and the closing of branches.)

With respect to compliance risk, the activity of banks vis-à-vis their customers involves risks that are due to, among other things, the legal and regulatory environment

[73] Proper Conduct of Banking Business Directive 350: Operational Risk Management: "Legal risk includes, but is not limited to, exposure to fines/penalties or punitive damages as a result of supervisory activity, as well as private settlements".

that varies from country to country, and which are a cross-border phenomenon.[74] These risks have become more serious in recent years as countries increase their enforcement efforts aimed at financial institutions, with the goal of locating funds received by their citizens that are subject to taxation. As a result, investigations have been initiated against many banks worldwide, some of which have resulted in the imposing of fines. This includes Israeli banks, such as Bank Leumi which was fined by US authorities[75], and Bank Hapoalim and Bank Mizrahi-Tefahot which have also been investigated. Like other tax authorities worldwide, the Israel Tax Authority is also increasing its efforts to locate funds that are subject to taxation that have been received by citizens through activity both in Israel and abroad. In view of this, the Banking Supervision Department has required the banking system to assimilate a risk-based approach to identify activity or customers that are liable to expose the banking system to cross-border risk and to the risk that customers are exploiting the banking system by violating the tax laws in their country of origin, as well as to identify and monitor tax evasion from the authorities in Israel. In this context, the Banking Supervision Department supported the proposal to change the law in Israel such that it would include a tax violation as an origin violation.[76] It should be mentioned that since the Ministry of Finance notified the OECD in October 2014 that Israel will adopt the procedure of automatic exchange of information concerning financial accounts (Common Reporting Standard or CRS)[77] for tax purposes and since there is declining tolerance of compliance and money laundering risk, including the risk of bribery and corruption, the Banking Supervision Department has required the banking system to further increase its efforts to identify compliance and money laundering risk and to assess it. In this context, it has required the banking system to formulate policy, procedures and processes to minimize this risk and manage its business in order to avoid its realization, as well as emphasizing fairness, transparency and the management of conduct risk.

The banking system is therefore facing numerous challenges in the management of operational risk. These require, among other things, the investment of resources in computerized infrastructure, the assimilation of methodologies for the group management of operational risk, the maintenance of alertness and monitoring of changes in the legal and regulatory environments in their customers' countries of origin, efforts to increase involvement of control functions in monitoring risk, the definition and limiting of risk appetite, and the maintenance of control systems.

[74] This is valid both with respect to countries in which the bank operates, and countries from which its customers originate.

[75] On the scale of about $400 million.

[76] The law was passed in second and third reading in the Knesset in March 2015.

[77] According to this procedure, financial institutions, including banks, will be responsible for, among other things, identifying account owners and providing the tax authorities with information on account owners who are foreign residents.

Box 1.4
Cross-border risk and compliance risk for global banks

- **The risks involved in the banks' cross-border activity have grown significantly in recent years.** Banks all over the world paid considerably heavy fines when they or their customers violated laws.
- **Various countries have started to impose sanctions against citizens for tax evasion** and against banks where the undeclared funds were deposited.
- **As part of the lessons learned from the investigations by US authorities of banks in other countries and in Israel, the Banking Supervision Department has required the banks to examine their activity with all nonresidents,** from all countries, and to ensure that they are compliant with the laws that apply to them. The Banking Supervision Department expects that the banks will apply stringent standards both on new customers and on existing ones, whether in Israel or any other country where they have branches.
- **The implementation of the new supervisory policy, and risk-oriented management on the part of the banks, has resulted in many nonresidents choosing to withdraw their funds from Israeli banks.**

Background

The cross-border activity of banking corporations and their customers exposes the banks to various risks. These risks originate in the obligation of compliance with the law both in the host country and in the customer's country of origin, and in the actions taken by various countries in order to enforce tax laws, regulations, consulting laws, directives, etc. The scope of these actions has widened in recent years due the determined efforts by countries to locate funds on which taxes are owed and against the background of social processes that have raised awareness of compliance, money laundering, financial crimes, etc.

The US has been a leader in the adoption of a proactive stance on this issue and it is taking steps against banks that manage accounts of US customers and are suspected of helping their customers hide assets from the US tax authorities. In 2010, the US passed the Foreign Account Tax Compliance Act (FATCA), which is meant to enhance the reporting to US tax authorities by imposing reporting requirements on any financial entity that receives deposits or funds from US citizens. Other countries, including France, Germany and Italy, have followed the US and have taken various steps in order to collect taxes that have been evaded. In addition, employees of global banks have increased the scope of whistle blowing as a result of the incentives provided by the governments and tax authorities. In 2014, the Ministry of Finance notified the OECD that Israel would adopt the standard for automatic exchange of information on bank accounts (called the Common Reporting Standard, or CRS) by the end of 2018. This standard is expected to expand the scope of information that banks and financial institutions will be reporting to the tax authorities. It is emphasized that Israel has been signed on agreements for the exchange of information between countries for several years.

Violation of tax laws

Various countries, led by the US, have as noted increased their enforcement measures, primarily with respect to cross-border activity that is intended to, among other things, violate tax laws in those countries. In 2008, the FBI began investigating suspicions that UBS, the largest bank in Switzerland, had assisted US customers to evade taxes owed in the US on a scale of billions of dollars. In 2009, the supervisory authorities in Switzerland were forced to hand over information on the accounts of US customers. In 2011, indictments were brought against four bank employees of Credit Suisse, the second largest bank in Switzerland, for collaborating with US customers to defraud the tax authorities, and in 2014 the bank admitted that it had helped US customers submit false tax returns to US authorities. In 2011, US authorities notified the Swiss authorities that 14 banks were suspected of aiding US customers with tax evasion, including three Israeli banks (further details appear in the section on operational risk). Regarding the rest of the Swiss banks, the two countries came to an agreement that the US would not file suits against them but instead they would be divided into three categories—according to agreed-upon rules—and will pay fines according to the category to which they belong.

As a result of the investigations and the focused measures taken by the US government, the wall of confidentiality that surrounded Swiss banking for hundreds of years has been breached and other countries are also instituting laws and taking action to enforce tax laws on cross-border activity. Among the countries that have followed in the path of the US, and have begun to investigate customers and banks worldwide, are France, Belgium, Argentina and also Israel. The local tax authorities in Israel have begun to investigate whether Israeli citizens have paid taxes on funds deposited in Switzerland.

Violation of other laws and fines that have been imposed on banks worldwide

Cross-border risk also includes compliance risk that is not directly related to violations of tax laws but rather violations of other laws. Following are some examples:

Risk related to compliance with US laws to prevent transactions with enemy nations or with countries that sanctions have been imposed on: The most serious event took place recently against BNP Paribas, a French bank that operates in the US primarily through branches. The bank admitted guilt and in 2015 was fined $8.9 billion for carrying out transactions valued at billions of dollars between 2004 and 2012, in which the funds were channeled to Sudan, Cuba and Iran. These transactions constituted a violation of the sanctions imposed on these countries and also a violation of the temporary prohibition of converting US dollars at the bank's New York branch.

Risk related to compliance with laws to prevent financial crimes and manipulations: The realization of risk in this area has increased in recent years against the background of the manipulations that some of the global banks have carried out with exchange rates in the currency and LIBOR markets. Foreign banks operating in the US, including Barclays and Deutsche Bank, have paid fines amounting to billions of dollars, most of which were imposed by the US authorities (see Table 1).

Risk related to compliance with money laundering laws: In 2015, the South African Standard

Table 1

Fines imposed by the US authorities[a], 2012–15 ($ million)

Banks	Prevention of money laundering and tax issues	Foreign exchange market and LIBOR rate	Mortgages[b]	Other[c]	Total
Bank of America (BoA)		455	37,906		38,361
J.P. Morgan Chase		1,900	19,290	1,227	22,417
Citigroup		2,290	7,000		9,290
BNP				9,000	9,000
Wachovia (now Wells Fargo)	160		5,350		5,510
Deutsche Bank		3,500	1,900		5,400
Credit Suisse	3,136		885		4,021
Morgan Stanley			3,850		3,850
UBS	376	2,642	746		3,764
RBS	600	2,458			3,058
Barclays	298	2,470			2,768
HSBC	1,900	618			2,518
Rabobank		1,100			1,100
Sun Trust Banks Inc.			968		968
Standard Chartered	627				627
Société Générale		620			620
ING Bank	619				619
Bank Leumi	400				400
Lloyds Bank	350				350
BSI SA (Swiss Bank)	211				211
Total	8,677	18,053	77,895	10,227	114,852

[a] The fines include the portion paid to authorities in Europe as part of the overall framework reached with some of those banks mentioned. In all cases, the portion paid to the European authorities is smaller than the portion paid to the supervisory authorities in the US.

[b] Including compensation to the American government mortgage agencies.

[c] Including contraventions of the US boycott directives.

SOURCE: Notices in the media, mainly in the Financial Times and in the Wall Street Journal.

Bank was charged a fine of $32.6 million for bribery violations that occurred in 2012–13, as part of a deal for infrastructure financing in Tanzania, a deal that was executed in the banks' London branch. In 2013, the US authorities began investigating J.P. Morgan Chase, the largest bank in the US, on suspicion that it employed the son of the Minister of Trade in the Chinese government and allegedly adopted a policy of recruiting workers who had a connection to senior position holders in the Chinese government or to the elite of the political and/or business community in China. This was allegedly to expedite projects and to win tenders related to the Chinese government. The investigation is ongoing.

Fines

The table lists the fines imposed on banks operating in the US (including foreign banks) according to which law/regulations were violated. The majority of the fines (most of them are settlements) were collected by the authorities in the US, after regulators and the US Department of Justice took a stance against the financial institutions that was relatively stringent in comparison to that of their European counterparts. According to information in a report by the Office of the Comptroller of

the Currency (OCC) for autumn 2015, the total legal fees and settlements paid by the three largest bank holding corporations in the US reached a record $26 billion in 2014, compared to about $22 billion in 2013. The table shows that the vast majority of the fines imposed on global banks were in the area of mortgages, primarily because the banks had violated laws, regulations and directives regarding the handling of mortgages on the following levels:

- Handling of foreclosures – the banks used dubious practices when foreclosing on real estate assets, primarily residential real estate in the US, due to the violation of procedures for registering an asset and transferring it to the legal status of foreclosure.
- Misleading of investors in the sale of mortgages and their marketing –federal agencies in the US securitized mortgages they had purchased from the banks (MBS) in order to sell them in the secondary market. However, in the end they received portfolios of impaired mortgages, which had not met the standards of proper underwriting, from the banks.
- Misleading of customers – the banks refrained from full disclosure to customers and misled them in the marketing of mortgage products and their sale.

Directives issued by the Banking Supervision Department in order to reduce exposure to cross-country risks

As part of the lessons learned from the events both in Israel and worldwide, the Banking Supervision Department has adopted a more stringent approach than what is common in other countries with respect to the management of risk arising from the cross-border activity of customers. In March 2015, it published a bulletin on this issue with the goal of listing the actions to be taken by the banks in order to reduce the cross-border risk of their customers, including the adoption of a policy and procedures for handling this risk and identifying and classifying customers at risk.

Furthermore, in June 2015, the Banking Supervision Department published a revision of Proper Conduct of Banking Business Directive no. 308 in which it specified that if a bank knowingly participates in a deal carried out by customers in order to avoid regulatory or financial reporting, to evade taxes or to facilitate illegal behavior, it exposes itself to significant compliance risk.

In addition, the Bank of Israeli supported an amendment to the Prohibition on Money Laundering Law, 5760-2000, and the addition of tax violations to the list of origin violations. The amendment was approved by the Knesset at the end of March 2016 and thus legislation in Israel is now in line with the relevant international standards.

9. LIQUIDITY RISK

Over the course of the year, there was an improvement in the liquidity of Israeli banks and their ability to meet short term liabilities.

Israeli banks' liquidity and their ability to meet their short-term obligations improved during the review period, as a result of the measures undertaken due to Banking Supervision Department requirements. This development translates into an adequate level of liquidity in the system as a whole, which is reflected in the value of the Basel III Liquidity Coverage Ratio (LCR)[78] (the ratio measures the banks' ability to withstand a short-term stress scenario), as well as the high quality of the banks' liquid assets and the stable composition of funds.

In September 2014, the Banking Supervision Department published a new Proper Conduct of Banking Business Directive (221) on the Liquidity Coverage Ratio. The Directive adopts the recommendations of Basel III in Israel and completed the work of the professional staff set up by the Banking Supervision Department for this purpose, following an analysis of the Quantitative Impact Study (QIS) that the banks submitted at the request of the Banking Supervision Department. The Directive went into effect in April 2015, and its implementation constitutes another major step on the way to overall adoption of Basel III in Israel and to improving risk management, the resilience of the banks and their ability to absorb shocks of various kinds.

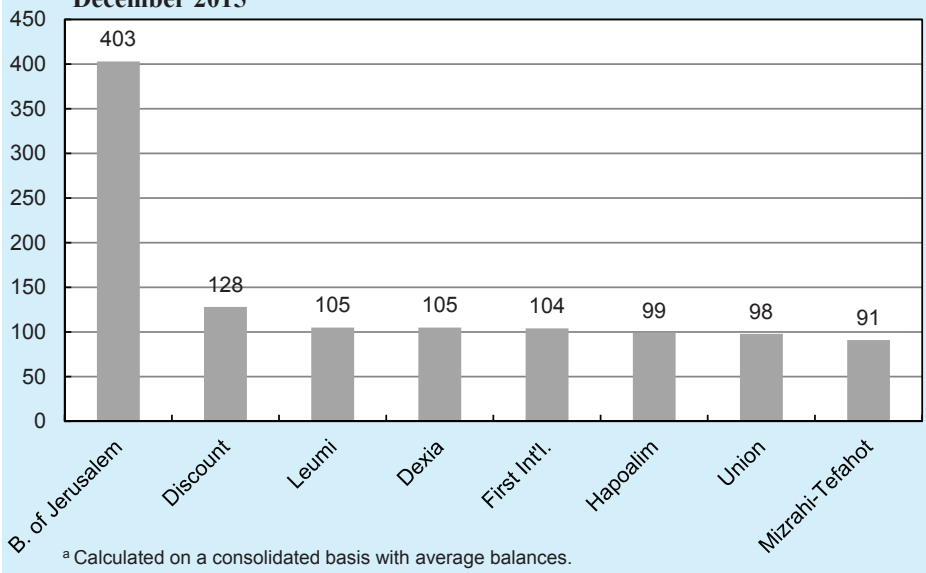
The aggregate value of the LCR (activity in Israeli currency and in foreign currency)[79] stood at about 111 percent in December of this year (Table 1.1), which is higher than the minimum requirement set by the Banking Supervision Department for January 2016 (80 percent) as part of the gradual implementation of Basel III.[80] The total value of the ratio (total activity) exceeded the regulatory requirements for all of the banks in the system (Figure 1.42), and in the last quarter of the year there was an increase as a result of the improvement in the ratio in Israeli currency. The value of the ratio exceeded the minimal regulatory requirements in all of the banks for both activity in Israeli currency and activity in foreign currency. The liquidity of the Israeli

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

[79] Calculated on a consolidated basis and on the end-of-period balances.

[80] As of April 1, 2015, the minimum requirement stood at 60 percent; at the beginning of January 2016 it stood at 80 percent; and in January 2017 it will reach a target of 100 percent.

Figure 1.42
Liquidity Coverage Ratio (Total Activity)[a], Total Banking System, December 2015



[a] Calculated on a consolidated basis with average balances.
SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

banks is lower than parallel banks in the EU in the two size categories examined[81] (Figure 1.43). However, to a certain extent this is due to the fact that the Europeans carried out regulatory adjustments in the calculation of the ratio and these adjustments generally have a positive effect on its value.

The quality of Israeli banks' liquid assets is high, greater than that of banks in Europe.

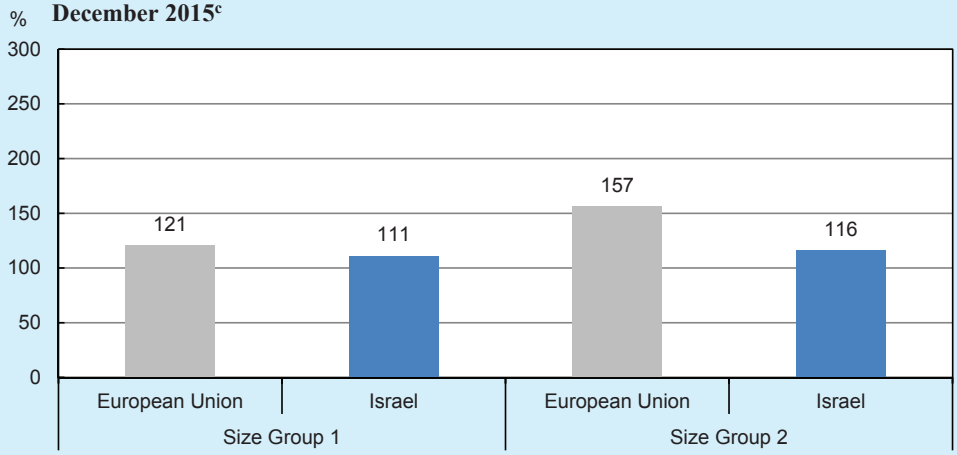
The liquid assets of the Israeli banks are of high quality[82], and this is reflected in the composition of the portfolio and in the high share of Tier 1 assets. Thus, the quantity of cash and deposits at the Bank of Israeli greatly exceeds the monetary liquidity requirement, and together with Israel government bonds and bonds of foreign governments, they constitute 97 percent of the total liquid assets that are eligible for the calculation of the LCR (Figure 1.44). The high quality of the liquid assets is also reflected in the comparison to banks in the EU. This comparison shows the higher quality of liquid assets among Israeli banks in the two size categories examined, even though the Europeans have made lenient regulatory adjustments.

With regard to the quality of funds, it can be seen that they are stable and that Israeli banks are financing their activity primarily by means of retail deposits (private individuals and small businesses) and less by means of wholesale financial deposits,

[81] Group 1 includes banks whose total Tier 1 capital is greater than 3 billion euros and that engage in international activity (comparable to Leumi, Hapoalim and Discount); Group 2 includes banks with total Tier 1 capital that is less than 3 billion euros, or higher than 3 billion euro but that do not engage in international activity (comparable to all the banking corporations in Israel apart from the three largest).

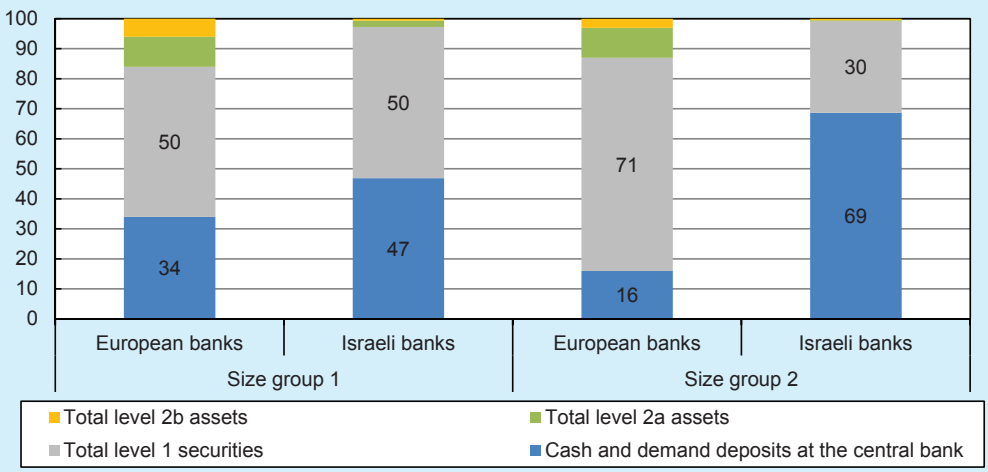
[82] According to their definition for purposes of calculating the LCR.

Figure 1.43
Liquidity Coverage Ratio (Total Activity) of Banks in Israel[a] and the European Union, Distinguishing Between Two Size Groups[b], Total Banking System, December 2015[c]



[a] Calculated on a bank basis by end-of-year balances.
[b] Size group 1 includes banks with total Tier 1 capital of more than €3 billion with international activity (parallel to Leumi, Hapoalim and Discount in Israel). Size group 2 includes banks with total Tier 1 capital of less than €3 billion or more than €3 billion but with no international activity (parallel to all other Israeli banks).
[c] European Union values—June 2014 averages.
SOURCE: European Union data—EBA; Israel data—based on reports to the Banking Supervision Department.

Figure 1.44
Composition of the Stock of High-Quality Liquid Assets of Banks in Israel[a] and the European Union, Distinguishing Between Two Size Groups[b], Total Banking System, December 2015[c]



[a] Calculated on a bank basis by end-of-year balances.
[b] Size group 1 includes banks with total Tier 1 capital of more than €3 billion with international activity (parallel to Leumi, Hapoalim and Discount in Israel). Size group 2 includes banks with total Tier 1 capital of less than €3 billion or more than €3 billion but with no international activity (parallel to all other Israeli banks).
[c] European Union values—June 2014 averages.
SOURCE: European Union data—EBA; Israel data—based on reports to the Banking Supervision Department.

Quality of sources was slightly impaired this year, with an increase in the share of on-demand deposits.

since the latter are generally short term and tend to "dry up" in times of crisis. In December of 2015, retail deposits accounted for about 55 percent of the total deposits up to one month, financial deposits for about 20 percent and non-financial wholesale deposits[83] for about 25 percent. Nonetheless, the quality of the funds was adversely affected somewhat since the share of on-demand deposits rose, as a result of the fall in prices in the capital market during the second half of the year and the low interest rate.

10. STRESS TESTS

Macroeconomic stress test of the banking system on the basis of a uniform scenario, 2015–16

a. General

It is general practice worldwide to evaluate the risks facing the banking system by means of, among other things, a stress test based on a uniform stress scenario. The test is conducted on the system as a whole to assess the scenario's effect on the banks' profitability, capital and stability. In this process, the banks carry out the test by means of their internal methodologies, and at the same time the Banking Supervision Department also does so using a consistent and uniform methodology of its own. The process contributes to understanding the risk factors to which the banking system and the individual banks are exposed and serves as a tool for evaluating the resilience of the banking system and ensuring a sufficient level of capital. However, the test does not constitute a forecast as it is based on models and numerous assumptions.

The realization of the macroeconomic stress scenario with a geopolitical nature is liable to lead to marked losses at banks. However, capital ratios would not decline below the required minimum.

The result of the test carried out by the Banking Supervision Department this year[84] indicated that the realization of a macroeconomic stress scenario of a geopolitical nature will have a significant effect on the banking system, which will record a major loss during the second year of the scenario. Nevertheless, the banks' capital ratios are not expected to fall to under the minimum required by the Banking Supervision Department, a Common Equity Tier 1 capital adequacy ratio of 6.5 percent. The findings reflect the direct effect of credit and market risk but do not take into account other effects, such as a decline in liquidity (which may have a significant effect), the damage to the reputation of the bank and feedback effects. Yet at the same time, the results tend to be somewhat more severe since they do not take into account the response of the banks' managers to the crisis.

The following are details of the characteristics of the scenario and the test results. The results should be viewed as indications of the banks' level of risk and as an additional measure for estimating it.

[83] Deposits of nonfinancial corporations.

[84] The following banks participated in the stress test: Leumi, Hapoalim, Discount, Mizrahi-Tefahot, First International, Union Bank, and Bank of Jerusalem.

b. Scenarios

The test carried out in 2015 was based on two scenarios: a base scenario and a stress scenario. The stress scenario is very severe, and reflects the risk factors to which the Israeli economy and the banking system are exposed. It should again be emphasized that the stress scenario does not constitute a forecast but rather a hypothetical situation that is meant to test the resilience of the banks in a different macroeconomic environment. The scenario takes place over 13 quarters and its starting point is September 30, 2015.

Base scenario: This scenario reflects the expected path of the economy and is based on the Bank of Israel's macroeconomic forecasts, on the forecasts of international financial institutions regarding global developments, and on other assessments of developments in the economy, all of which were as of the time the scenarios were created.

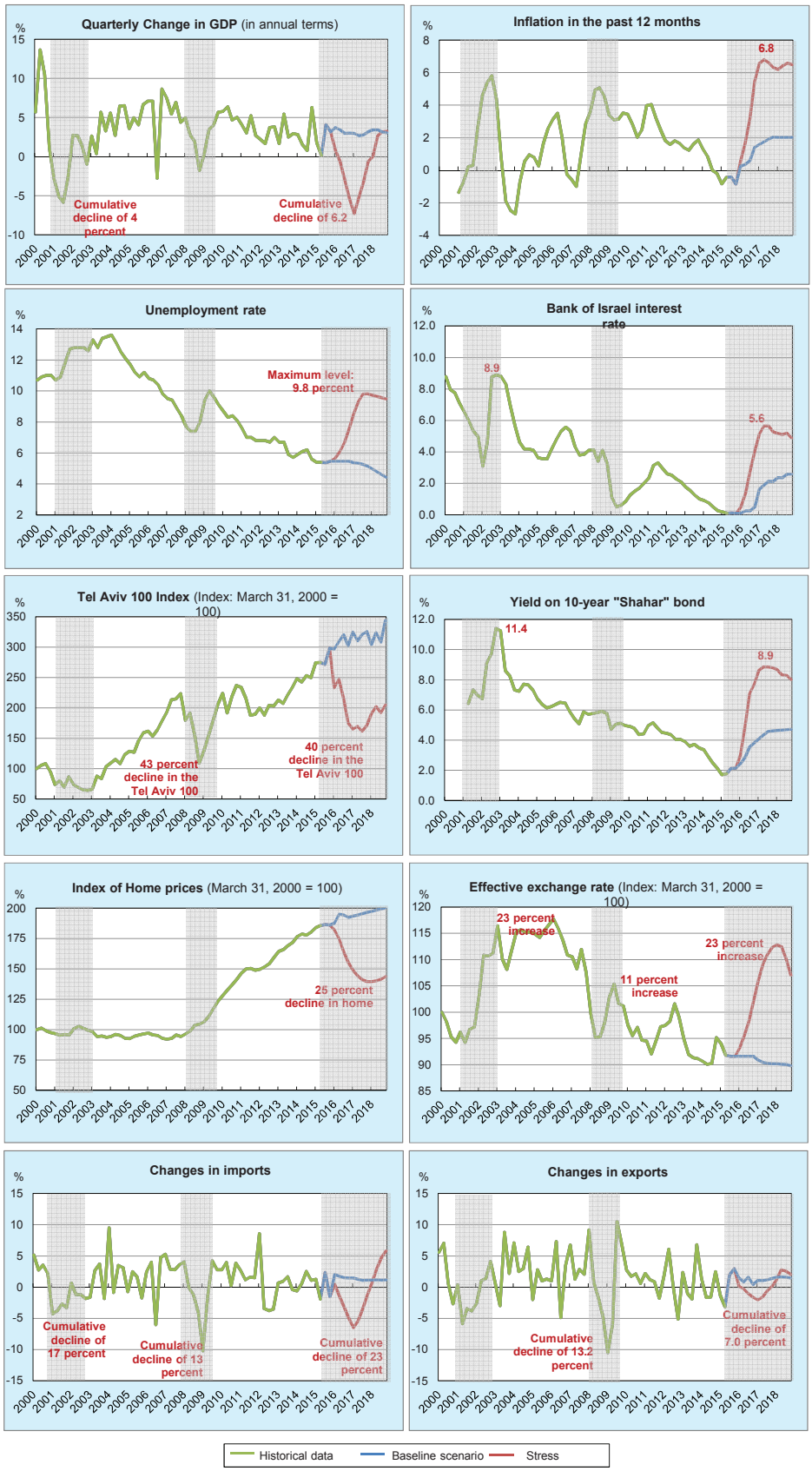
Stress scenario: This macroeconomic scenario is characterized by a severe and prolonged domestic shock, as a result of deterioration in Israel's geopolitical situation. The events have a major effect on the economy's productive capacity which, together with significant external administrative barriers, negatively impact the demand for Israeli exports and the ability to import goods. As a result, there is a sharp depreciation and an increase in inflation and the interest rate. The real effect is also manifested in a major negative impact on the labor market and on the housing and real estate market. Alongside the decline in real activity, there is also a sharp decline in the prices of financial and real assets, against the background of the underpricing of risk in the bond market and the high housing prices.

Figure 1.45 shows how the main macroeconomic variables develop in each of the scenarios and Table 1.23 presents an international comparison of the main variables in the stress scenarios that were used in the selected countries.

c. Assumptions

The Banking Supervision Department carried out the uniform stress test on the basis of various assumptions, such as: no change in asset balances and composition during the scenario (in order to be able to understand the source of the changes in the banks' results); no additional raising of capital; and the actions taken by the banks' management in response to the crisis are not taken into account. The results of the test reflect its direct effect on capital, profitability, the credit portfolio and the securities portfolio and do not include a possible decline in the banks' liquidity or accompanying indirect effects, such as a lowering of the banks' ratings or a drop in investor confidence.

Figure 1.45
Historical Macroeconomic Data and Development of Scenarios, 2000–18[a]



[a] The shaded areas denote crisis periods.
SOURCE: Published financial statements and reports to the Banking Supervision Department.

Table 1.23
Comparison of main macroeconomic variables in a uniform stress test[a], Israel and selected economies

(percent)

	Israel (2015)		US (2016)			Europe (2016)		UK (2015)	
Main macroeconomic variables	**Starting point**	**Stress scenario**	**Starting point**	**Stress scenario**	**Severe stress scenario**	**Starting point**	**Stress scenario**	**Starting point**	**Stress scenario**
GDP - Maximum contraction in the stress scenario		**6.2%**		**1.8%**	**6.1%**		**2.3%**		**1.5%**
Unemployment rate - Maximum level in the stress scenario	5.4	**9.8**	5.0	**7.5**	**10.0**		**12.4**	5.7	**9.2**
Monetary interest rate[b] - Maximum/minimum level in the stress scenario	0.1	**5.6**	0.1	**0.1**	**-0.5**	-	-	0.5	**0.0**
Inflation - Maximum/minimum annual change in the stress scenario	-0.4%	**6.8%**	0.1%	**-0.5%**	**0.6%**		**-0.9%**	-0.1%	**-0.9%**
Change in the currency	Depreciation of the ₪ against the basket of currencies[c]	**23%**	Appreciation of the $ against the €	**-11%**	**-14%**		-	on of the £ against the $ on of the £ against the €	**12%** **-16%**
Long-term yields - Maximum/minimum level in the stress scenario	2.1	**8.9**	2.2	**1.3**	**0.2**	1.2	**2.4**	2.1	**1.0**
Stock index - Maximum change of the leading index in each country		**-40%**		**-26%**	**-51%**		**-54%**		**-36%**
Home prices - Maximum change during the stress scenario		**-25%**		**-12%**	**-25%**		**-9%**		**-20%**

a Duration of the scenario: Israel—13 quarters; US and Europe—3 years; UK—5 years.

[b] Data regarding the ECB's monetary interest rate were not published in the stress scenario carried out in Europe. In the US—3 month Treasury bill.

[c] In Israel - the nominal effective exchange rate, including the yen, pound sterling, US dolllar and euro (the currencies of Israel's main trading partners).

SOURCE: Israel—Bank of Israel; US—Federal Reserve; UK—Bank of England; Europe—European Banking Authority.

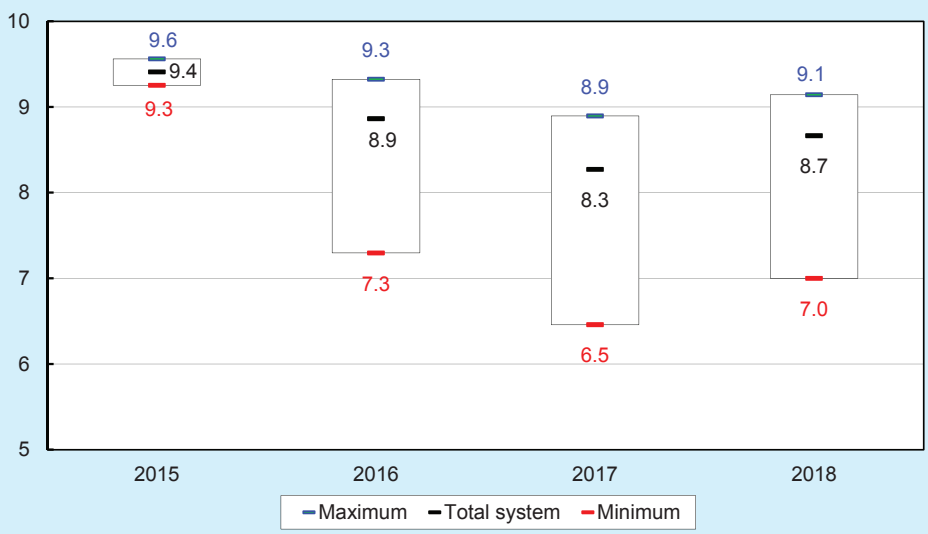
d. Findings

The realization of the domestic macroeconomic stress scenario, against the background of deterioration in Israel's geopolitical situation, is expected to seriously affect the banking system. The results, which relate to direct damage caused to the banking system, subject to the assumptions presented above, show that the capital ratios of the banks do not drop to below the required minimum. However, during the second year of the scenario, the banking system suffers a major loss of about NIS 3 billion, which represents a return on capital of about -3.3 percent (Figure 1.46, Figure 1.47). The Common Equity Tier 1 capital ratio of the banking system declines from 9.4 percent in September 2015 to a low of 8.3 percent during the scenario. The capital ratio of the bank that is the worst affected dropped to a low of about 6.5 percent during the scenario.

The most notable negative impact on banks' profitability derives from credit losses in the business portfolio and from credit concentration in the real estate and housing industry.

In the scenario described above, the most serious effect on the profitability of the banks is derived from credit losses. The economic recession will make it difficult for business and private borrowers to meet their commitments and the banks will record major losses in the credit portfolio. During the three years of the scenario, the banks will record credit losses totaling about NIS 40 billion (before tax), constituting an average annual loss of 1.5 percent. The drop in imports and exports is manifested in credit losses in the business sector (excluding construction and real estate), which accounts for 40 percent of the losses in the banks' credit portfolio. Another significant

Figure 1.46
Stress Test[a]: Development of Common Equity Tier 1 Ratio, Total System, December 2015 to December 2018

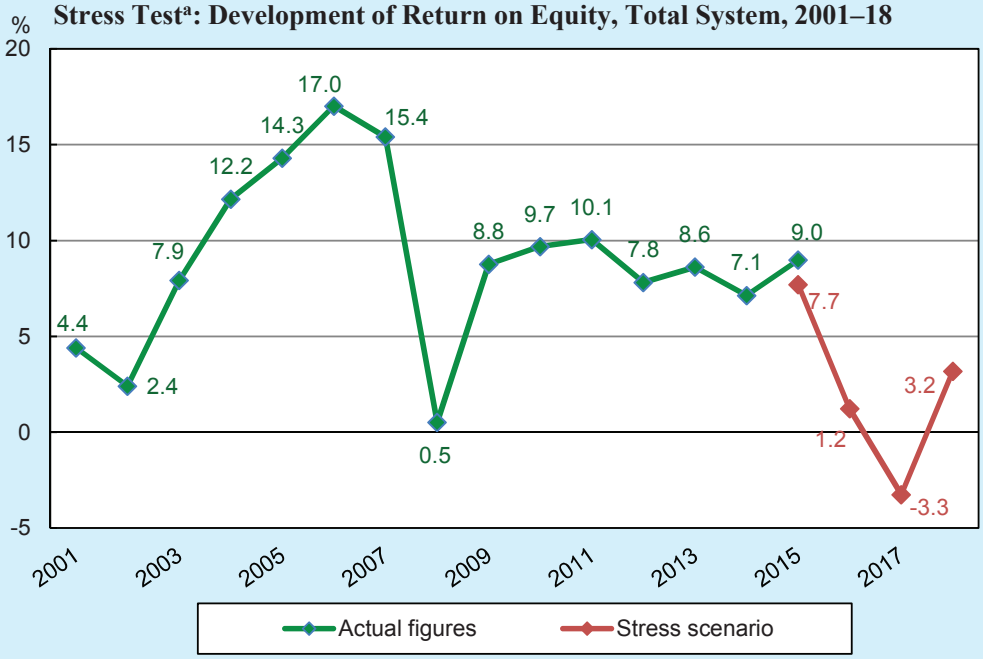


[a] Based on models and estimations, and does not constitute a forecast.
SOURCE: Based on reports to the Banking Supervision Department.

risk relates to the banks' exposure to the construction and real estate industry and the housing market. These losses together account for about 40 percent of the credit losses during the scenario, against the background of a major disruption in the labor market, a sharp drop in housing prices and an increase in the price of raw materials used in construction. The high correlation between these sectors increases the industry concentration risk and is liable to exacerbate the loss by way of feedback effects. However, it should be mentioned that the risk implicit in the housing credit portfolio on its own has declined relative to previous years, due to the improvement in the risk parameters of the portfolio as a result of the regulatory measures taken in previous years (for further details on the results of the stress test in the housing credit portfolio, see the section on credit).

Alongside the credit losses, the scenario is expected to lead to large declines in the value of the banks' securities portfolio, due to the sharp increase in interest rates and credit spreads and declines in share prices. The total resulting negative impact to the banks' capital is expected to reach about NIS 15 billion. The serious and immediate negative impact in the market may also cause a chain reaction and indirect ramifications, such as a drop in investor confidence and a sharp decline in bank and other share values. Alongside the losses in the credit and securities portfolios, the banks' net interest income is expected to increase as a result of higher interest rates, which will offset some of the losses in these portfolios.

Figure 1.47
Stress Test[a]: Development of Return on Equity, Total System, 2001–18



[a] Based on models and estimations, and does not constitute a forecast.
SOURCE: Based on reports to the Banking Supervision Department.