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Letter from the Supervisor of Banks, Banking Supervision Department Survey for 2019 and the first half of 2020

This survey is being published at the height of the global coronavirus crisis, which has been defined by the IMF as the worst economic crisis since the Great Depression of the 1930s. In Israel, GDP is expected to contract significantly in 2020 while unemployment is expected to increase considerably, and there is major uncertainty as to the duration of the health crisis and its implications for the economic situation.

This survey primarily relates to **developments in the banking system during 2019:** actions taken by the Banking Supervision Department in recent years in order to **promote competition**, and in particular the granting of the first banking license in 40 years, the completion of the separation of two credit card companies from the banks, the launch of a credit data system at the Bank of Israel, support for the establishment of a computer service bureau for new banks which was led by the Ministry of Finance, and the advancement of the “open banking” project; **the promotion of innovation** and digital transformation in banking and the payments systems; and the **encouragement of efficiency** in the system, and the significant progress made in these three areas. This is in addition to a description of the additional steps taken by the Banking Supervision Department in 2019 to reinforce the management of developing risks, and in particular, the **management of cyber risk** and technology risk in general, including the signing of a memorandum of understanding with the National Cyber Directorate.

However, and against the background of the exceptional developments that took place after the end of 2019, **I will also relate to the current crisis, namely the coronavirus crisis, in this letter,** including the extent to which the banking system was prepared for it, the goals defined by the Banking Supervision Department at the beginning of the crisis and the numerous steps that it took in order to ensure the ability of the banking system to support the economy during the crisis.

At the onset of the crisis, the coronavirus was met by a resilient Israeli banking system that was prepared to endure a major crisis and that had the ability to support the Israeli economy.

The strength of the Israeli banking system is a result of the banks’ prudential management, which can be attributed to the tight supervision of the banks over the years. Since the financial crisis of 2008, the Banking Supervision Department has significantly increased the capital and liquidity requirements that apply to the banks and has put in place requirements to prepare system-wide for stress scenarios. These requirements strengthened the stability of the system and the extent of its preparedness for a major economic crisis. Thus, the capital ratios of the banks in Israel rose as a result of these requirements from 7.6 percent in 2008 to 11.2 percent at the end of 2019 (furthermore, the capital in the banking system in Israel is calculated conservatively and the capital ratios are solid relative to banks in other countries). At the same time, the Banking Supervision Department tightened the restrictions and regulations regarding the exposure of the banking system to large borrowers and led the way to a reduction in credit risk during the past decade, including a drop in the quantity and share of credit to large borrower groups, an increase in retail credit, which is dispersed among many borrowers, and an increase in housing credit, which was carried out in parallel to numerous other macroprudential steps, resulting in a situation in which leverage and the risk to the banks and to households from mortgages is not high relative to other countries. In addition, the Banking Supervision Department issued detailed directives regarding business continuity and activity during an emergency.

The digital transformation undergone by the banking system in recent years, which was supported and guided by the Banking Supervision Department, facilitated the continuation of banking service provision to the public during the crisis. Thus, despite the limitations imposed by the government on leaving one’s home and the need to close branches to the public during the crisis, most customers were able to carry out day-to-day banking activities remotely, without having to visit a branch and thus avoiding the health risk involved.

At the beginning of the crisis, the Banking Supervision Department defined three main objectives:

1. **Protecting the public's bank deposits and maintaining the stability of the banks during the crisis**
   The Banking Supervision Department, immediately at the onset of the crisis, required that the banks submit an analysis of the expected developments at each bank under two stress scenarios. The first was a major crisis but a quick recovery beginning at the end of April 2020; the second was a continuation of the crisis into 2021. Based on these scenarios, we analyzed the stability of the banks and the possible implications of the crisis on capital ratios, credit losses, liquidity, profitability, etc. The overall conclusion from these scenarios is that even though the banks are expected to suffer large losses in credit and in their nostro portfolio, which will worsen the longer the crisis continues, the system and each of the banks within it will remain stable.
   On the basis of the information in our possession when this survey was written, in the **main scenario for the coming year**, which assumes that the recovery of the economy has already begun and will continue, although only gradually, the rate of credit losses in the banking system, which stood at 0.3 percent of the credit portfolio in 2019, is expected to increase significantly, with high variation among the banks according to the mix of each bank's activity. **Credit losses, alongside losses due to the realization of market risk, are expected to affect the banks' bottom lines significantly.** Nonetheless, the capital ratios are expected to remain high and the banks will be able to absorb the damage.
   I would emphasize that the ability to estimate currently what the full effect of the crisis will be is limited, since there is a high level of uncertainly with respect to economic developments, which is the result of the uncertainty as to the future trajectory of the health crisis. In the economic discourse, it is common to describe various scenarios of recovery schematically—for example, a "V" scenario describes a rapid recovery from a crisis; a "U" describes a slow recovery; and a "W" describes a scenario in which there is a second wave of the crisis before there is a full recovery. At this stage, it is too early to predict which of the scenarios will be realized and in any case it is difficult to estimate the full effect of the crisis on the banks; however, the analyses that have been carried out show that the banks have an ability to endure the crisis and to remain stable even in the gravest scenarios. This assessment is also evident in the behavior and confidence of the public during the course of the crisis, which despite the intensity of the event and the sharp drop in the share prices of the banks in March, significantly increased their deposits in current accounts at the banks.
   In order to continue to maintain stability, the Banking Supervision Department is closely watching developments at the banks on a daily and weekly basis. We are holding regular conversations with the CEOs of the banks and with board chairs. We have instructed the banks to raise the group allowance for credit losses already in the first quarter of 2020 based on a future-looking approach, and we have required that they strengthen and modify the management of cyber risk and information leakage, against the backdrop of the major expansion of remote activity in the banking system and of digital banking activity.
2. **Assistance to businesses, households and the economy during the crisis**
   Based on the stability of the banking system, we decided already at the beginning of March 2020 to encourage the banks to support the economy by increasing the supply of credit to households and to businesses and to provide the option of deferring credit repayments, based on a balanced approach and despite the risks that are expected from the default on credit payments by customers. To this end, **we have taken a large number of steps to prevent a credit shortage and to make things easier for customers:** Already at the beginning of the crisis, we called on the managements of the banks to exploit the capital surpluses in order to provide credit to businesses which prior to the crisis had paid back their debts on time and

which were now experiencing liquidity problems; we reduced the capital ratios required of the banks by a percentage point, with the goal of enabling them to increase the supply of credit to the economy; and in parallel we instructed the banks to evaluate their dividend policy during the crisis; we clarified that the accounting rules permit the banks to defer credit payments by borrowers without classifying the credit as being under special supervision, and in this way we encouraged the banks to defer the repayment of loans by their customers; we allowed customers to increase the amount of consumer credit they took on for whatever purpose, using their home as collateral; and we raised the industry concentration restriction in the construction and real estate industry from 20 to 22 percent of the credit portfolio, with the goal of allowing the banks to continue to support companies in the industry, some of which are suffering from an inability to raise funds in the capital market, something that they relied on to a great extent in recent years. All of these measures were carried out by temporary directives for the period of the crisis, while playing close attention to the steps taken by parallel regulators abroad.

At the same time, the Bank of Israel utilized a large number of monetary tools in order to stabilize the capital market, increase shekel and dollar liquidity and reduce the cost of credit. This was accomplished by intervention at an unprecedented level in the government bond market, the injection of foreign currency liquidity by means of dollar-shekel swap tenders and the reduction of the Bank of Israel interest rate by 0.15 percentage points.

The steps taken by the Bank of Israel, including the Banking Supervision Department, made it possible for the banks to assist businesses and households and during the first two months of the crisis (March–April) an unprecedented NIS 21 billion of credit was provided, an increase of 12 percent at an annualized rate, although the increase was not uniform across industries. The main increase in credit was due to midsize and large businesses who made use of credit lines that had been allocated to them prior to the crisis and to mortgages. **Nonetheless, total credit to small businesses dropped during the months of March and April,** against the background of a sharp rise in risk in the provision of credit to these businesses and the fact that the banks were waiting for the launch of the Fund for Providing Credit to Small Businesses, which had been adjusted in order to deal with the crisis, under the guarantee of the Ministry of Finance. From the moment that the Fund was launched (with a total guarantee of 15 percent), on the 1st of April, the banks began providing credit to small businesses at a rapid pace, and the demand significantly exceeded the supply of funds allocated by the Ministry of Finance to the Fund. By mid-May, the banks had provided NIS 7.2 billion in credit to about 20,000 small businesses. At the same time, **there was a sharp drop in consumer credit during the first two months of the crisis** totaling about NIS 7 billion (without mortgages) which was primarily the result of the drop in consumer demand (which was also manifested in a decline of about 40 percent in credit card expenditure during the month of April).

Alongside these changes in credit, the banks deferred credit payments for a number of months for a large number of households and small businesses that applied for it, which amounted to about 450,000 customers. In addition, the banks responded to the call by the Banking Supervision Department for a freeze on dividend distributions, in order to ensure their sources for expanding credit to the economy.

Against the background of the major difficulties experienced by the banks' customers as a result of the crisis, public anger with the banks began to develop in reaction to reports of an increase in interest rates. The increased risk in the providing of credit to businesses and households, in view of the worsening of the economic situation, and the increase in yields in the capital market, which make it more expensive to raise funds, worked toward an increase in the interest rate on credit. Therefore, we made it clear in a letter to the chairmen and CEOs of the banks that the Banking Supervision Department expects that the banks will make an effort to assist the economy and that they will price loans using a system-wide perspective, even if that harms the bank's profit margins. The actual data showed that the interest rates on credit to commercial and large companies did not increase during the first two months of the crisis and that the same was the case for consumer credit. In contrast, the interest rates on mortgages rose by approximately 0.5 percentage points while those on credit to small businesses declined significantly (from 5 percent prior to the crisis to 3.8 percent at the end of April), due to the activity of the Government-Guaranteed Fund for Small Businesses and designated monetary loans offered by the Bank of Israel to the banks at an interest rate of 0.1 percent, for the purpose of extending credit to small and micro businesses.

3. **Ensuring essential banking services to the public during the crisis**
Immediately with the onset of the crisis, the Banking Supervision Department worked to ensure the business continuity of the banking system, in order that the provision of routine banking services to the public would not be disrupted. We instructed the banks to modify their workforce arrangements in order that entire units of the bank would not be paralyzed even if a large proportion of the workers would get infected. The banks were instructed, in accordance with the directives of the Ministry of Health, to close a large proportion of the branches to the public, in order to reduce the health risk to customers and workers. At the same time, they were required to continue providing the lion's share of essential services remotely—by telephone and digitally. We removed regulatory and legal barriers in order to streamline the process of applying for online banking services, in order to make it easier to receive services by telephone, and in order to sign on a mortgage remotely. We instructed the banks to issue debit cards to recipients of National Insurance assistance and individuals in bankruptcy, who prior to the crisis were not eligible for a debit or credit card, in order to make it possible for them to avoid coming to a branch in order to carry out transactions or withdraw cash; and we decided to suspend the restriction of accounts of customers due to bounced checks, with the goal of assisting businesses and households with cash flow problems.

The crisis has presented the Banking Supervision Department with more than a few dilemmas and challenges, and a different style of thinking was required than during normal times. For example, we asked ourselves whether we should encourage the banking system to take on increased risk, at a time when the overall level of risk is rising.

Many businesses may not survive the crisis and there is concern that some of the workers that were placed on unpaid leave will not be able to return to their jobs quickly, such that the rate of unemployment will remain high for a relatively extended period.

How can the supply of credit to the economy be increased while at the same time ensuring that the deposits of the public, which are the main source for the provision of credit, remain safe? The Bank of Israel's approach is that in order to reduce the risk of a major and prolonged recession, encourage economic activity and ensure a rapid recovery, it is important that the banks increase their appetite for risk, while adopting a policy of high-quality underwriting and informed risk management. In view of the high level of risk that currently exists in the providing of credit, the Banking Supervision Department created conditions and regulatory incentives that increase the supply of credit, but which did not require the banks to provide credit under any circumstances. The underwriting and business decisions will, as always, be made by the banks, which are the ones with the knowledge and the tools to evaluate which borrowers will be able to repay credit and to evaluate the level of risk. It should be emphasized that while the banking system can provide cash flow assistance to individuals and businesses in crisis, it cannot replace the government assistance that is required by businesses and households that are experiencing a major crisis. In this context, government guarantees are important in the provision of credit to small businesses in various industries, at a rate that is adjusted to the risk resulting from the crisis, as has been done in various other countries.

Conclusion

The Banking Supervision Department, with the onset of the crisis, made use of a large variety of tools, some of them for the first time, with the goal of supporting the effort to minimize the economic harm brought about by the crisis. Nonetheless, there are many businesses and households that are currently experiencing serious financial difficulties and the solutions provided by the banking system can only complement the solution based on government assistance. The Banking Supervision Department will continue to maintain the stability of the banking system and protect the public's deposits, it will enable and encourage the banks to assist the economy by providing credit and it will ensure the continuity of essential banking services to the public and the economy.

In conclusion, and on a personal note, I will soon be completing five years in which I have had the privilege of being part of the Bank of Israel and serving the public. I wish to thank the workers and managers of the Banking Supervision Department and the Bank of Israel as a whole and I wish all of them and the incoming Supervisor of Banks, Yair Avidan, that they are able to continue to serve as a beacon of economic professionalism, for the benefit of the Israeli economy.

Hedva Ber

Dr. Hedva Ber
Supervisor of Banks

CHAPTER 1
DEVELOPMENTS AND RISKS IN THE BANKING SYSTEM

The banking system remained resilient and stable in 2019, continuing to adjust to the changing business and competitive environment and to technological changes. Consequently, it entered the coronavirus era at a good starting position that allowed the Banking Supervision to take a lengthy series of measures meant to help the economy by expanding credit supply for households and businesses.

> In recent years, the Banking Supervision Department has worked to internalize lessons of the global financial crisis and has led to marked changes in Israel's banking system.

The Banking Supervision Department has been acting in recent years to bolster the banking system's resilience and **internalize the lessons of the 2008 global financial crisis.** Although the direct implications of the 2008 crisis for the Israeli economy were small, **it prompted the Department to make major regulatory changes in the system's characteristics. The Department studied the existing and evolving risks thoroughly and made sure that the banks were prepared to cope with them before they occurred.** This caused the characteristics of the Israeli banking system to change in many important ways. Salient examples include action by the Banking Supervision Department to upgrade **the quality and quantity of the banks' capital** (for further on the development of capital in the Israeli banking system, see Box 1.4 in this report); make the system better able **to cope with liquidity risk** by assimilating the Basel Committee recommendations on liquidity coverage; **deconcentrate the credit portfolio and improve its quality**; encourage the system **to improve its efficiency by cutting back on staff and branches** and making broader use of advanced technology, thus allowing the range of banking services to expand, digitizing banking services, and streamlining working processes (for elaboration on efficiency enhancements in the banking system, see Box 1.2 in this report); encourage and help the system to maintain ongoing preparedness and to prepare to cope with business continuity risks and a broad range of technology risks, including **events and risks attending to the realization of a cyber event**; improve risk-management systems among others; be aware of, and examine, the array of risks that a bank faces by using the tool of **stress scenarios** (for expanded attention to the stress test performed tested in 2019, see Box 1.1 in this report); and others.

The system's performance also benefited from an optimal macro environment during these years. Unemployment rates were the lowest ever (3.5 percent in 2019 and even slightly lower in early 2020), the labor-force participation rate climbed, and real wages and growth advanced at a 3.3 percent pace. All these abetted an improvement in bank-credit quality and reduced loan-loss provisions. Bank credit to all activity segments increased commensurably, supporting growth and generating interest and fee revenues for the banking system, **allowing the system's profitability to stabilize at a solid level by international standards.** (For a broader comparison of the characteristics of Israel's banking system with that of counterparts abroad, see Box 1.3 in this report.)

During recent years, three Israeli banks faced investigations by US authorities in relation to their activity with American customers and violations of US law by the banks and their staff. These investigations ended with each bank paying a sizable fine along with large outlays for additional professional services related to the investigations. Thus, at the end of 2019 Mizrahi-Tefahot Bank and Bank Hapoalim paid fines on account of the investigators' findings. **The banks have cut back on their foreign activities in recent years and now that the investigations are over, they will face less compliance risk going forward.** (For elaboration, see the "Business Results" section.)

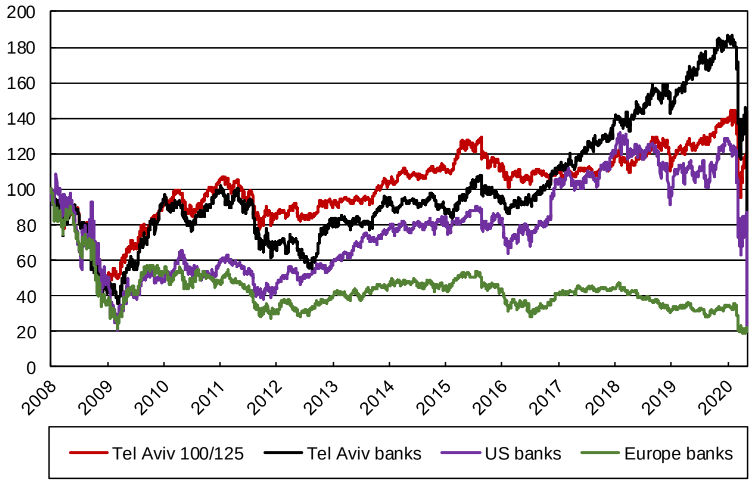
These developments enabled the banks to face the coronavirus crisis from a good starting position. Evidence of their auspicious condition on the eve of the crisis included the distribution of dividends, large-scale share buybacks, and the continued **upward trend in the Bank Shares Index**, outpacing the Tel Aviv 125 index and bank-equity indices in the United States and Europe (Figure 1.1). The increase in this index and the fact that the five largest banks ended 2019 with market-to-book-value ratios (MV/BV) in the vicinity of 1 or above reflects the public's confidence in the banking system.

The coronavirus crisis dealt a major blow to the country's economic performance. The rate of non-employed persons (jobless persons and others placed on unpaid leave due to the coronavirus crisis) surged to more than 25 percent and business activity sputtered. Evidence of the damage may be found in a 40 percent decrease in household expenditure using credit cards relative to the eve of the crisis (Figure 1.2). According to the **Research Department's April 6 forecast, GDP is projected to contract by 5.3 percent in 2020 and**

unemployment to rise to 8 percent in the second half of the year. The IMF, in contrast, predicts GDP shrinking by 6.3 percent in 2020 and unemployment surging to 12 percent by year's end.

In recent years, the bank shares index has increased more than the Tel Aviv 125 and more than the bank shares indices in the US and Europe.

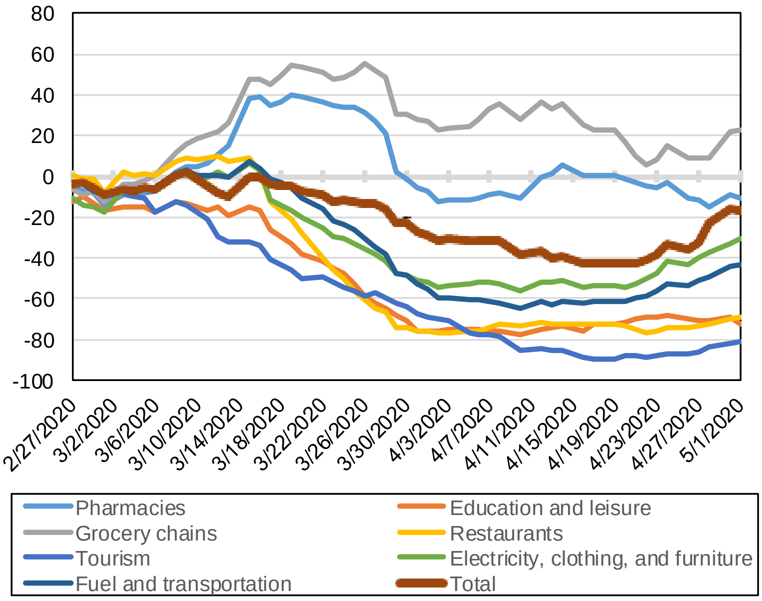
Figure 1.1
Tel Aviv 100/125 Index, and Bank Shares Indices in Israel, Europe and the US, January 1, 2008 to May 6, 2020[a] (index: Jan. 1/08=100)



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

Households' credit card expenditures declined sharply at the start of the crisis.

Figure 1.2
Change in Credit Card Expenditures Relative to the Start of the Year, (selected industries, two-week moving average, percent)



SOURCE: Based on Shva.

The robust state of the banking system allowed the Banking Supervision Department to encourage it to contribute to the reduction of the adverse impact on the economy and to expand the supply of bank credit.

The strength of the banking system on the brink of the crisis **allowed the Banking Supervision Department to take a lengthy series of measures to alleviate damage to the economy** and expand the supply of bank credit for households and businesses. (For elaboration on the Department's measures, see Box 3.1 in this report.) This strength allowed the banks to **issue credit on a very large scale within a few weeks,** akin to more than two quarters of issuance in ordinary times. (For elaboration on credit developments since the coronavirus crisis began, see Box 1.5 in this report.) The strength is also reflected in the public's continued confidence in the banking system, manifested in **a perceptible upturn in bank deposits** originating in instruments withdrawn from the capital market.

The coronavirus crisis has had little effect on the banking system at the present writing because households' and businesses' hardships have thus far found little in the impairment of bank-credit quality. However, **the crisis is expected to leave its imprint in the future by degrading the banks' business results.** (For first evidence of the extent of the expected adverse impact through an analysis of foreign banks' financial statements, see Box 1.6 in this report.)

1. BUSINESS RESULTS

The profitability of the banking system has been solid in recent years, strongly affected by an increase in lending to the public, small loan-loss provisions, and improvements in efficiency in response to resolute measures taken. Profitability also abetted an increase in capital and allowed the system to be well prepared for the coronavirus crisis. The net profit of the five large banking groups was about NIS 9.5 billion, up 4.1 percent relative to a year earlier (Table 1.3).[1] The banks continued to post solid profits and an **8.2 percent return on equity, slightly below the average in the past decade (8.7 percent,** Figure 1.3). The banks' profitability was favorably affected in 2019 by an increase in net interest income[2] (5.2 percent), powered mainly by an increase in lending to the domestic public and a modest (1.1 percent) downturn in operating expenses. Conversely, net earnings were impaired by a strong increase in loan-loss provisions (49 percent), mainly due to a major upturn in expenditure by the Hapoalim group, occasioned *inter alia* by the initial repercussions of the coronavirus crisis,[3,4] and a decrease in noninterest income (4 percent). In the 2020 financial statements, the coronavirus crisis is expected to have a stronger effect on all the banking groups' loan-loss provisions for both the business sector and the household sector. Income from bank charges and payroll and related expenditure were basically unchanged.

The profitability of the banking system in recent years has been solid and contributed to growth of capital and led to its high readiness to deal with the coronavirus crisis. In 2019, the banking groups had return on equity of about 8.2 percent, slightly below the average over the past decade.

[1] The data in this section are presented net of the effect of the sale of Leumi Card Ltd., by the Leumi banking group, i.e., net of the Leumi group's profits from the sale of Leumi Card in 2019 (NIS 314 million pre-tax) and the group's share in the earnings of Leumi Card in 2018 (NIS 158 million after tax). The data in the tables and figures, in contrast, are presented in accordance with those in the financial statements, i.e., without netting out the effect of the separation. Expressed in these terms, the net profit of the five banking groups increased by 4.7 percent in 2019 and came to NIS 9.7 billion. The results of the Hapoalim banking group are also shown in this section (text, tables, and figures) net of the effect of the separation of Isracard Ltd., because the group's 2018 financial statements present Isracard's activity as having been terminated and, therefore, having no effect on the group's business results (even though it is shown as part of the group's balance sheet).

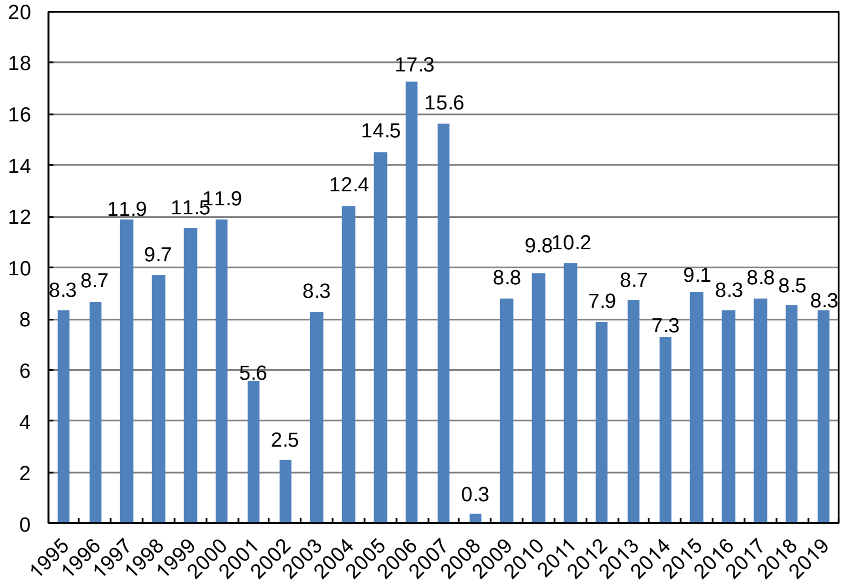
[2] Interest income less interest expenses.

[3] The Hapoalim group's loan-loss provision was affected by the implications of the coronavirus crisis as they were known when the financial statements were prepared, mainly on account of borrowers associated with industries that the crisis impaired (chiefly energy, aviation, and tourism).

[4] The Hapoalim group was the last of the large banking groups to release its 2019 financial statements (March 18); therefore, it was the only group that made quantitative reference to the effects of the crisis in its statements. The other groups published their 2019 statements earlier; accordingly, their references to the coronavirus crisis were narrower and essentially qualitative, commensurate with developments as were known at the respective points in time.

The banks continued to show profitability similar to the average of the past decade.

Figure 1.3
Return on Equity (ROE) After Tax, the Five Banking Groups, 1995–2019
(percent)



SOURCE: Based on published financial statements.

Notwithstanding the durable low-interest environment and its erosive effect on the banks' structural sources of profit, net interest income increased in 2019 for the fourth consecutive year (5.2 percent) due to continued growth of lending to the domestic public and a decline in the share of banks' expenditure on account of bonds. The increase was somewhat offset by a downturn in the share of bank revenues from lending to the domestic public, manifested in narrowing of the interest spread (Figure 1.4 and Table 1.5),[5] and the effect of the lower Consumer Price Index in 2019 than in 2018.[6] **The net interest margin,**[7] **reflecting a bank's ability to generate a return from interest-bearing activity, was basically unchanged** (Figure 1.5). The interest rate on credit issued during the year to households (consumer and housing credit) and to small and micro businesses continued to drift down, whereas that for medium and large businesses climbed (Figure 1.25). The increase in interest income was partly offset by a large upturn in loan-loss provisions (49 percent), largely due to larger specific outlays by the Hapoalim group, occasioned *inter alia* by the repercussions of the coronavirus crisis (estimated at 0.29 percent, elaboration in the "Credit Risk" section).[8]

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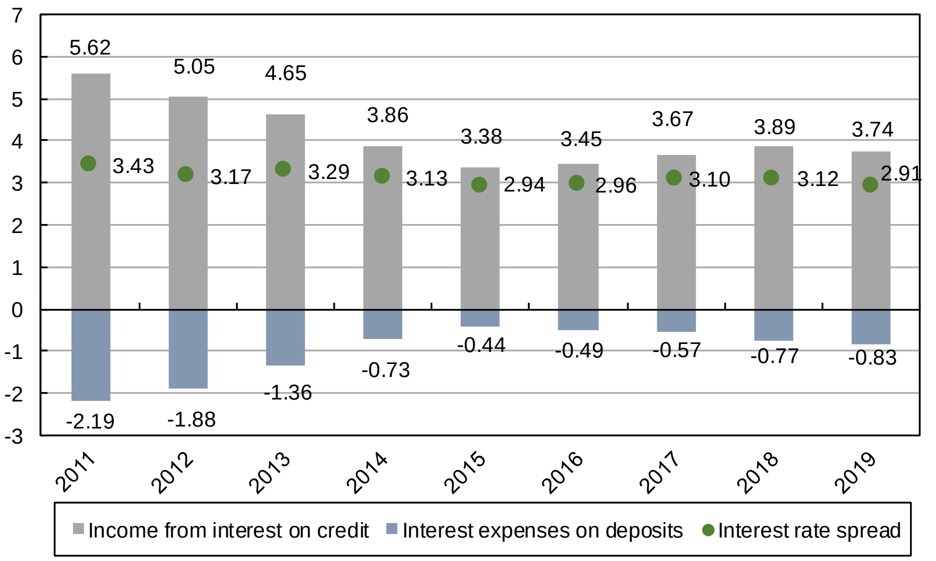
[5] The difference between the rate of interest income from lending to the public and the rate of expenses due to interest paid on the public's deposits.
[6] The known rate of CPI increase was 0.3 percent in 2019 as against 1.2 percent in 2018. The effect of the decline in known CPI inflation relative to 2018 came to NIS 460 million for the four largest banking groups (excluding the First International group).
[7] The ratio of net interest income to the total amount of interest-generating assets held by the bank.
[8] The net specific expenditure of the Hapoalim group in 2019 was NIS 668 million, as against net income of NIS 155 million in 2018. The change of direction in this item traces mainly from an increase in gross specific expenditure. The loan-loss provision was affected by the implications of the coronavirus crisis as were known when the financial statements were prepared, mainly on account of borrowers associated with industries that the crisis impaired (chiefly energy, aviation, and tourism).

The interest rate gap eroded in 2019 compared with previous years.

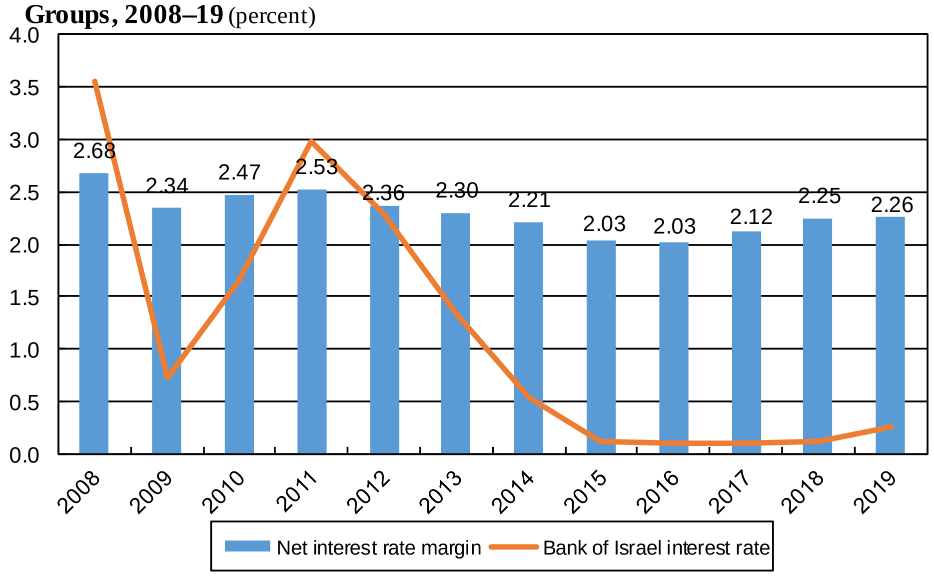
Figure 1.4
Income from Interest on Credit to the Public, Interest Expenses on the Public's Deposits, and the Interest Rate Spread, the Five Banking Groups, 2011–19 (percent)



SOURCE: Based on published financial statements.

The net interest margin remained virtually unchanged this year.

Figure 1.5
Net Interest Margin[a] and the Bank of Israel Interest Rate[b], the Five Banking Groups, 2008–19 (percent)



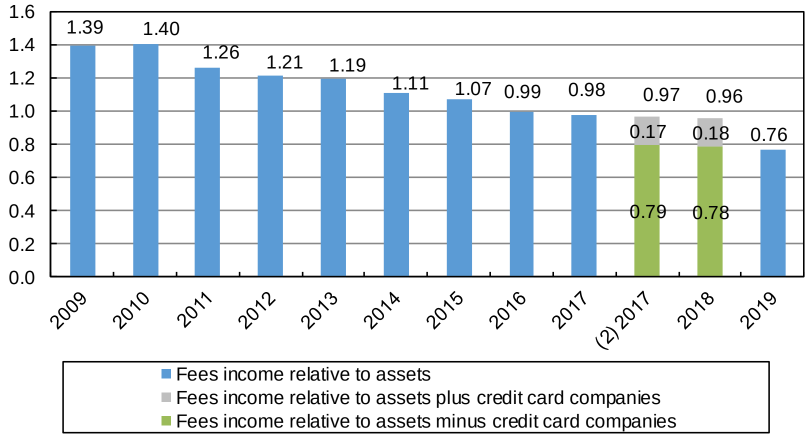
[a] The ratio between net interest income and total monetary assets that generate financing income.
[b] Yearly average. The data for March are calculated as a three-month average.
SOURCE: Based on published financial statements.

Fees income was unchanged from last year while the share of fee income relative to activity continued to decline this year, further to the trend of recent years.

Income from bank fees was unchanged from 2018.[9] **The share of bank fee income in total activity declined, pursuant to the trend in recent years**[10] (Figure 1.6, Table 1.6). The trend, reflected in continuing contraction of income from fees for account management and securities activity, was partly offset by an increase in credit-card revenue—largely due to increases in the number of cards and the scale of transactions by the public using them. In 2019 as before, income from fees related to credit cards grew (by 5.7 percent) but the upturn was totally offset by the continued falloff in revenues from account-management fees (3.2 percent) and securities activity (3.2 percent) as customers switched to digital channels and measures taken by the Banking Supervision Department took hold.[11]

Fees income relative to the volume of activity continued to decline, further to the trend of recent years.

Figure 1.6
Fees Income as a Share of Assets between 2009 and 2019, and Estimates With and Without the Separated Credit Card Companies for 2017 and 2018[a,b,c]
(percent)



[a] In the 2017-18 data, the estimates are calculated plus and minus the separated credit card companies, "Leumi Card" and "Isracard", in accordance with the provisions of the Increasing Competition and Reducing Concentration in the Banking Sector in Israel Law, 5777–2017, which required the banking groups to sell their holdings of the companies by February 2020. Accordingly, "Leumi Card" was sold in February 2019 to the Warburg Pincus Group, and Hapoalim sold most of its holdings of Isracard in April 2019.
[b] In yearly terms. The sharp decline in 2014 was due to an accounting reclassification of income from credit activity, pursuant to a Banking Supervision Department directive.
[c] Expenses in respect of the purchase of insurance for Sales Law guarantees were reclassified from "Other expenses" to "Fees", so that they are presented minus fees charged in respect of those guarantees in order to more properly reflect them.
SOURCE: Based on published financial statements.

[9] The banking system's revenues from bank charges, not neutralized for the effect of the spinoff of Leumi Card, Ltd., from the Leumi group, decreased by 6.4 percent.
[10] The reasons for the trend include action by the Banking Supervision Department to regulate and control charges in order to enhance transparency and improve customers' ability to comparison-shop, thereby simulating competition in the banking system.
[11] The regulatory steps include the fee tracks program and lowering the minimum charge for current-account management, broadening the definition of small businesses that qualify for the retail rate, revealing the cost of securities services to customers, and requiring banks to give a discount on the rate of direct-channel services relative that charged for the same services in person.

Noninterest financing income[12] declined (4 percent[13]) but its share in total assets was unchanged. The decrease in noninterest financing income originated mainly in the revision of fair-value adjustment of derivative instruments by the Hapoalim group,[14] partly offset by income from exchange-rate differentials at the Leumi group. Total operating expenses decreased slightly (1.1 percent); payroll and related expenditure was unchanged. (For elaboration, see the section on Operational Efficiency.) Operating expenses were affected by the Hapoalim group's provision for investigation by U.S. authorities but were low relative to those recorded in 2018 by two groups (Hapoalim and Mizrahi-Tefahot) on this account.[15]

Lessons of the investigation of Israeli banks by US authorities

Many countries, led by the United States, stepped up their war on citizens' tax evasion after the 2008 global financial crisis, taking a proactive approach toward the enforcement of their tax laws and invoking far-reaching measures toward banks that managed US customers' accounts. Within this structure, tax authorities obtained legislative amendments and imposed heavier responsibility on financial institutions for their customers' tax comportment.[16] As they investigated many banks abroad, particularly those in Switzerland (UBS, Credit Suisse, HSBC, etc.), US authorities also turned their attention to three Israeli banks that operated in Switzerland (Leumi, Hapoalim, and Mizrahi-Tefahot) for allegedly helping customers to evade taxes. In 2014, these authorities reached an agreement with Bank Leumi that imposed a nine-digit dollar fine on the latter, and in early 2019 they concluded a similar settlement with Mizrahi-Tefahot Bank. In early 2020, after these investigations were on the banking system's agenda for many years and as the banking groups pledged vast resources to coping with them and adjusting to the new legislation, Bank Hapoalim reached terms with the US tax authorities. At the present writing, the Israeli banking system is not in these authorities' crosshairs.

In view of the statutory and regulatory changes in Israel and abroad, the Banking Supervision Department required the banks to reexamine their strategy for activity abroad and to limit their activity to a small number of countries while strengthening their governance and control in them.

In view of the statutory and regulatory changes locally and abroad and to apply the lessons of the US investigations, the Banking Supervision Department promoted new legislation that would create an appropriate legal framework, thus helping the banks to make policy for their conduct vis-à-vis customers generally and nonresident customers particularly. Likewise, in 2015 the Banking Supervision Department issued a directive concerning cross-border compliance and updated its directive on the management of compliance risks, prohibiting the opening of numbered accounts and requiring the identification of offshore accounts as high-risk ones. The Department also instructed the banks to reexamine and define the strategy behind their activities abroad, downscale these activities, and focus them on a small number of countries, concurrently applying "remote control" and auditing by the home office in Israel of its foreign branches and their doings vis-à-vis nonresident customers. In response to the Department's measures, **the Israeli banks in recent years have reduced their foreign and nonresident activities considerably and imposed tougher requirements on customers who wish to carry out certain transactions** (opening an account, transferring funds from abroad, etc.).

[12] These revenues include investments in bonds and equities held to maturity/available for sale, earnings on the sale of shares of companies included in the balance sheet, dividends, and earnings on fair-value adjustments of equities and tradable bonds. They also include derivatives not earmarked for hedging ratios, other derivatives, and exchange-rate differentials.

[13] Including the effect of the sale of Leumi Card, Ltd., by the Leumi group (NIS 314 million pre-tax), noninterest financing income increased by 5.3 percent in the review year.

[14] Mainly due to the decrease in the long-term nonindexed interest rate. Income on account of exchange-rate differentials also declined, mainly due to hedging of currency exposures to nonfinancial items. Income on account of indexation differentials slumped due to changes in the rate of increase in the known CPI between the periods.

[15] The Hapoalim group recorded an NIS 822 million provision in 2019 for the US authorities' investigation of the business affairs of bank customers and FIFA, as against an NIS 1,049 million provision in 2018; the Mizrahi-Tefahot group recorded an NIS 546 million provision for this purpose in 2018.

[16] The US Foreign Account Tax Compliance Act (FATCA), passed in 2010, requires financial institutions that operate outside the United States to identify and report on US customers' funds. Particularly from 2008 on, the US authorities imposed greater liability on banks in cases where depositors were suspected of tax evasion. In a continuing measure, various countries made sweeping legislative amendments in regard to compulsory reporting by banks to the tax authorities and cross-country sharing of information about customers' bank accounts.

Efficiency measures

> The increasing efficiency of the banking system in recent years and its alignment with the developing business and technological environment enabled banks to continue to supply banking services to the public during the coronavirus

In the past few years, the Banking Supervision Department has been encouraging banks in several ways to improve their efficiency and adjust to business and technological developments. Indeed, the banking system has done much to enhance its efficiency by reducing headcount, real-estate holdings, and additional expenditures, while investing more in technology. The trend continued in 2019. (For elaboration, see Box 1.2 in this report.) Due to their streamlining measures and their adaptation to the evolving business and technological environment, the banks were able to continue serving the public during the coronavirus crisis even though many branches were close to the public, by means of telephone and online service, digital applications, and automated machines.

In 2019, the system continued its trend of recent years of increasing efficiency, lowering its efficiency ratio,[17] net of the effect of the sale of Leumi Card, from 64.5 percent in 2018 to 61.8 percent in 2019. The improvement traces to a 1.1 percent decrease in operating expenses and an upturn in net interest income and noninterest income (3.1 percent among the five banking groups, net of Leumi Card). Without netting out the effect of the spinoff of Leumi Card from Bank Leumi, the efficiency ratio decreased from 64.4 percent to 61.4 percent (Table 1.7). The decrease in the banking system's operating expenses in 2019 took place after high operating expenses in 2018 due to outlays related to the US tax authorities' investigations of two banks (Hapoalim and Mizrahi-Tefahot). Bank Hapoalim continued to incur expenses on this account in the review year, although in smaller sums than in the previous year. Net of these sums, the system's operating expenses hardly increased. The improvement in the efficiency ratio in 2019 was shared by all constituents of the system except Bank Hapoalim, which posted a steep downturn in noninterest income, as stated. Alongside the efficiency ratio, the average unit output cost[18] improved, falling by 2 percent (net of the effect of the Leumi Card spinoff), to 1.88 percent, abetted by a 3.5 percent upturn in the banking system's average asset balance. This ratio, unaffected by nonrecurrent changes in income, decreased among all Israeli banks except Bank Leumi, for which it was unchanged (Table 1.7).[19]

> Israel's banking system continued recent years' trend of increasing efficiency.

Payroll and related expenses, net of the sale of Leumi Card, were essentially unchanged (up 0.1 percent[20]) even though the banking system continued to cut back on its number of employees. The 2.7 percent contraction of employee posts—equal to roughly 1,000 employees[21]—translated into a decrease in payroll and related expenditure at three of the five large banking groups. This expenditure reflects[22] a 3.8 percent decline in payroll expenditure, partly offset by a 2.7 percent increase in related expenditure (Table 1.8).[23] The cutback in employee posts in 2019, as in previous years, was made largely at low and middle wage levels (up to NIS 360,000 per year) and was partly offset by hiring of staff at high wage levels, some in technology fields (more than NIS 360,000 per year, Table 1.9).[24] **The trend of closing branches to improve banking-system efficiency and adjust to digital banking continued as in the past few years.** In the course of 2019, nine additional branches, most in major cities (0.9 percent of branches countrywide, Figure 1.7) were closed as customers

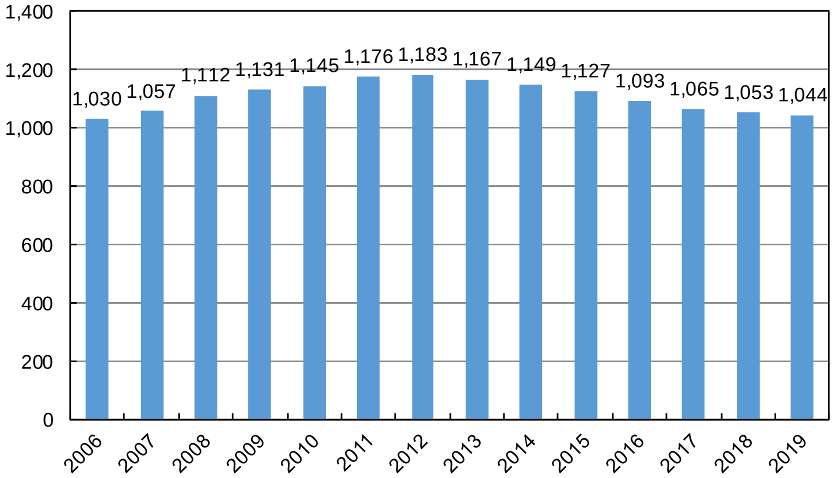
> In 2019, the trend of reducing workforces and closing branches as part of processes to increase efficiency continued, alongside improving the quality and range of services in direct banking channels.

[17] The ratio of total operating and other expenses to total net interest income and noninterest income (otherwise known as the cost-to-income ratio).
[18] The ratio of total operating expenses and other expenses to the average value of total assets (otherwise known as the average cost ratio).
[19] Net of the effect of the sale of Leumi Card, Bank Leumi's unit output cost ratio slipped from 1.83 percent to 1.7 percent.
[20] Including the effect of the sale of Leumi Card, payroll and related expenses decreased by 1.7 percent.
[21] Net of the effect of the sale of Leumi Card.
[22] Net of the effect of the sale of Leumi Card.
[23] This line is composed mainly of severance pay, benefits, training fund, pension, vacation pay, National Insurance contributions and payroll tax, other related expenses, voluntary retirement expenses, and benefits due to allocation of options to employees.
[24] Presented including the effect of the sale of Leumi Card.

made growing use of direct banking channels in reflection of their changing tastes and improvement in the quality and diversity of these services. Thus, in a survey that it conducted in 2019,[25] the Banking Supervision Department found that only 13 percent of bank customers interact with their bank by visiting the branch as their main channel of service consumption and that their satisfaction with the quality of digital services is 92 percent. For elaboration on the closure of branches and switching to digital banking avenues, see Box 1.2 in this report.

The number of branches in the banking system continued to decline in view of the transition to digital banking.

Figure 1.7
Number of Branches[a] Total Banking System, 2005–19



[a] Actvity in Israel. Excluding representative offices, departments, and performance units.
SOURCE: Based on reports to the Banking Supervision Department.

2. CAPITAL ADEQUACY AND LEVERAGING

In the past decade, the Banking Supervision Department worked to align the scope and composition of regulatory capital with the risk profile of the banks and the domestic economy. This placed the Israeli banks in the best ever opening position to deal with crises, including the current coronavirus crisis.

After the global financial crisis (2007–09) and onward in the past decade, the Banking Supervision Department has been taking action to bolster the stability of Israel's banking corporations by improving the quality and quantity of bank capital. This process, part of a worldwide reconceptualization of banking supervision in the post-global-crisis era, is meant to safeguard the public's deposits and its trust in the system in order to protect banking corporations and the entire economy against unforeseen risks in view of numerous bank defaults around the world. The supervisory measures taken at this time included the adoption of advanced international standards and complementary microprudential and macroprudential measures, mainly improving the quality and quantity of qualified capital instruments, reducing concentration in the credit portfolio, mitigating exposure to large borrowers and large borrowing groups, and compulsory amassing of a countercyclical sectorial capital cushion on account of exposure to the housing market. After a decade of changes, the quantity and composition of supervisory capital have fallen into line with the risk profile of the banks and the domestic economy, positioning the Israeli banks at a better starting point than ever for coping with crises, including the current one associated with the coronavirus pandemic. (For elaboration, see Box 1.4 in this report.)

[25] Second Annual Survey of Customer Satisfaction with Banks' Services.

Already at the beginning of the coronavirus crisis, the Banking Supervision Department worked to expand credit to the public and to improve the banks' capacity to absorb losses by easing the regulatory capital requirements and expecting re-examination of the dividend policy.

Capital accumulation in the banking system, coupled with toughening of capital requirements and compulsory increases in provisions against specific characteristics of the banking industry and the domestic economy, allowed the Banking Supervision Department (like supervisory authorities abroad) to relax supervisory capital requirements[26] in order to expand the supply of bank credit to the public. This countercyclical action was undertaken to allow the banks to increase their lending and absorb large-scale losses. Concurrently, the Banking Supervision Department instructed the heads of the banks to reexamine their policies on dividend distribution and share buyback. (For elaboration, see press release, March 29, 2020.[27]) **This instruction prompted the banks to advise that they had no intention of distributing dividends in 2020 in view of the coronavirus crisis.**

The Tier 1 Common Equity Capital ratio was positively impacted this year by continued growth in capital, which was slightly offset by the moderate increase in scope of risk assets.

The banks continued to improve the quality and quantity of their capital in the review year while continuing to support economic growth and distributing more earnings to the investor public. The equity of the five large banking groups increased by 3.2 percent (to NIS 3.7 billion, Table 1.11), more slowly than in previous years (6.4 percent on average in 2015–18). Equity growth was favorably affected by improvement on the bottom line, manifested in an increase in net profit among the five groups and changes in the fair value of bonds in the available-for-sale portfolio in view of the rising prices that typified most bonds in the review year. These effects, however, were partly offset by distribution of dividends (including buy-back of shares) by all the large groups (at 44 percent of the five banking groups' net earnings).[28] At the Leumi group, capital was also affected by adjustments in liabilities for workers' rights due to a decrease in the discounting interest rate. The increase in equity brought on a further upturn in the Tier 1 equity ratio among all groups, its aggregate value standing at 11.2 percent at the end of 2019 as against 10.8 percent a year earlier, with all groups surpassing the mandatory minimum (Figure 1.8, Table 1.11).

The moderate increase in credit risk assets reflects a sharper rise in low-risk credit activity vs. the development of the housing market and the separation of credit card companies.

The Tier 1 equity ratio increased despite a mild 2 percent upturn in total risk assets (Table 1.2), below the average growth rate in the previous two years (4.5 percent). The development of risk assets showed acute variance and a mixed trend among the groups, mainly because the sale of the credit-card companies had a downward effect on two largest groups' credit volume and average credit risk weight (associated with the implementation of the law providing for enhanced competition) and developments in the housing market that had an upward effect on all groups' credit growth. **The mild increase in credit-risk assets reflects a steeper upturn in credit activities that carried lower credit risk weights (Table 1.11).** These developments traced to events in the housing market, including the maturation of projects under the Buyer's Price program that pushed up demand for mortgage loans and the banks' exposure to housing credit (NIS 27.2 billion)—an activity that carries a relatively low risk weight (54 percent on average). The increase was somewhat offset by stronger demand for construction credit, which induced an upturn in the banks' exposure to liabilities on account of commercial real estate collateral (NIS 16.7 billion), which is relatively highly weighted (100 percent), and by a decrease in retail exposure to individual borrowers (NIS 14.6 billion), risk-weighted at 75 percent on average, in view of the two large groups' sale of credit card companies. (For elaboration on developments in the credit market, see the section on Credit.)

[26] For elaboration, see press releases about the easing of the banking system's capital requirements: (1) "The Banking Supervision Department announces a reduction in the banks' capital requirements, and instructs them to examine the distribution of dividends in order to increase the supply of credit in the economy," March 29, 2020, and (2) "Leniencies in the provision of mortgage loans in view of the corona crisis," April 22, 2020.

[27] "The Banking Supervision Department announces a reduction in the banks' capital requirements, and instructs them to examine the distribution of dividends in order to increase the supply of credit in the economy"—https://www.boi.org.il/en/NewsAndPublications/PressReleases/Pages/29-3-2020a12.aspx

[28] The distribution preceded the onset of the coronavirus crisis.

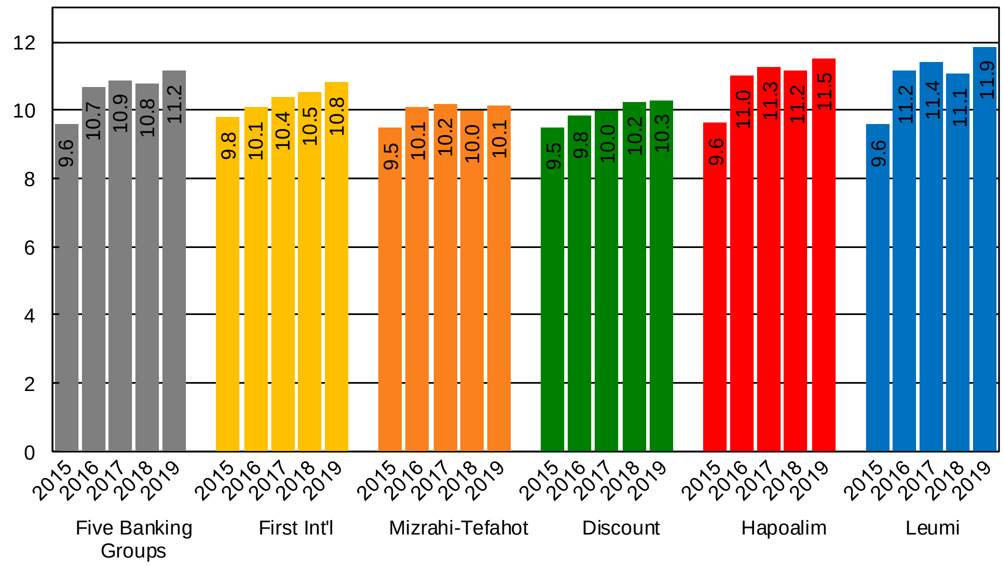
The groups' total capital ratio also increased, to 14.6 percent as against 14.2 percent a year earlier (Table 1.15). In the review year as before, the additional components of Tier 1 capital and unqualified Tier 2 capital were included in the supervisory capital base. The decrease in Tier 2 capital components was fully offset by new issues of hybrid securities (CoCos[29]) by four of the five large banking groups.

The leverage ratio held steady at 6.9 percent among the five large groups (Table 1.16) despite the increase in Tier 1 capital (5 percent). The stability originates in a 3.4 percent upturn in the banks' total exposure, reflecting increases in balance-sheet and off-balance-sheet credit activity. The leverage ratio rule requires the banks to reserve a minimum level of capital commensurate with the extent of their activity irrespective of its risk characteristics; in this sense, it is different from risk-based minimum capital ratios. The leverage ratio was introduced by the Basel Committee after it found that many banks' capital allocation risk weights and models were not necessarily able to reliably estimate the intrinsic risk of the various assets and that their capital fell short of the quantity needed to absorb losses even though it met the minimum requirements. (For elaboration, see Box 1.4 in this report.)

The leverage ratio remained stable despite the rise in Tier 1 Capital, in view of the rise in scope of the banks' activity (total exposure).

The capital ratios of all Israeli banks increased in 2019 as well, and are higher than the supervisory capital requirements set by the Banking Supervision Department.

Figure 1.8
Common Equity Tier 1 Capital Ratios[a], the Five Banking Groups, 2015–19 (percent)



[a] 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.

[29] Contingent convertible capital instruments.

3. THE BALANCE SHEET

The banking system's balance sheet grew by about 5% in 2019, and was adversely impacted by the shekel appreciation vs. foreign currencies, particularly the dollar.

Below are the main developments in balance-sheet and off-balance-sheet activity. (For further on the development of the balance sheet during the crisis, see Box 1.5 on the development of credit since the outbreak of the coronavirus crisis.)

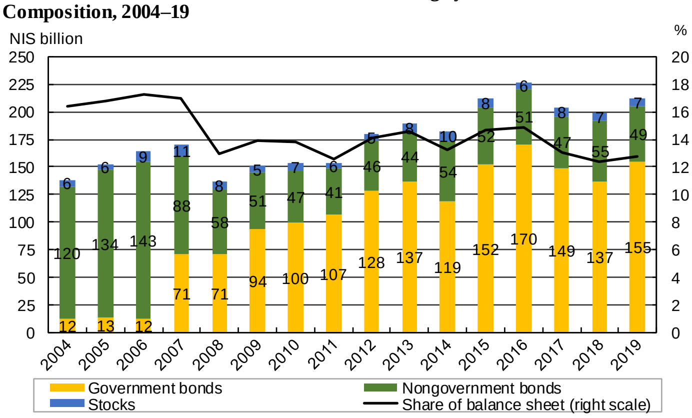
The aggregate balance sheet of the banking system increased by 5 percent in 2019 (net of the effect of the sale of credit card companies by the two largest banking groups[30]), **surpassing the GDP growth rate (3.5 percent).** Including the effect of the credit-card companies, the balance sheet grew by only 3.5 percent and came to NIS 1,664 billion (Table 1.18). Balance-sheet development was adversely affected by currency appreciation, foremost against the dollar (8 percent) and the euro (10 percent). Net of these two effects, the balance sheet grew by 6.4 percent.

On the assets side – in credit to the public, the upward trend of recent years continues, mainly due to growth of business and housing credit.

On the assets side, net credit to the public trended upward as in recent years (by 4.3 percent and, net of the effect of currency appreciation, by 5.1 percent), powering the overall increase in the balance sheet. The growth of credit traced to stronger expansion of business lending than in recent years (5.7 percent[31]) and to housing credit, which slowed relative to 2018 (7.6 percent as against 10 percent, respectively) but approximated the average in the past five years (7 percent). Conversely, the growth of credit was offset by a decrease in credit for borrowers' activity abroad, for reasons including steep currency appreciation. Retail credit was essentially unchanged (up 0.6 percent[32]) despite the continued acceleration of private consumption and the low interest environment and unemployment rate. (For elaboration, see the Credit Portfolio and Credit Risk section.) Additionally, the banks increased their cash and deposits with the Bank of Israel (by 5.5 percent and, net of the effect of the exchange rate, by 6.6 percent) and their securities portfolio (by 6.7 percent and, net of the effect of the exchange rate, by 10.8 percent) and, foremost, their holdings of government bonds[33] (Table 1.19). Accordingly, the share of the securities portfolio in the total balance edged upward after two years of contraction and came to 12.7 percent (as against 12.4 percent in 2018, Figure 1.9).

The banks' securities portfolio increased this year in view of the increase in holdings of government bonds.

Figure 1.9
The Total Securities Portfolio[a] of the Israeli Banking System[b]—Size and Composition, 2004–19



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

[30] At the Hapoalim group, the decrease originated in the cancellation of the merger of the Isracard group and the subtraction of assets that had been charged to terminated activity, whereas at the Leumi group the balances of Leumi Card were classified in 2018 as assets held for sale.
[31] Net of the effect of the sale of the credit-card companies. Including this effect, the growth rate was 7.1 percent.
[32] Net of the effect of the sale of the credit-card companies. Including this effect, the growth rate was -4.5 percent.
[33] The increase traced mainly to the purchase of Israel and US government bonds for the available-for-sale portfolios of the Leumi and Hapoalim groups.

On the sources side the upward trend in the public's deposits continued this year in view of the low interest rate environment. In the beginning of 2020, there was a sharp rise in the public's current account deposits, mainly in view of marked withdrawals from mutual funds.

On the sources side, the public's deposits continued to trend upward in view of the low domestic interest rate environment (by 4 percent and, net of the effect of the exchange rate, by 6.2 percent). Most of the increase in 2019 stemmed from an upturn in deposits from institutional entities and businesses (particularly deposits in excess of NIS 500 million) and was slightly offset by a decrease in nonresidents' deposits due to the exchange-rate effect. All types of deposits originating in domestic activity posted increases.[34] In addition, the beginning of 2020 saw a surge in demand deposits from the public, mainly due to large withdrawals from mutual funds. Beyond this, the banking system continued to accumulate capital (3.3 percent including the exchange-rate effect) despite the banks' dividend distribution policy (for elaboration, see the Capital Adequacy and Leverage section) and an increase in bonds and subordinated debt notes (5.7 percent).

As for the banks' **off-balance-sheet activity,** total guarantees and undertakings to issue credit were NIS 514 billion, up 5 percent (Table 1.16). Most of the increase reflects an upturn in undertakings to issue credit (16 percent) and guarantees (14 percent), along with unused revolving-credit and other credit facilities. Conversely, unused credit-card facilities[35] and documentary credit decreased (by 8 percent and 40 percent, respectively). Banking corporations' activity in derivative instruments, expressed in terms of par, decreased by 4 percent and came to NIS 2,664 billion (Table 1.21). The decrease originated in a 20 percent decline in the size of interest contracts.

4. RISKS

The coronavirus crisis changed the force of the various risks to the banking system. After several years, through the beginning of the crisis, of moderating intensity of financial risks, in the current crisis the correlation between the various risks increased, with simultaneous growth of all risks to which the banking system is exposed, including financial, technological, and operational risks. This rise shows the importance of risk management, and preparation for systemic stress scenarios.

a. Risks—including reference to the risk survey and developments during the coronavirus crisis. The banking system is exposed to a broad range of risks. Some are typical of banking systems in view of the nature of banks' activity; they include credit risk, market risk, liquidity risk, and operating risk. Additional parallel risks have gathered strength due to developments in the business environment, technology, and regulation in Israel and abroad; they include technology risk, cyber risk, conduct risk, compliance risk, and business-model risk, among others. Beyond the microprudential risks that affect an individual bank due to the nature of its activity and its exposures, the banking system is susceptible to macroeconomic risks that come from a negative impact on the real economy and the capital markets. When macroeconomic risks are realized, the correlation between the various risks grows, possibly exacerbating the banking system's vulnerabilities.

The intensity of the financial risks had been easing for several years until the onset of the coronavirus crisis. The reasons for the alleviation included a decade of positive macroeconomic performance and keen attention to these risks on the part of the Banking Supervision Department and the banking system in recent decades. The latter effect was manifested in ongoing risk monitoring and management, including testing the system's ability to withstand various stress tests, and the toughening of regulatory requirements in order to detect system vulnerabilities and make sure the banks remain stable even if these risks come to pass.

The whole of these measures, reflected *inter alia* in improving capital quality and higher capital ratios than in the past, improving credit-portfolio quality, reducing credit concentration, and requiring high liquidity, placed the banks at a solid starting position to cope with the coronavirus crisis and allowed them to absorb the losses that the crisis is expected to inflict on them. Just the same, the crisis poses major challenges to the banking system, including the escalation of many risks—financial, technological, and operational.

[34] Interest-bearing, non-interest-bearing, and time deposits.
[35] Due to the sale of credit-card companies by the two largest banking groups.

Credit risk is based on the probability of a borrower or a borrower group not meeting its liabilities to the bank. The realization of credit risk involves a default on the payment of principal or interest and as a result, the erosion of the bank's expected profit. The coronavirus crisis and its attendant restrictions on the labor market forced many workers to go on unpaid leave or to lose their jobs outright, and many businesses cut back on their activity or closed down altogether. These blows considerably amplified the riskiness of both household and business borrowers and will probably result in a major upturn in credit losses—the extent of which will depend, among other things, on the duration of the crisis and the implementation of an exit strategy. For example, in the first quarter of 2020, when the crisis began, various banks around the world reported perceptible increases in credit losses. (For elaboration, see Box 1.6 in this report.) Nevertheless, in the very first days of the coronavirus crisis, the Banking Supervision Department urged the banking system to continue issuing credit specifically at that time, even through an upturn in risk appetite, while providing high-quality professional underwriting and helping borrowers defer payments and reschedule debt, even at the price of eroding the banks' safety cushions, supported by relaxation of the Department's capital requirements.

Market risk is based on the probability of unforeseen changes in market prices—interest rates, price indices, exchange rates, equity prices, etc.—that adversely affect a bank's revenue, profitability, or market value.[36] Since the coronavirus crisis began, asset values have been highly volatile. Main equity indices in Israel and abroad fell and yields on domestic and foreign government and corporate bonds climbed, among other effects. These changes had a direct impact on banks' capital by degrading their securities portfolios[37] and threatened to impact their profitability by impairing noninterest financing revenue.

Liquidity risk is the threat of uncertainty about unexpected withdrawals of deposits and unforeseen demand for credit that the bank would have to provide immediately, creating the risk that the bank would be unable to meet its obligations to depositors.[38] This risk is estimated by means of the liquidity coverage ratio (LCR).[39] The coronavirus crisis may lower this ratio by degrading liquidity cushions due to a steep increase in the use of credit facilities[40] and an ongoing upward slant in the issuance of bank credit, combined with a downturn in inflow due, among other determinants, to the deferred payback of mortgage loans and other forms of credit issued to large numbers of borrowers (for elaboration on the scale of the deferrals, see Box 1.5 in this report) or borrowers' failure to abide by their credit-payback programs. The maturation of a government guarantee program for the business sector that will translate into an increase in credit issuance is also likely to draw liquid assets down. Notably, however, when the coronavirus crisis began, assets in large sums were redirected from the capital market to the banks in view of acute market volatility. This transition, reflecting the public's confidence in the banking system, has helped to bolster the LCR at the present writing. (For elaboration, see the Liquidity Risk section.)

Business continuity risk expresses the probability of operational disruptions that may impair the continuity of business activity, the sound functioning of the payment and settlement systems, delivery of service to the public, and so on. Given how crucial they are for the sound conduct of economic activity, the banks applied extra precautions in their working procedures during the coronavirus crisis in order to minimize

[36] See David Ruthenberg, *Banking Management in Israel, Asset Management, Obligations and Risks* (Jerusalem: Keter, 2002) (Hebrew).

[37] In view of changes in the discounted value of bonds available for sale.

[38] Ruthenberg, ibid.

[39] The LCR, developed by the Basel Committee to enhance the short-term resilience of banking corporations' liquidity profiles, is a measure of the quantity of HQLA (High Quality Liquid Assets) that banking corporations should hold in order to withstand a significant stress scenario that lasts thirty calendar days. The LCR is composed of two elements. The first, on the numerator side, is the inventory of HQLA (High Quality Liquid Assets), comprised of two levels of assets: Level 1 includes high-quality assets that may be held in unlimited amounts, while Level 2 assets 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 outflow, 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.

[40] For elaboration on credit payback deferral and credit performance since the beginning of the coronavirus crisis, see Box 1.5 in this report.

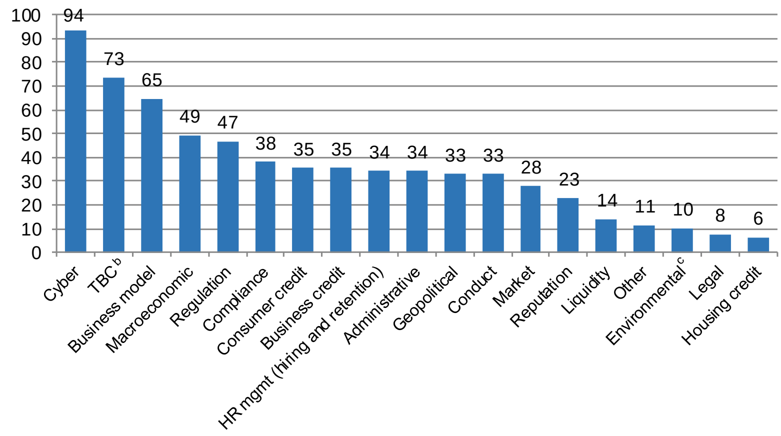
the risk of infection among staff, particularly in units of critical importance for business continuity, so as to forestall impairment to their ability to continue providing the public with vital services.

Technology risk is the risk incurred by the use of technological devices, business-continuity risks, reliance on outsourced technologies and infrastructures, exposure to embezzlement and fraud, and information-leak risks. The coronavirus crisis has hastened customers' use of direct and digital channels for banking services due to restrictions on access to branches and has made distance work more common in banking, amplifying the banks' exposure to technology risks. In addition, exploitation of the economy's current sensitivity has increased the likelihood of attempts at cyber attack, embezzlement, and fraud. As the crisis evolved, the Banking Supervision Department sent the banks' chairs and CEOs a letter pointing out the importance of adapting their risk-management practices to a technologically changing environment. The changes at issue are expected to persist even after the crisis ends because the rapid advance of digital banking will presumably continue then as well.

In 2019 much as in 2018, the Banking Supervision Department surveyed senior banking officials to help formulate an assessment of risks to the economy by examining the development of risks from their point of view. The officials were asked, among other things, to specify the risks that trouble them the most among those that threaten their institutions. In the survey, which preceded the onset of the coronavirus crisis, it was found that cyber risk remained the most troubling risk to the banking system, even more strongly than in 2018, along with technology and business-continuity risk (Figure 1.10). In an attempt to contend with the growing importance of cyber risk, the Banking Supervision Department performed a standard-scenario cyber stress test in order to strengthen cyber-risk management throughout the banking system. (For elaboration, see Box 1.1 in this report.) Conversely, the share of respondents who were troubled by credit risks declined from the previous year—particularly among those troubled by consumer-credit risk, expressing a trend that squares with the slowing of the upward trend of the consumer-credit portfolio and improvement in its quality in the review year. (For elaboration, see the Credit Risk section.) However, even though proportionately fewer respondents were troubled by credit, market, and liquidity risks than by other risks, macroeconomic risk, which amalgamates these three risks and stems from the correlation among them, was fourth among the risks that most troubled the banking system. Namely, when a macroeconomic event occurs, the correlation among the various risks gathers strength, making concern about the repercussions of a macroeconomic event more acute that fear of the realization of any of the risks individually. For this reason, the Banking Supervision Department and the banking system have been devoting much intention to macroeconomic risk over the years. Compliance risk was also less troubling to the banking officials in 2019 than in 2018 because the US authorities' investigations of Israeli banks, prompted by the activities of the banks' US customers, came to an end.

There are many risks that are worriesome to the banking system. The COVID crisis illustrates the importance of enterprise-wide risk management (ERM).

Figure 1.10
Risks that are Worriesome[a] to the Banking System, Banking Supervision Department Risk Survey 2020 (percent)



[a] Estimated according to the rate of respondents who answered "worried" or "very worried".
[b] Technology and business continuity.
[c] Theats derived from extreme changes in climate, the physical environment in which the bank/company or its borrowers operate.
SOURCE: Based on reports to the Banking Supervision Department.

The coronavirus crisis reordered the intensities of the various risks to the banking system, making some risks more meaningful than before. Here, much as in previous economic crises, **the correlation among the various risk gathered strength,** causing the full set of risks to the banking system to rise in tandem. The upturn illustrates the importance of **ERM (enterprise-wide risk management**), including preparedness for uniform stress scenarios, over management of a specific risk from a "silo" perspective only. Despite these changes, the Department will continue to track the totality of risks that the banking system faces and will deploy various tools to assure their appropriate management in order to keep the banking system resilient and stable, safeguarding the public's deposits under any scenario that the system may confront today and tomorrow.

b. Cyber risks

In the review year, as in 2018, cyber risk remained high around the world,[41] in Israel, and in the domestic financial-services system. This is reflected in the results of the Banking Supervision Department's risk survey among senior banking officials, performed for the second straight year (Figure 1.10). **In the course of 2019, several major financial cyber events took place around the world,** such as a breach of customer data at Capital One Bank in the US, breach of details of millions of credit cards in Iran, and a ransomware attack on the world's largest foreign-exchange settlement company, Travelex. Additional important developments occurred in the outcomes and implications of the breach of customer information at the US credit-rating firm Equifax.[42] The Israeli banking system also recently experienced an unprecedentedly large data breach involving the leak of partial information about users of the PayBox payment application.

The cyber threat trends observed in 2019[43] include the kind that may affect the activity of the domestic banking system, such as cloud environment, supply chain, and even cellular attacks and, of course, malware attacks that aim to destroy or disrupt computer systems and steal information.[44]

With all this in the background**, the domestic banks and credit-card companies continued to prepare** for events and risks attending to the realization of cyber events, *inter alia* by complying with regulatory requirements. **The Banking Supervision Department maintained broad supervisory activities in this context in various ways.** Its actions in 2019 include two sector-level cyber tests,[45] a uniform-scenario cyber stress test (for elaboration, see Box 1.1 in this report), and other measures that helped both the Department and the banking system to assess and manage the risk. Examples are the development of a self-evaluation tool, testing of banking systems' activities and workplans, and audits and evaluations of banking corporations. The Banking Supervision Department also continued to strengthen its cooperation with the National Cyber Directorate and to share risk-mitigation information and knowledge by participating in meetings of a sectorial professional cyber-defense forum, among other steps.

The coronavirus crisis amplified cyber risk by triggering an increase in remote work (which creates more room for attacks), an upturn in fraud events in exploitation of people's fears concerning the spread of the virus, and more digital activity by customers, some of whom are unaccustomed to it (due to restrictions on their movements and on bank branches' activities). Indeed, there has already been a global upturn in exploitation of the coronavirus crisis to attack and defraud.

The Banking Supervision Department interacted with the banking system in these contexts by sending a letter on the topic to senior banking system officials,[46] bolstering ongoing relations with the banking corporations' cyber-defense managers and relevant national players, particularly the National Cyber Directorate and the Cyber and Finance Continuity Center (FC3) at the Ministry of Finance, and bolstering its sharing of sectorial information and knowledge (by participating virtual meetings of the Cyber Defense Forum), while making regulatory dispensations where possible and correct (e.g., relaxing the frequency of compulsory safety reviews).

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[41] According to the WEF (World Economic Forum) map of risks, cyber attacks are defined as those most likely to cause damage following physical risks (chiefly climate-related).

[42] In which information about 145 million Equifax customers company was leaked in 2017.

[43] See National Cyber Directorate summary for 2019.

[44] In this matter, see also *Israel's Banking System—First Half of 2019*, Introduction (p. 2), Risks to the Banking System (p. 8); Cyber Risk (p. 16).

[45] One test specifically tailored to the activities of the Israeli banking system and another in which the domestic banking system participated, for the fourth time, in an international financial-services test.

[46] Banking Supervision Department, "Increase in Cyber Events in View of the Spread of the Coronavirus and Banking System Preparedness to Cope with Them," April 6, 2020 (Hebrew).

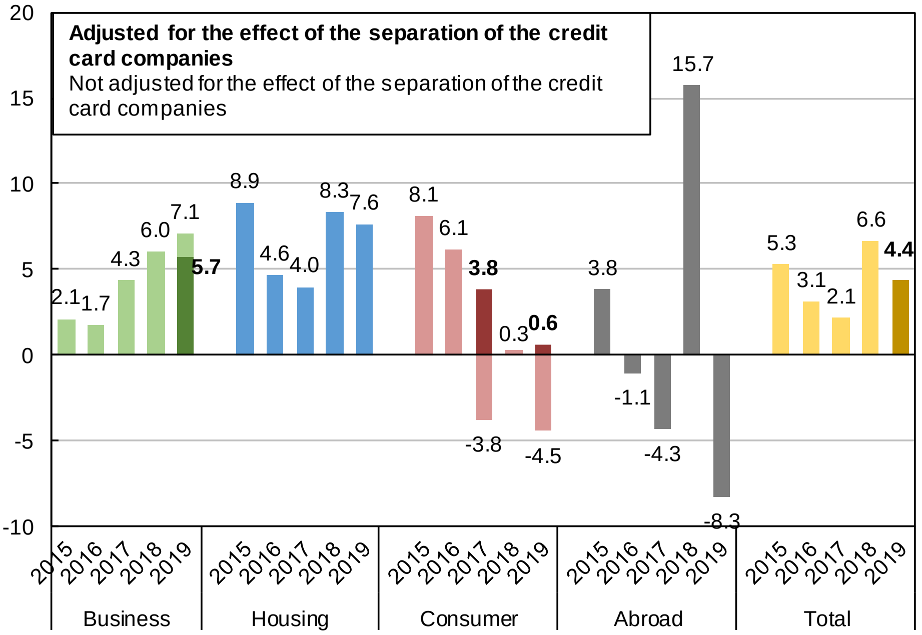
THE CREDIT PORTFOLIO AND CREDIT RISK

The banks' credit portfolio has been growing in recent years and has been reconfiguring itself in a way that mitigates credit risk, abetted by the auspicious macroeconomic situation that prevailed until the coronavirus crisis began.

The balance-sheet credit portfolio of the five large banking groups grew by 4.4 percent in the review year (Table 1.11).[47] Growth in 2019, like that in recent years (4.3 percent on average between 2014 and 2018), owes its origins, among other factors, to record performance of mortgage loans, reflected in a 7.6 percent increase in housing credit. Business credit grew by 4.2 percent, led by the construction and real-estate industry (up 8.4 percent). In contrast, the consumer-credit portfolio showed zero growth,[48] affected by heightened competition from nonbank entities and changes in the banks' business policies. Credit quality remained good by historical standards, as reflected in most credit indicators.

The housing and business segments led the increase in credit to the public.

Figure 1.11
Rate of Change in Outstanding Balance Sheet Credit in the Main Segments, the Five Banking Groups, December 2015 to December 2019 (percent)



ᵃ The decline in consumer credit between 2017 and 2019 is due to a retroactive correction following the sale of the "Max" credit card company from Leumi Group.
ᵇ In 2019, Bank Hapoalim reclassified loans to the housing segment that had previously been classified under the business sector. In addition, some of the data were reclassified in order to more properly reflect improvements made to the main measurement methods.
SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

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[47] Total annualized rate of change.
[48] The sale of the credit-card companies affected the analysis of accounting records for outstanding consumer credit, financial services, and business activity. The analysis was carried out net of these effects.

Credit to private individuals

Consumer credit

Consumer credit has seen major changes in recent years, particularly more nonbank consumer lending, stronger competition, and a decline in the banks' share in the creation of this form of credit. The coronavirus crisis halted the trend as many nonbank institutions cut back on credit supply due to the upturn in risk and shortage of available sources of liquidity.

> Credit to households continued to grow, in view of the rapid growth of housing credit and despite the slowdown in consumer credit.

The portfolio of household credit (for housing and nonhousing purposes) grew by 5.6 percent during the review period in view of a rapid increase in housing credit and two years of slowing of consumer credit growth (0.6 percent and 0.3 percent in 2019 and 2018, respectively). Total consumer credit increased by 3 percent, to NIS 202.3 billion (as against 1.4 percent growth and NIS 197 billion portfolio value in 2018). This occurred, as stated, in view of the slowing of growth in the banks' consumer-credit portfolio; it traces to multiple policy measures in recent years that aimed to stimulate competition in the consumer-credit market and led to greater diversity among players and sources of credit in this field. The main actions taken[49] include the large banks' sale of their credit-card companies, the adoption of the API standard for "open banking,"[50] the relaxation of restrictions on transferring current accounts from one bank to another,[51] and the establishment by the Bank of Israel of a credit-data sharing system,[52] which began to operate during the review year and helped both banks and nonbank institutions to improve the quality of retail-credit underwriting and risk management—also enhancing competition. The credit-data sharing system turned out 6.3 million reports in the review year (Figure 1.12), of which 80 percent were credit opinions[53] and the rest were credit reports.[54] Some 65 percent of reports were issued to nonbank entities,[55] reflecting the importance of the database for these institutions in lowering the information barrier for the requirements of their activity and, in particular, to stimulate competition. Total nonbank credit increased by 15.8 percent in the review year as against 7.5 percent in 2018. Growth was also seen in the share of nonbank players in the consumer-credit market—23 percent (NIS 46.1 billion) as against 20 percent (NIS 39.7 billion) in 2018 (Figure 1.13)—reflecting the upturn in competition in this market in recent years. When the coronavirus crisis erupted, however, some nonbank lenders evidently decided on their own to cut back on credit supply as their risks escalated and sources of finance became hard to raise. The contraction emphasizes the importance of the banks as the economy's principal source of financing with which to avert credit shortages when crisis strikes.

> During the year, Credit Data System began to operate. It helps improve the quality of credit underwriting and risk management in the retail credit market.

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[49] For elaboration on implementation of the reform to enhance competitiveness in the banking industry, see periodic report of the Committee to Examine Competition in the Credit Market, April 2020.

[50] For further discussion on open banking, see Box 2.3 in the banking-system survey for 2018.

[51] For further discussion on switching banks, see Box 2.1 in the banking-system survey for 2018.

[52] For further discussion on this system, see Box 2.5 in the banking-system survey for 2018.

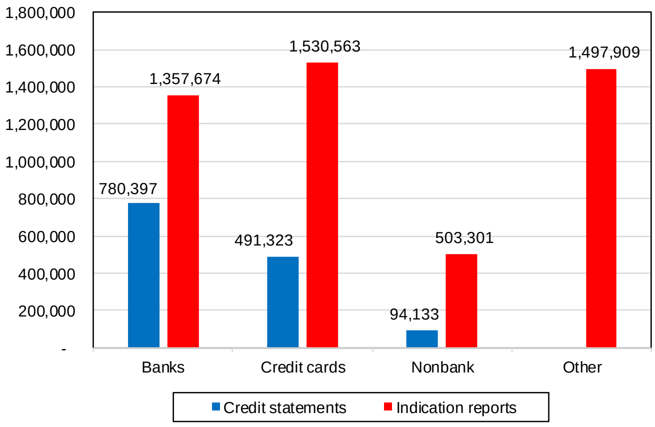
[53] A credit opinion is an assessment by a credit bureau of the advisability of lending to a customer (yes/no) in view of information about the customer in the credit-data system. In any event, the decision to lend or not is made by and at the responsibility of the lender only.

[54] Credit report—a report produced by a credit bureau for a lender on the basis of data that the lender shares with the bureau. The report helps the lender to decide whether to lend to the customer and under what terms. To produce a credit report, the lender needs the customer's consent to release personal data in the lender's system.

[55] As of April 2020, twenty-five of the thirty-five companies that used the database were not banks: Direct Finance, Albar Credit, Kalmobile Financing Solutions, Kalmobile Auto Financing Solutions, Pama Auto Credit, Pama Credit, Pama Finance, Gamma Management and Settlement, Israel Credit Cards, Max It Finance, Isracard, Premium Express, TariaP2P, Migdal Insurance Corp., the Israeli Phoenix Insurance Corp, Derech Credit, Blander P2P Israel, Clal Pension and Provident Funds, Kiddum D.S., Auto Cash Financing Services, Pama Leasing, Shop Credit, Phoenix Excellence Pension and Provident Funds, Clal Insurance company, and 24 Credit Finance. https://general.creditdata.org.il/portal-ashrai-app/corporations-list/CP

Roughly 6.3 million reports were generated by the credit data system during the period. Most of them were indication reports, and the rest were credit reports.

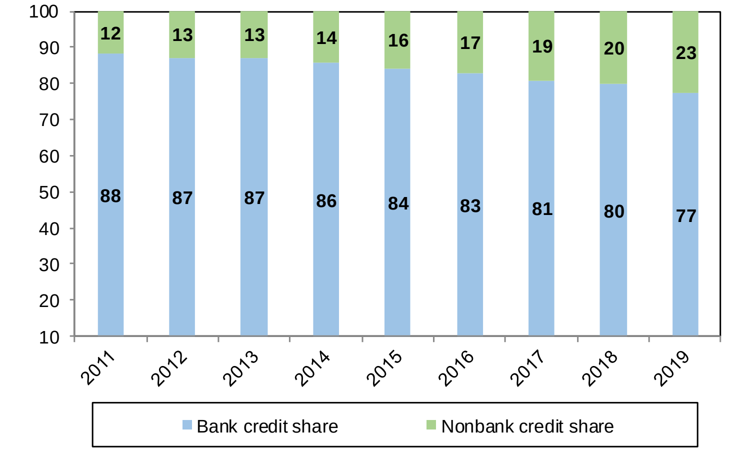
Figure 1.12
Total Queries by Type of Credit Provider and Type of Query, 2019



SOURCE: Credit data sharing system.

Nonbank credit increased as a share of total consumer credit.

Figure 1.13
Distribution of Consumer Credit, 2011–19 (percent)



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

The upturn in competition in the consumer-credit market on the eve of the crisis was accompanied by an improvement in the quality of the banks' portfolio. The improvement traces, among other things, to the banks' ability to obtain a more accurate review of customers' characteristics and estimate of their total leveraging before lending, reflected in lending to low-risk customers. The upturn in portfolio quality is visible in the portfolio-quality indicators: The share of loan loss in total balance-sheet credit to the public fell to 0.57 percent (as against 0.8 percent at the end of 2018, Figure 1.14) and the ratio of net writeoffs to total balance-sheet credit to the public dropped from 0.71 percent at the end of 2018 to 0.57 percent a year later. However, the rate of impaired credit and non-impaired credit in arrears of more than 90 days in total balance-sheet credit to the public rose from 1.16 percent in 2018 to 1.26 percent in the review year and the rate of outstanding loan-loss allowances in total consumer credit dipped from 1.84 percent in 2018 to 1.81 percent (Table 1.12). The worsening of several indicators of bank-portfolio

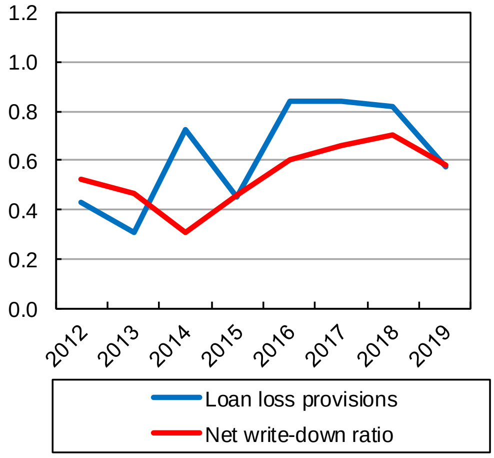
The increased competition in the consumer credit market in the precrisis period from nonbank entities accompanied an improvement in the banking portfolio quality.

quality may have been the result of legislative changes in recent years[56] and the encouragement of settlement proceedings and "soft collection" against retail customers, allowing easier payback terms for borrowers in financial hardship; however, they may erode payment ethics. Furthermore, in view of the development of the coronavirus crisis and its global and domestic economic impact, the Banking Supervision Department expects the quality of the consumer-credit portfolio to suffer due the increase in household leveraging in recent years,[57] historically high unemployment rates, restrictions on business activity, and uncertainty about returning to normality, possibly indicating that many borrowers will find it hard to meet their obligations to the banks.

Overdrawing of current-account credit facilities[58] continued to trend downward (by 4.2 percent in the review year and by 30 percent since 2016; Figure 1.15) despite a 3.5 percent increase in use of these facilities[59] during the year (after a 6 percent decrease in 2018), possibly due, among other factors, to households' growing awareness and internalization of less expensive and more advisable financing alternatives than overdrafts.

The quality indicies of the consumer portfolio improved.

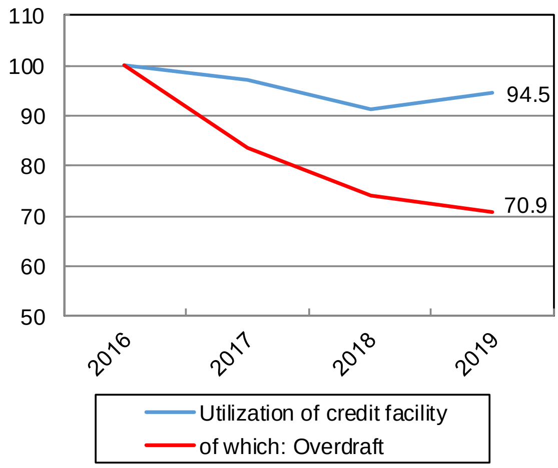
Figure 1.14
Loan Loss Provisions and Net Accounting Write-Downs as a Share of Consumer Balance-Sheet Credit, December 2012–December 2019 (percent)



SOURCE: Based on published financial statements.

Total overdraft in the banking system declined.

Figure 1.15
Utilization of Current Account Credit Facility and Exceeding the Approved Facility, the Five Banking Groups, 2016–19 (index: 2016=100)



SOURCE: Based on reports to the Banking Supervision Department.

Housing credit

Mortgage-loan performance was NIS 67.6 billion (NIS 5.6 billion per month on average, Figure 1.16), up 13.8 percent from 2018 and surpassing the previous record (NIS 64.7 billion in 2015), due to an upturn in transactions, to 96,285 as against 85,743 in 2018. The increase in number and size of transactions was affected by developments in the housing market,[60] foremost more purchases of first dwellings, particularly new ones.

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[56] The Insolvency and Economic Rehabilitation Law, 5778-2018.
[57] For further, see Chapter 4 in the Bank of Israel *Annual Report* for 2019.
[58] Overshooting of bank-approved facility. For elaboration, see Proper Conduct of Banking Business Directive 325, "Management of Credit Facilities in Current Accounts."
[59] The maximum withdrawal that a banking corporations allows customers to make from their current account in the event that the balance in the account does not permit it, i.e., excess overdraft.
[60] For further analysis of the increase in mortgage-loan performance in the review year, see Box 1 in *Israel's Banking System—First Half of 2019.*

The increase in the number of transactions derived from, among other things, growth in scope of transactions in the “Buyer’s Price” project, which made up 17 percent of the number of transactions.

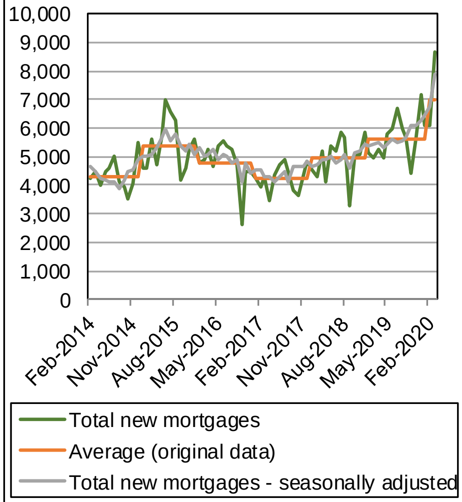
The greater volume is explained, *inter alia*, by increased scope of transactions under the Buyer’s Price program, which accounted for 42.5 percent of total new-home purchase transactions during the year.[61] Within this generality, total loans for first-home purchases were 48.6 percent of total performance for housing purposes (as against 46.5 percent in 2018) and total loans for reduced-price housing[62] were 12 percent of total performance (NIS 7 billion). Transactions involving reduced-price housing were 17 percent of total transactions, exceeding the rate of such housing in total loans. The difference is due to the characteristics of takeup of mortgage loans under the terms of the program, in which there is a gap between the time the contract is signed and that at which the loan is taken. This means, among other things, that performance takes place at a later time than the signing of the transaction. The gap originates in the terms of the program, in which fixed payback dates are set commensurate with progress in the housing project. By implication, the Buyer’s Price program will precipitate another increase in mortgage-loan performance in the next year or two, as rights in lotteries under the program for homebuying transactions mature.

Another development that helped mortgage-loan performance to grow was a decline in the interest rate on housing loans. The average nominal rate on new housing loans fell to 2.5 percent by year’s end as against 3.1 percent a year earlier (Figure 1.17). The trend, typical of all interest paths and indexation segments, is partly explained by a decline in the cost to the banks of raising medium- and long-term sources.

This development followed an upturn in interest rates in 2015–17, brought on mainly by a requirement by the Banking Supervision Department to raise capital ratios along with a mild increase in the cost of raising sources, succeeded by the receding of rates from 2017 onward. At the beginning of 2017, as the banks attained the supervisory capital targets (for elaboration, see the Capital section in this report), credit supply for housing increased in tandem with a slump in housing demand, typified by downturns in the housing price indices, the number of residential real-estate transactions, and purchases by investors and even of second-hand dwellings. The effect of these changes led to lower mortgage lending rates along all paths that year. In 2018, loan creation increased due to the aforementioned effect of the Buyer’s Price program while interest rates along all paths leveled off.

New mortgages reached a record high in 2019, higher even than in 2015.

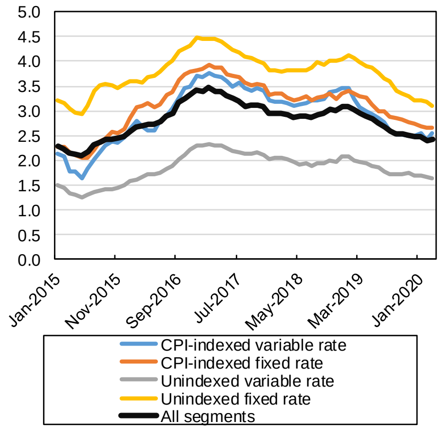
Figure 1.16
Monthly Volume and Annual Average Volume of Mortgages Taken Out, Total Banking System, January 2014 to March 2020 (NIS million)



SOURCE: Based on reports to the Banking Supervision Department.

There was a marked decline in all interest rate

Figure 1.17
Interest Rates on New Mortgages Issued by Indexation and Interest Rate Tracks, January 2015– February 2019 (percent)



SOURCE: Based on reports to the Banking Supervision Department.

The steep increase in home prices in 2008–15, accompanied by a major upturn in the size of the average mortgage loan, led to concern that borrowers’ ability to meet the payback terms might be impaired under various scenarios such as an increase in unemployment and a spike in interest rates. Therefore, acting to

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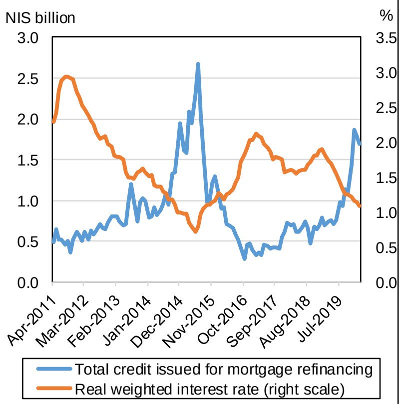
[61] Division of the Chief Economist, Ministry of Finance, “Residential Real-Estate Review, December 2019,” *Weekly Economic Review*, February 10, 2020 (Hebrew).
[62] Dwellings under the Buyer’s Price program are offered for lottery before their building permit is issued and are sold to winners only after the permit comes through.

mitigate risks in which the interest increase in 2015–16 were central, the Banking Supervision Department attenuated demand for mortgage loans.

As mortgage-loan performance slanted upward, the size and rate of mortgage refinancing and early payback increased. The increase in refinancing, from NIS 7.9 billion in 2018 to NIS 11.9 billion in 2019[63] (Figure 1.18) indicates that interest rates declined enough to make refinancing worthwhile for customers despite its cost, which includes various bank charges such as operating fees, discounting of interest differentials,[64] and so on. It was the lowering of these costs in 2014, when the Governor of the Bank of Israel applied an amendment to the Banking Ordinance, which made mortgage refinancing an economically valuable move.

There was an increase in the volume of refinancing and a decline in the interest rate on

Figure 1.18
Real Weighted Interest Rate[a] on Mortgages and Total Credit Issued for Mortgage Refinancing, 2015–February 2020 (percent)



[a] The weighted interest rate was calculated based on the assumption of 2 percent inflation.
SOURCE: Based on reports to the Banking Supervision Department.

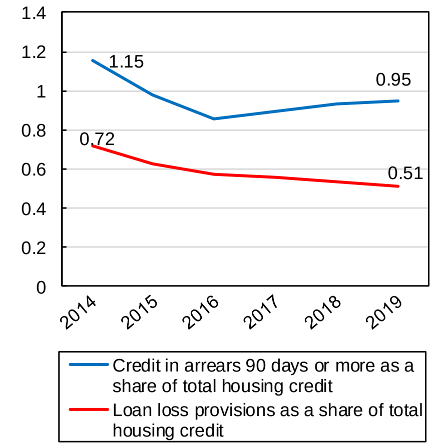
The housing-credit portfolio maintained its high quality in 2019. Thus, the rate of loan-loss provisions in total housing credit was stable at 0.03 percent at year's end (as against 0.04 percent a year earlier). The share of credit in arrears of more than 90 days in total housing credit edged upward, from 0.93 percent to 0.95 percent (Figure 1.19). Net writeoffs were 0.02 percent of total housing credit as against 0.01 percent a year earlier, resembling the ratio in recent years, and the share of allowance in total housing credit trended downward as it has in recent years, ending 2019 at 0.51 percent (as against 0.6 percent on average in the previous five years, Figure 1.14).

The housing credit portfolio quality remains good despite the increased share of loans with high LTV (60–75 percent).

The continued high quality of the portfolio is further confirmed by indicators of the solvency of mortgage-loan borrowers in Israel relative to those in other advanced economies. Thus, the LTV ratio in Israel was 52.4 percent at the end of the review year, slightly higher than year-earlier (51.5 percent) but low by other countries' standard (Figure 1.20). Israel owes its low housing LTV ratio to tougher regulatory restrictions on housing than are applied in other countries,[65] among other factors. The payment-to-income ratio, an important variable in assessing the probability of borrower default, was unchanged at 26.2 percent. Term to maturity was basically unchanged (22 years as against 21.8 at the end of 2018). These developments stem from the increase in the share of high-LTV loans (60–75 percent; Figure 1.21) that followed a lenience introduced by the Banking Supervision Department in March 2018 concerning the weighting of risk assets for banks' mortgage loans at LTV ratios of 60–75 percent; this allowed the banks to increase the share of borrowers under the Buyer's Price program, who typically exhibit higher LTV ratios than other mortgage-loan borrowers. The increase in LTV ratios for mortgage loans may attest to a slight worsening of the risk of the housing-credit portfolio in terms of an increase in leverage rates. The same increase, however, may actually reflect a downturn in the total credit risk of the portfolio because the escalation of LTV may be indicative of less consumer borrowing in order to make up missing equity for home purchase.

The quality of the credit portfolio in recent years has been good.

Figure 1.19
Outstanding Credit More than 90 Days in Arrears as a Share of Total Housing Credit, and Loan Loss Provisions As a Share of Total Housing Credit, the Five Banking Groups, 2014–2019 (percent)

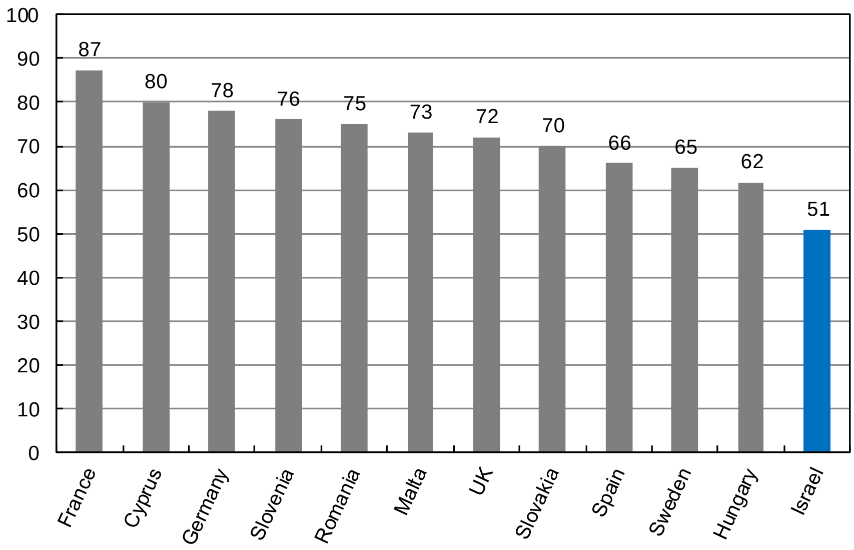


SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

[63] Intra-bank and inter-bank.
[64] The early-payback charge is the difference between the interest rate in effect on the paid-back part of the loan or the average rate (published by the Bank of Israel for the relevant period) that is known at the time of the most recent setting of the rate—whichever is lower—and the average rate on the date of the early payback.
[65] For elaboration on macroprudential measures in relation to housing, see Box 1.4 in this report.

The LTV on housing credit in Israel is very low compared to other countries, reflecting lower risk.

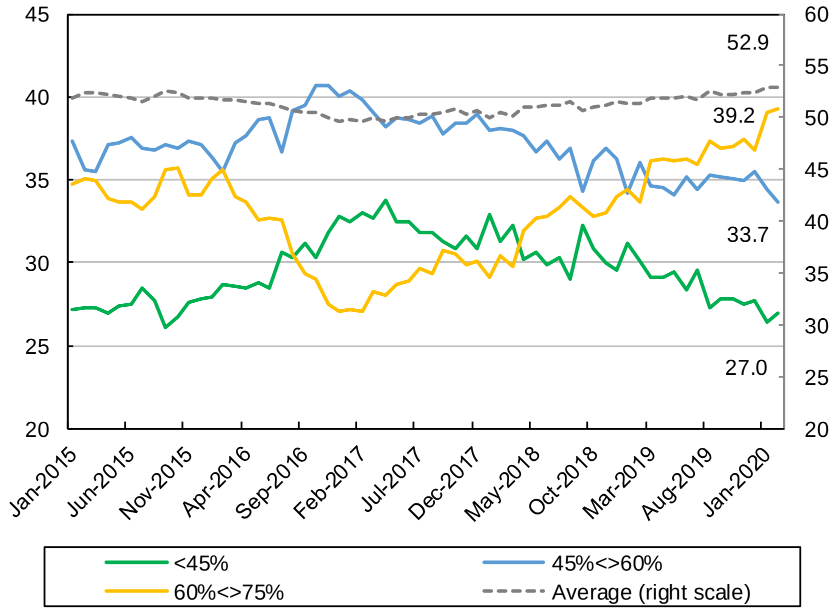
Figure 1.20
Average LTV Rate, Israel and Selected European Countries, 2018 (percent)



SOURCE: European Mortgage Federation and Bank of Israel data.

There was an increase in the share of loans with high LTV rates in view of the increase in loans as part of the Buyer's Price program.

Figure 1.21
Distribution of New Mortgages by LTV Ratio, Total Banking System, January 2015 to February 2020 (percent)



SOURCE: Reports to the Banking Supervision Department.

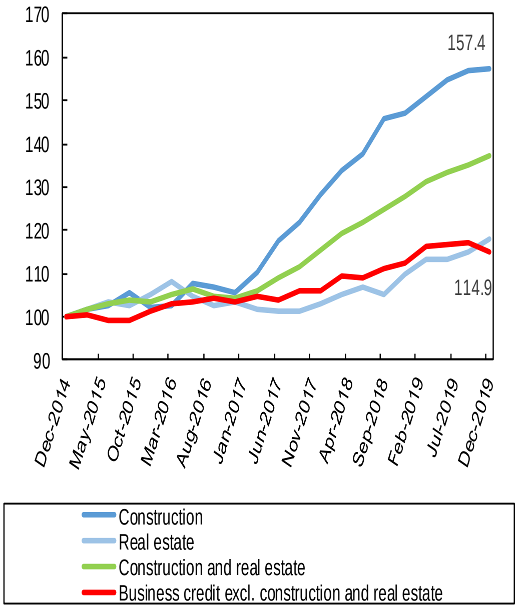
Business credit

The trend of acceleration in the rate of commercial credit growth continued, led by the construction and real estate industries.

Commercial credit continued to grow in the review year[66] at a brisk 5.7 percent pace[67] (approximating the 6 percent growth rate in the year-earlier period) after sluggish 2.9 percent annual average growth in 2014–18. The acceleration began when all banking groups attained the Banking Supervision Department's capital targets at the end of 2017 and was abetted by the low-interest rate environment and optimal macro conditions that Israel enjoyed in recent years, allowing the banks to reconfigure their credit portfolios in favor of higher-risk-weighted lending, foremost to business borrowers.

The construction industry has led growth in business credit in recent years.

Figure 1.22
Outstanding Balance Sheet Credit in the Construction and Real Estate Industry (activity in Israel), the Five Banking Groups, December 2014 to 2019
(index: December 2014=100)



SOURCE: Based on reports to the Banking Supervision Department.

Construction and real-estate credit was crucial in this growth, advancing in 2019 at an 8.4 percent pace (as against 14.3 percent in 2018) and accounting for 48 percent of total growth in business credit during the year. While total business credit in Israel grew by 17 percent since the end of 2016, construction credit, which accounts for approximately 18 percent of total business activity countrywide, spurted ahead by 57 percent (Figure 1.22) and accounted for 41 percent of the total increase in business lending in Israel during those years.

As of the end of 2019, the construction and real estate industry, together with the housing industry, make up close to half of total banking credit to the public and thus continue to be one of the largest structural risks in the economy due to the high correlation and sensitivity to external shocks.

The upturn in construction credit traced to demand-side developments, central among them the increase in demand for credit flowing from changes in the housing-construction market, *inter alia* with the introduction of the Buyer's Price program in 2015, along with the transition to high-density building (typical of the Buyer's Price program) and an increase in residential-construction inputs on the supply side. Furthermore, the Banking Supervision Department relaxed supervisory restrictions in recent years in ways that increased credit supply,[68] allowing the banks to respond to this demand. Thus, the construction and real-estate industry, together with the housing industry, accounted for nearly half of total bank credit to the public at the end of 2019 (Figure 1.23), making it one of the largest structural risks in the credit portfolio given its strong correlation with, and sensitivity to, exogenous shocks.

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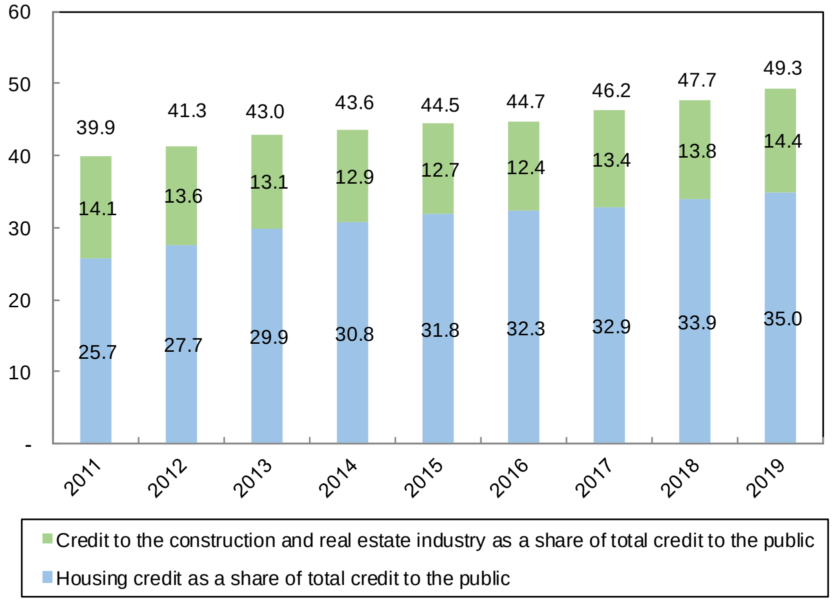
[66] When credit risk parsed by branches of the economy is examined, commercial credit is defined as total credit to branches that are not private individuals (housing and consumer credit). When credit risk is examined by activity segments, business credit is defined as total credit outside of the household and private-banking segments.
[67] According to the Department's estimates and net of the effect of the sale of the credit-card companies by the Leumi and Hapoalim groups. The latter event brought about a change in the bookkeeping recording of the sources of finance of the credit-card companies that were sold by the large banking groups and led to an increase in credit to the services and financial-services industry.
[68] The debt ceiling for the construction and real-estate industry was adjusted again in the review year, allowing banks to issue up to 24 percent of their total credit portfolio to this industry provided the increment beyond 20 percent is used to fund infrastructure via PPP (public-private partnership) projects. Apart from allowing an increase in the supply of credit to fund these infrastructure projects (the revised ceiling will allow bank credit for national infrastructures to increase by an estimated NIS 25 billion), the adjustment will make more credit available for other kinds of construction and real-estate demand, including homebuilding.

Housing credit and credit to the construction and real estate industry continue to account for about half of total credit to the public.

Figure 1.23
Outstanding Housing Credit and Credit to the Construction and Real Estate Industry as a Share of Total Credit, the Five Banking Groups, December 2011 to December 2019 (percent)



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

Most of the growth of business credit during the year derived from the growth of credit to midsized businesses.

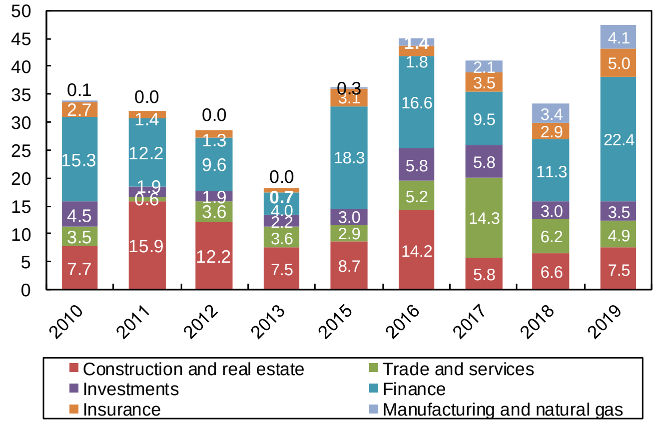
Business credit continued to grow in 2019 by 4.2 percent (Table 1.11)[69] as against 6.3 percent in 2018. Most of the increase originated in an 11.3 percent upturn in credit to medium-sized businesses (as against 2.3 percent growth in 2018), accounting for 44 percent of total growth in business lending in the year reviewed. Most growth in credit to medium-sized business and the large-business supervisory segments originates in lending for construction and real estate, accounting for 42 percent and 63 percent of total growth of credit to the respective segments. Lending to the small- and micro-business segment also continued to grow—by 3 percent in the review year, led by the Discount and Mizrahi-Tefahot groups (up 9 percent during the year).

Growth of lending to large businesses slowed in the course of 2019. This may have been due to these businesses' easy access to nonbank borrowing alternatives, including the domestic and foreign capital markets, institutional entities, and foreign banks. Thus, even as the growth rate of bank credit to large businesses slowed to 2.6 percent (Table 1.11), corporate issues grew by 42 percent (an NIS 14 billion increase, Figure 1.24), as against a 12.5 percent expansion of bank credit and a 19 percent contraction of debt issues in 2018.

[69] Neutralized for the effect of the separation of credit-card companies by the two largest banking groups.

The decline in the growth rate of credit to large businesses was in parallel with the increase in the volume of capital raised during the year.

Figure 1.24
Corporate Bond Issues, by Industry and Excluding the Banking System (excl. Structured, Convertible, and Foreign), 2010–2019 (NIS billion)

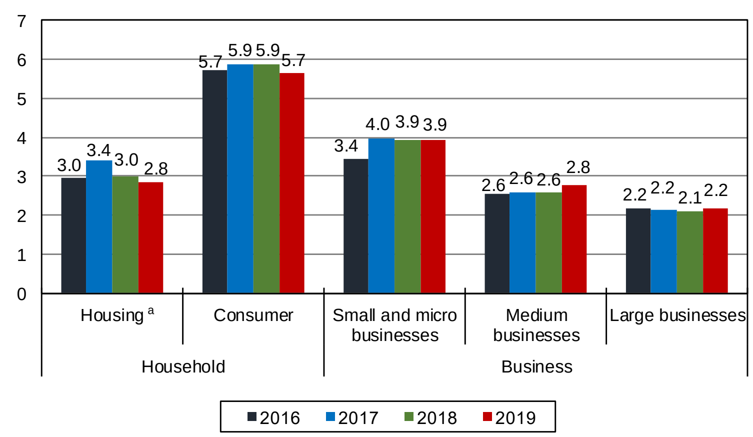


[a] The manufacturing industry includes gas and oil, technology, and biomed. The investments industry includes finance.
SOURCE: Based on Information and Statistics Department data.

The trend in average interest rates for new credit was mixed (Figure 1.25). In the medium-and large-business segments, the average rate climbed to 2.8 percent and 2.2 percent, respectively (compared with 2.6 percent and 2.1 percent in 2018) as a result of a policy that favored larger exposure to these segments during the year and an upturn in the risk profile of the portfolio, tracing *inter alia* to the share of construction and real estate in total lending to these industries. Thus, construction and real estate accounted for 36 percent and 31 percent of total lending to medium and large businesses in 2019 as against 32 percent and 24.8 percent in 2015. In the small- and micro-business segment, lending interest rates were basically unchanged. In the consumer-credit segment, the average rate slipped by 0.21 percentage point as the banks focused on low-risk customers by offering them more attractive rates. Thus, the expected decrease in credit-loss expenditure on account of these customers compensates for the loss of interest income.

The decline in interest rates to the household segment (consumer and housing) continued, as did the stability in the small and micro business segment, while there was an increase in the medium and large business segment.

Figure 1.25
The Average Interest Rate on Credit Provided to the Public in the Various Activity Segments, the Five Banking Groups, 2016–2019 (percent)



[a] Household includes private banking.
SOURCE: Based on published financial statements.

Quality of the credit portfolio

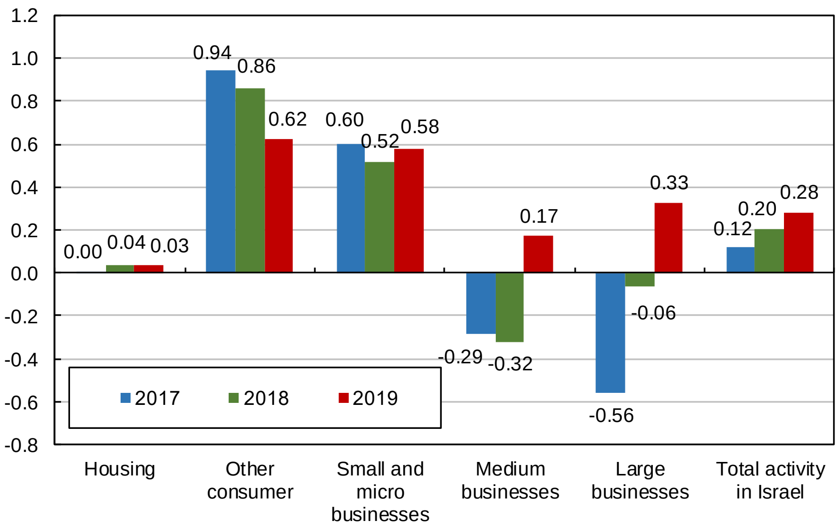
Credit quality on the eve of the crisis indicates that the portfolio was in a state of high quality, reflected in stability in most indicators (Table 1.18).[70] The ratio of loan-loss provisions to the total portfolio was 0.23 percent as against 0.2 percent at the end of 2018 (Table 1.18). The ratios of net writeoffs to total balance-sheet credit, the share of allowance for loan-loss to total balance-sheet credit to the public, and impaired credit and non-impaired credit in arrears of more than 90 days to total balance-sheet credit remained stable.

> The quality of the credit portfolio right before the coronavirus crisis shows historically good portfolio quality.

Parsing the credit indicators by main supervisory segments (Table 1.20), it is found that portfolio quality in consumer and commercial credit declined mildly but remained good in historical terms. In the consumer-credit segment, a mixed trend in the credit-quality indicators is observed (Table 1.20). The quality of commercial credit, as evidenced in this segment's credit-quality indicators, also changed. This trend, as stated, owes its origins to an increase in exposure to the business sector and, within it, exposure to medium and large businesses, in which the ratio of loan-loss provisions to outstanding credit climbed to 0.17 and 0.33 percent (as against negative 0.32 percent and 0.06 percent, respectively, at the end of 2018; Figure 1.26) in view of the contraction of total collection of debts previously written off in the large and medium-business segments, among other factors. The economic ravages of the coronavirus crisis are likely to degrade the portfolio-quality indicators[71] because the banking system is directly and indirectly exposed to multiple industries and borrowers who are suffering badly from the ongoing effects of the crisis. Stress tests that the Banking Supervision Department instructed the banks to carry out in preparation for a major crisis also point to the likelihood of a major increase in loan losses.

> In 2019, there was an increase in loan loss provisions in the business sector, compared with a decline in consumer credit. Loan losses are expected to increase due to the COVID crisis.

Figure 1.26
Loan Loss Provisions on Credit in the Various Activity Segments[a], the Five Banking Groups, 2017–2019 (end-of-period balance, percent)



a The declines in consumer credit in 017 and 2019 are due to a retroactive correction of sales through the "Max" credit card company.
SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

[70] Neutralized for the effect of Bank Hapoalim's reference to expected losses on account of the coronavirus crisis.
[71] An example of the effects of the crisis on these indicators may be seen in the financial statements of the Hapoalim group for 2019, in which NIS 687 million was provided for direct and indirect impacts of the crisis, and in the results of first-quarter 2020 statements released abroad. For further, see Box 1.6 in this report.

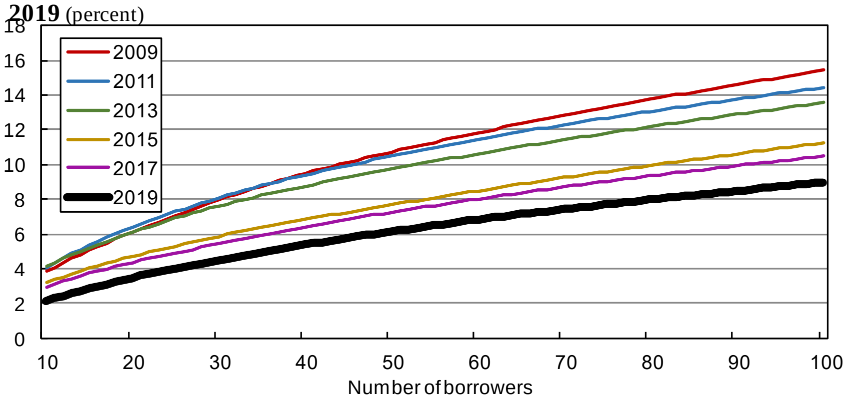
Concentration of the credit portfolio

Amendments to the Banking Supervision Department's directives and legislation and reforms in the past decade[72] have engineered a major decrease in banks' lending to large business groups and large borrowers and the diffusion of credit to larger numbers of borrowers who also exhibit greater diversity.

Consequently, the banks have significantly reduced their exposure to large borrowers and, in particular, to large leveraged borrower groups. Thus, the share of the hundred largest borrowers in the credit portfolio tumbled from 15.4 percent in 2009 to 9 percent at the end of 2019 (Figure 1.27).

There was a decline in credit concentration. Large borrowers' share of the bank credit portfolio continues to decline.

Figure 1.27
Total Credit Risk Balance of the 100 Largest Borrowers[a] as a Share of Total Credit Risk Balance, the Five Banking Groups, 2009, 2011, 2013, 2015, 2017 and 2019 (percent)



[a] The large borrowers do not include banking corporations.
[b] Prior to 2011, the data relate to net credit (balance-sheet and off-balance-sheet credit after write-offs and provisions).
SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

The effect of exchange-rate changes

Changes in the NIS exchange rate against the basket of foreign currencies had a perceptible effect in 2019. The portfolio of outstanding credit for activity abroad contracted by 8.3 percent, mainly due to appreciation of the NIS against the currency basket. Net of this impact, lending for activity abroad was essentially unchanged (up 0.3 percent during the year) as against a 13.8 increase in 2018 that was partly occasioned by NIS depreciation; net of the depreciation effect, credit for activity abroad grew by 6.1 percent. Net of exchange-rate effects, total balance-sheet credit to the public grew by 5.1 percent.

[72] For elaboration on measures by the Department to mitigate large borrower exposure, see Box 3.3 in *Israel's Banking System* for 2017.

Liquidity risk

Israeli banks have high levels of liquidity that rest on a basis of stable and low-concentration retail deposits. It is this characteristic that enabled them to continue lending despite the coronavirus crisis.

The liquidity coverage ratio (LCR)[73] of the banking corporations continued to surpass the minimum established by the Banking Supervision Department (100 percent; Figure 1.28). The Israeli banks' high-quality liquidity profile is a consequence of regulatory measures by the Department to boost the banks' strength and resilience to various kinds of shocks. The measures in question include the adoption of the Basel Committee's LCR recommendations (part of Basel III), a supervisory requirement to maintain internal models for monitoring of liquidity, and the performance sensitivity analyses in this context. The high-quality liquidity profile allowed the banks to continue lending to the public even at the present writing, against the background of the coronavirus crisis and despite the expected downturn in inflow (brought on, *inter alia*, by allowing the public to postpone mortgage-loan payback) and the possible degradation of liquidity cushions due to greater use of credit facilities.[74]

Israeli banks' liquidity profile is high quality and is a direct result of regulatory steps taken by the Banking Supervision Department to improve banks' resilience and robustness, and it enables the banks to continue extending credit despite the coronavirus crisis.

The aggregate LCR was 125 percent in the review year as against 128 percent in 2018 (Figure 1.29). Almost all banks in the system participated in the mild decrease (Figure 1.29). In the fourth quarter of 2019, however, there was an especially rapid accumulation of liquid assets relative to the net outflow, offsetting some of the decline that had occurred earlier of the year. Most of the improvement in liquid assets occurred in high-quality assets, particularly government bonds (mainly at the two largest banking groups) and an increase in cash and deposits (at Mizrahi-Tefahot Bank).

The public's deposits increased in 2019, helping to bolster High Quality Liquid Assets in the fourth quarter of the year because the banks used these sources to build up their cash and deposits with the Bank of Israel. Thus, total cash and deposits at the central bank increased by 17 percent to NIS 39.5 billion in the fourth quarter, mainly due to a protracted increase in wholesale deposits for the portfolio spread over the entire year (NIS 23 billion), after contraction of such deposits in 2018 (by NIS 28.3 billion) after Amendment 28 to the Investments Law went into effect.[75] The fourth quarter also saw an increase in nonfinancial wholesale deposits (NIS 16.4 billion) and a mild upturn in retail deposits (NIS 6.3 billion). Notwithstanding the surge in wholesale deposits, retail deposits remain the banks' primary source of funding for their activity and account for 55 percent of the public's deposits.

With the start of the coronavirus crisis, there was a sharp rise in the banks' liquidity coverage ratio. This rise reflects the public's trust in the stability of the Israeli banking system, and is based in the shift of assets from the capital market to the banks, in view of the crisis and the sharp fluctuations in the capital markets.

When the coronavirus crisis erupted in the first quarter of 2020, the banking system's LCR rose steeply and its aggregate value climbed to 136 percent. The upturn reflects the public's confidence in the stability of the

[73] The LCR, developed by the Basel Committee to enhance the short-term resilience of banking corporations' liquidity profiles, is a measure of the quantity of HQLA (High Quality Liquid Assets) that corporations should hold in order to withstand a significant stress scenario that lasts thirty calendar days. The LCR is composed of two elements. The first, on the numerator side, is the inventory of HQLA (High Quality Liquid Assets), comprised of two levels of assets: Level 1, formed of high-quality assets that may be held in unlimited amounts, and Level 2, 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 outflow, 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.

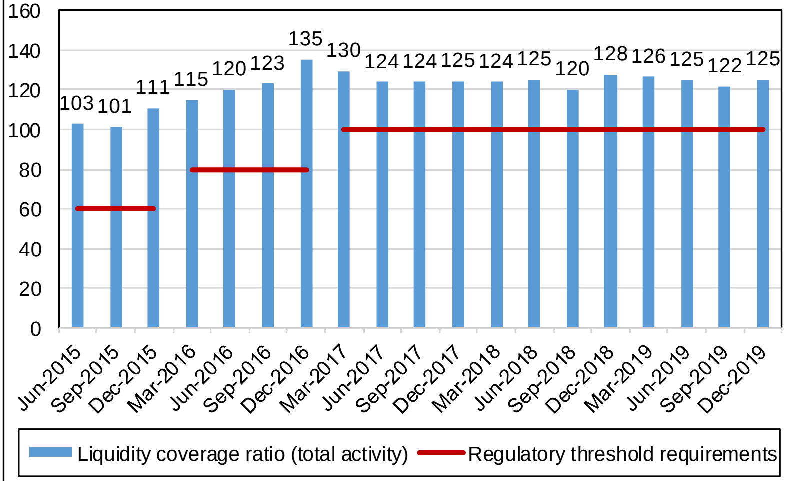
[74] For further on credit performance since the onset of the coronavirus crisis, see Box 1.5 in this report.

[75] The Joint Investment Trust Law, 5754-1994. By imposing restrictions on ETFs (Exchange Traded Funds) pertaining to investing and holding assets, the amendment had a downward effect on these bank deposits.

system because it was powered by the diversion of assets from the capital market to the banks in response to the coronavirus crisis and the acute volatility that overtook the capital market. This diversion led to an 8 percent upturn in the public's deposits in the first quarter of 2020, foremost in overnight deposits by retail and wholesale customers. The banks used some of these deposits to increase their lending to the public but pledged most of them to building up their High Quality Liquid Assets by buying government bonds, accumulating cash, and making larger deposits with the Bank of Israel. The high level of liquidity evinced at the present writing, however, will probably erode in the near future as the government's business guarantee fund matures, insofar as this leads to an increase in lending to the public and a decline in liquid assets.

The liquidity coverage ratio in the banking system remains high compared with the minimum requirements, and relies on stable retail deposits.

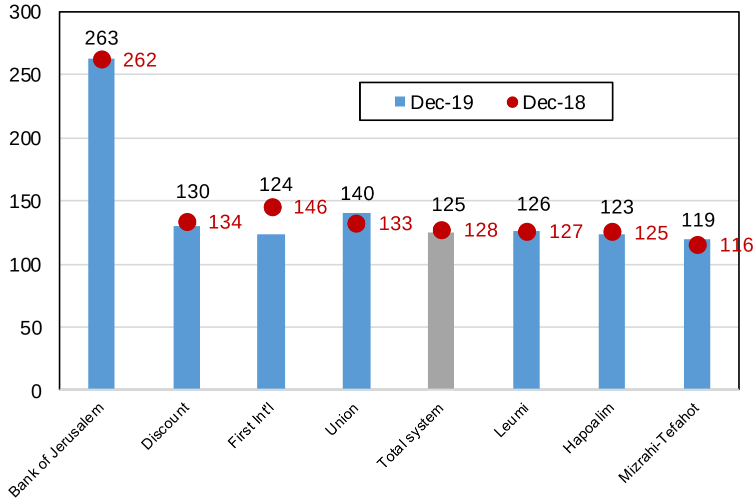
Figure 1.28
Liquidity Coverage Ratio (LCR), Total Banking System[a], June 2015 to December 2019 (percent)



SOURCE: Based on reports to the Banking Supervision Department.

The liquidity coverage ratio declined slightly releative to the same period last year.

Figure 1.29
Liquidity Coverage Ratio (Total Activity), Total Banking System, December 2018 and December 2019 (percent)



SOURCE: Based on reports to the Banking Supervision Department.

Box 1.1
A Standard-Scenario Cyber Stress Test for the Banking System

- Cyber attacks against organizations around the world, including those in financial services, have been growing in number and sophistication in recent years, causing more and more concern about a cyber attack in Israel generally and against its banking system particularly.
- Cyber risk has unique characteristics, including the nature of cyber attacks as malicious and sometimes deliberate, focused, and sophisticated events that flow from lengthy planning. For these reasons, cyber attacks may have unexpected implications, making the intensity of their expected damage hard to estimate.
- To reinforce the banking system's management of cyber risk and improve the Banking Supervision Department's understanding of this risk and its repercussions on banking system stability, in 2019 the Department conducted a stress test for the banking system based on a cyber event. Apart from being the first of its kind at the Department, the stress scenario in this format is, to the Department's best knowledge, the first conducted by a financial supervision entity anywhere. Importantly, the test was not a forecast but rather an approximation of an extreme scenario that probed a bank's ability to cope with a risk of this kind.
- The test was based on the scenario of a serious cyber event, in which the current-account and deposit data of all private customers of a bank are corrupted. The attack has technological and financial effects on the bank and its customers. Therefore, its span includes numerous fields such as cyber risk, operational risk, compliance risk, legal risk, and reputation risk, along with the synergy that exists among these risks, and it challenges the way the bank manages its business continuity.
- Testing this scenario made it possible to examine focal points of risk that emerge when a grave cyber event occurs. Also examined were the direct and indirect effects of the event on banking activity and how the bank copes with it, including its activity vis-à-vis customers, the impact on its information systems, and the financial implications of the scenario in both the near and long terms.
- The test helped the banks to identify discrepancies that have to be narrowed in order to cope with a scenario on such a scale. It is expected to be helpful in drafting contingency plans for future events of this kind and in reinforcing communication among the bank's various units in order to optimize its comportment in the case of such an event. The test also helped to enhance the Banking Supervision Department's and the banking system's existing knowledge about such an event and its implications, including the possibility of microprudential damage, and it will be helpful for drawing supervisory conclusions and determining continuing activities in this context.
- The coronavirus crisis has intensified various risks, including cyber risk; thus, it pointedly demonstrates the importance of the banking system's ongoing preparedness to cope with the risks that it faces, including by means of stress tests, among them the kind that is based on a cyber scenario.

Background

- The Banking Supervision Department has been subjecting the banking system to standard-scenario stress tests since 2012, in order to get a better understanding of focal points of risk to which the system and each bank are exposed. In 2019, it was decided that the test would probe focal points of risk that would rise to the surface if a stress event of cyber nature were to occur. A cyber stress test, due to its essence, reveals effects beyond the direct damage that a serious cyber event causes. The process is expected to help reinforce and improve the Israeli banking system's cyber-risk management and augment what the Banking Supervision Department and the banking system already know about such events and their implications. The test is a continuation of previous activity by the Department vis-à-vis the banking system in 2017–18 in regard to cyber-stress scenarios, in which the Department reviewed the banks' internal cyber stress tests. In the review year, it was decided to set up a standard scenario for the entire system.

Cyber risk in the banking system

Cyber attacks against organizations worldwide, including those in financial services[76], have been escalating in recent years in both number and sophistication. The trend evokes concern about a major cyber event in Israel generally and against its banking system particularly. In a survey of risks that the Banking Supervision Department carried out among senior officials of the banking system in February 2019 and February 2020, it was found that cyber risk is the most troubling risk of all[77] and that many of these senior officials consider it one of the three most significant risks that the banking system faces.

Cyber risk has characteristics that distinguish it from the other risks to banking systems. A financial shock, for example, originates in an exogenous event (to which the markets' response, together with the contagion effect, may cause much harm); a cyber attack, in contrast, is undertaken at someone's initiative and is sometimes deliberate, focused, sophisticated, and carried out after lengthy planning.[78] In sophisticated attacks such as these, perpetrators invade systems weeks or even months in advance in order to map them and thereby determine the best way to damage them. It is true that such an assailant needs ample resources and advance planning to put the attack into effect; however, he carries out the attack at the time of his choosing and in a manner that will make it hard to detect. Thus, by the time the attack is discovered, the target has most likely sustained considerable damage. The probability of success in such an attack is strong and major effects are possible. In addition, the cyber field is highly complex and the systems at risk are networked, interconnected, and interdependent. Therefore, the corruption of one system may unexpectedly trigger disruptions elsewhere, making it hard to determine how the corruption of one system can bring down others. This sets cyber risk apart from financial risks, in which different effects on sundry fields and linkages among fields have been researched and estimated by means of models based on past events. Consequently, the effects of financial risks on the banking system are more clearly understood than are those of a cyber attack, and the tools with which these risks can be mitigated are also more apparent (Healey et al., 2018).

If a cyber event in the banking system comes to pass, its implications may be significant at both the microprudential and the macroprudential levels. One of the main concerns in such an event at a bank is that the event will touch off a "cyber run," i.e., massive withdrawals of deposits due to fear of impairment to deposits in view of the cyber attack and due to serious harm to the bank's reputation. The large-scale withdrawal of deposits may degrade the bank's ability to remain liquid and meet its payment liabilities on time. In addition, a liquidity crisis at a given bank may have major repercussions for the real economy long after the bank recovers and access to deposits is restored. because the delay in payments, coupled with uncertainty, may project onto other financial institutions, particularly if the latter do not receive payments that they are expecting (Duffie and Younger, 2019).

In view of these risks, many regulators around the world, as well as the Banking Supervision Department,[79] have been expressing the importance of managing cyber risk by means of regulation and in other ways. Kashyap and Wetherilt of the Bank of England, in an article titled "Some Principles for Regulating Cyber Risk," set forth several major regulatory tenets that should inform

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[76] For a review of cyber attacks against the financial-services sector in various countries in 2016–2018, see Box 1.3 in *Israel's Banking System* for 2018.

[77] For elaboration, see the section on risks in *Israel's Banking System* for 2018 and the section on risks in this report.

[78] These attacks, known as advanced persistent threats (APT), are among the paramount risks in the cyber field. The perpetrators are skilled and advanced elements that target specific organizations.

[79] In Proper Conduct of Banking Business Directive 361, "Cyber Defense Management, "Proper Conduct of Banking Business Directive 363, "Supply Chain Cyber Risk Management," and elsewhere.

action to strengthen cyber-risk management throughout the financial-services system, including the banks. Among them:

- Require banking corporations to operate under the assumption that total prevention of a successful and highly damaging attack is impossible.[80] Similarly, banking corporations are expected to continue operating despite disruptions to their systems. This requirement induces corporations to produce a profile of critical services that they must continue delivering even in the case of a cyber attack.
- Require banking corporations "to make plans for prolonged and system-wide disruption, with particular attention to resourcing for response and recovery," which may be constrained. This principle encourages banking corporations "to plan for a wide range of scenarios and go beyond their pure idiosyncratic concerns."
- "Aim for a two-way dialogue between firms and supervisors as part of a wider collaborative approach to recovery objectives," allowing stakeholders to learn and develop tools for cyber-risk assessment and management.

Also, as Kashyap and Wetherilt note, regulators worldwide are enunciating the need for cyber-related stress tests. Although banks have been performing internal stress tests of this type, no central bank or regulator to date, to our knowledge, has conducted a standard-scenario cyber stress test for an entire banking system. One possible reason for this is difficulty in estimating cyber risk by means of models, unlike a macroeconomic stress test, as noted.

A cyber-scenario-based stress test

The stress test that the Banking Supervision Department conducted in 2019 was meant to examine the way a bank would cope with a significant and grave cyber attack and its immediate and long-term implications. The test scenario was a serious but reasonable cyber event consisting mainly of data corruption that has technological, operational, and financial effects on the bank and its customers. The banks were instructed to test the totality of these effects, both direct and indirect, on their activity, including customers' activity, the impact on the bank's information systems, and the financial repercussions. Unlike actual economic scenarios, this stress test required every bank to analyze the scenario under the assumption that it is the only victim and that the rest of the banking system is unscathed. The idea here was to amplify the possible harm to the individual bank and test how it copes with a blow to its reputation and, particularly, its implications. The bank had to make assumptions about actions and measures that its management would take upon the realization of this scenario and to granulate them in its analysis of the scenario. Importantly, a stress scenario is not a forecast but an approximation of an extreme scenario that proposes to test how the bank would cope with such a risk.

The banks were instructed to analyze, separately, the implications of the cyber attack in the immediate term—from discovery of the attack to the detection of its origin and nature[81]; the short-to-medium term—from the time the damage is understood to the conclusion of technological recovery; and the long-term—from technological recovery to the end of the period in which experience all implications of the attack: reputational, legal, and so on. After all, as can be seen from major cyber events abroad, the additional implications of cyber attacks may be long-lasting and their treatment may be time-consuming. The banks were instructed to explain, at length, the actions they took throughout the scenario, including management decisions in each stage, the implications of the attack, and how they coped with it in the full range of fields—technology and cyber, activity vis-à-vis customers, and financial repercussions.

[80] Reiterated in Section 26 of Proper Conduct of Banking Business Directive 361, "Cyber Defense Management."

[81] To amplify the damage in this scenario, the length of such a period for the bank [] was defined irrespective of the bank's technological ability to trace the source and nature of the attack. The goal here was to challenge the bank's ability to continue doing business at a time of business and technological uncertainty.

Purposes of the scenario

The stress test was performed for several purposes. For the banks, the goal was to help strengthen and improve processes of managing cyber risk and its implications. The scenario covered the entire field of cyber risk—operational risk, compliance risk, legal risk, and reputation risk—and challenged the bank's ability to manage its business continuity. Therefore, in responding to the scenario, all divisions of the bank had to examine the impact of the scenario on their purviews and respond collaboratively.[82] This level of work was meant to yield a better understanding of holes in bank's ability to cope with such a scenario, draft contingency plans for future events, and strengthen communication among its units to assure the viability of conduct if such an event comes to pass.

From the supervisory standpoint, the analysis of the scenario revealed the bank's potential vulnerabilities and focal points of risk in the event of a serious cyber attack. Tested in addition to the bank's financial resilience to such an event were the effects of the scenario on the bank's level of customer service, its existing controls for the detection of a cyber attack, the way it attains technological and operational recovery, and measures taken by management and by the bank to contend with the challenges that the test brought to light. The banks' responses will be helpful in assessing the adequacy of these aspects of the risk-management process and will be integrated into the Supervisory Review and Evaluation Process (SREP). In addition to all these, the test will help to enhance the Banking Supervision Department's knowledge about a material cyber event and its implications by giving it quantitative and qualitative information in various domains, including the possibility of microprudential damage in view of this kind of event.

The background story of the stress test

A corporation that belongs to the bank's supply chain has experienced a cyber attack by a malefactor at an unknown time and without its knowledge. The attack enabled the perpetrator to contact the bank regularly, posing as being the company in question. In one of these contacts, the perpetrator planted unfamiliar malware in the bank's system that circumvents the bank's security mechanisms, evolves surreptitiously in the bank's system, and successfully impairs the bank's core systems. This malware causes random corruption of current-account balance data (credit and debit) and deposit balances of retail customers for five months, in all the backup systems of the bank's databases, all without the knowledge of the bank and its customers. At the end of the five months, the malware is activated in the production environment as well, with immediate manifestations in all channels of customer service, including direct and digital. The devastation immediately impacts bank customers' activity in various fields.[83]

Results of the test

The analysis of the stress test prompted the banks to examine the tools, processes, and systems that they can use to cope with cyber attacks. To carry out the test, as stated, all units of the bank had to be involved, strengthening cyber management capabilities in each field individually and risk management in systemic terms. By undergoing this process, the banks detected various gaps among themselves and some have already learned the lessons thoroughly and integrated them into their work plans, including schedules for implementation.

The banks' responses broadened the Banking Supervision Department's knowledge of the environment of controls, architecture, and backups in which a bank operates. The test also shed

[82] See also Circular E-2457-06 (cyber defense management), section two –issuing a special directive on cyber defense management, as stated, is meant to emphasize the approach of the Banking Supervision Department that coping with cyber risks is a cross-organizational matter that entails the active involvement of the highest echelons of the banking corporation. Even though cyber risks originate in the use of technologies, they are not a mere technological issue but rather a business-strategy issue.

[83] The corruption of current-account data mangles a wide variety of customer operations, such as instructions to credit an account, transfer funds, and so on.

further light on the importance of certain processes that a bank uses to keep its systems functioning soundly. The banks' replies also revealed discrepancies between the way a supervisor would expect banks to behave in the course of such an event and the decisions that a bank actually makes in reference to business continuity and bank-customer relations, among other things, and in understanding and internalizing the challenge of decision-making under the conditions of uncertainty that typify the way an entity copes with a cyber attack that it has experienced. These outcomes will help the Department to draw conclusions and determine its next activities in this matter. For one thing, it will consider issuing regulatory updates in order to lay down clear procedures that it will expect the banks to follow when they face business-continuity events generally and cyber events particularly.

The cyber scenario in view of the global coronavirus crisis

The outcomes of the coronavirus crisis include growing reliance on direct and digital channels for banking services among member of the public, some of whom are unaccustomed to their use. The pandemic has forced the banking system to make quick and much more extensive use of remote work (both in the number of employees who connect remotely and in the remoteness of the way they connect). Furthermore, the crisis has made it more probable that banks will face shortages of trained personnel to deal with cyber attacks (due to restrictions on travel and assembly or due to illness). These changes have placed various risks on a higher level and made the banking system more exposed to hazards such as embezzlement, fraud, data corruption, data breaches, and cyber attacks generally. They are also relevant for entities in the banking system's supply chain in that the escalation of risks among them, including cyber risk, also affects the risks that the banking system faces.

Furthermore, it is feared in Israel and abroad that the current sensitivity of the economy and the widespread transition to remote work will be exploited for more attempts at cyber attack. Indeed, according to the National Cyber Directorate, since the World Health Organization declared a state of emergency due to the spread of the coronavirus, reports about cyber attacks that take advantage of public fear began to arrive from various countries.

Cyber-based stress testing is one of many tools that the Banking Supervision Department has employed in recent years to strengthen the management of the growing cyber risk. These developments in the coronavirus crisis, which magnified risks generally and cyber risk particularly, accent the importance of the banking system's ongoing preparedness to cope with the risks that it faces, including stress testing of various kinds. The Banking Supervision Department will continue to track and monitor the full set of risks that the banking system has to confront, including cyber risk.

Sources

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Box 1.2
Adapting the Banking System to the Changing Financial Environment—Increasing Efficiency and Technology

- In recent years, the financial system in Israel and around the world has been changing and becoming more sophisticated. New financial institutions are entering the market and new technologies are being developed. Such developments require that banks undergo significant changes as well, to adapt to the changing financial environment, in order to address the growing competition in financial markets.
- Increasing the efficiency of the banking system is critical for addressing change in the business environment, as it would allow banks to better face the growing competition and to allocate funds for investment in advanced technology, so that in the future, the banking system would align itself with the changing environment and would be able to rely on technologies that would improve the customer experience while reducing the cost of bank services.
- The Banking Supervision Department has been proactive in recent years in promoting alignment of the banking system with a competitive, digital world and in encouraging the banking system to embrace change. This supervisory action was taken from a holistic viewpoint, with reference to all layers of change—technology, employees, customers and risk management.
- In this review, we present the changes that have taken place in the banks' increasing of their efficiency, and in particular with regard to payroll and real estate, as well as the change in investment in technology in recent years and its contribution to increasing efficiency and the wellbeing of bank customers. We also present analysis showing how operating expenses would have grown, had banks failed to make the aforementioned adjustments to their activities and had they continued to increase their labor force and other expenses at a rate similar to that in the beginning of the previous decade.
- In recent years, the banking system has taken many significant measures to increase efficiency, which resulted in reduced operating expenses alongside growth in operations and support for economic activity. Thus, since the end of 2014, total assets for the five large banking groups have grown by 21 percent, despite no major change in operating expenses. Such improved efficiency is outstanding even by international comparison.
- These measures to increase efficiency were applied by the banks across all expense items, but most significantly in payroll and maintenance (primarily expenses with respect to real estate), which decreased significantly as a percentage of total assets.
- In this context, from 2014 through 2019, the number of jobs in the banking system decreased by 6,293 (or 14 percent of total jobs) – a cutback that by itself allowed NIS 1.5 billion average annual savings on payroll expenditure. The annual saving climbed from year to year and came to NIS 2.6 billion in 2019. Moreover, had the headcount continued to grow in proportion to total assets at the efficiency level previously common, today the banking system would have employed an additional 14,000 employees, with annual expenses higher by over NIS 5 billion.
- Concurrently, many steps were taken to reduce maintenance expenses, primarily branch closures (total area reduced by 26,500 square meters over the past three years), which contributed to reduced costs with respect to buildings and building maintenance, transition to technologies that streamline work processes and reduce expenses, both in interfaces with bank customers, in office costs and in

back offices of the banks. However, branch closures also cause difficulties for some demographics that find it challenging to adapt to technological change, hence the Banking Supervision Department has been acting on several fronts, in order to reduce the adverse impact to the public as much as possible and to help these demographics in adapting to change.

- When comparing banks, variance is evident in the level of efficiency, as well as in the extent of increasing efficiency and in the streamlining strategy applied over the years. Concurrently, we can see that some banks choose to invest less than others in technology. Overall, in recent years the banking system has increased spending on technology to 10 percent of total revenues, a level that is high by international standards (around 7 percent).
- Transition to digital channels has enhanced the availability and convenience of conducting banking transactions and has made access to banking information easier for all bank customers, while reducing costs through lower fees on transactions conducted via direct channels. All of the foregoing is reflected in the high satisfaction of the public with digital channels. It is expected that in the coming years, the quality and accessibility of services for customers should continue to improve (through innovation and digital), which would be further reflected in lower cost of banking services.
- The complexity of the current era of the coronavirus crisis demonstrates the need for the various measures that have been taken to enhance the availability and quality of the banks' digital and online services. These steps, acting in synergy with the efficiency measures, have placed the banking system at an auspicious starting point in terms of business and functional continuity. Notably, at the beginning of April 2020, in response to instructions from the Ministry of Health, the banks had to limit the share of branches open to the public to 15 percent of the total. Their growing digitization and their expanded ability to serve customers in ways other than in-person visits to the branch, however, allowed customers to continue receiving current-account services despite the pandemic and enabled the economy to cope better with the economic crisis while sustaining the public's health and obeying the directives of the Ministry of Health.

Table 1
Summary of components in increasing efficiency

Staff reduction	Reduced 6,293 jobs since 2014[1]
Payroll expense reduction	Payroll expenses reduced, on aggregate, by NIS 7.9 billion since 2014[2]
Branch closures	Over the past three years: Closed 100 branches, with a total area of 26,500 m^2
Reduced expenses for maintenance and real estate	Rent paid by banks decreased by 14 percent; All maintenance and real estate expenses were reduced, on aggregate, by NIS 1.01 billion since 2014[3] (14 percent reduction in these expense items)
Increase in IT budget	IT investment and expenses increased, on aggregate, by NIS 1.9 billion since 2014; IT budget as percentage of bank revenues is 10 percent on average
Savings due to technological developments	Office expenses reduced by 56 percent; communication expenses reduced by 14 percent
Contribution to customers	Cost of account maintenance reduced by 39 percent, estimated annual savings of NIS 3 billion on aggregate for all households since 2014; Improved quality and accessibility of banking services

1 Net of the effect of banks' sale of credit-card companies.
2 Estimated additional payroll expenses if not for measures to increase efficiency. This estimate assumes that headcount (net of the credit-card companies) would have remained unchanged since 2014.
3 Calculated relative to expenditure in 2014.

Background

The financial-services arena has been changing and growing more efficient in recent years, both abroad and in Israel. New financial-service entities have been entering the market and new technologies are evolving. As a result of these transitions, today's financial-services world allows customers to carry out many diverse transactions remotely, without visiting the branch and at lower cost due to cutbacks in operating expenditure and the adoption of technological solutions. These changes in the financial-services ecosystem also required the banks to make major changes in order to adjust to the changing financial environment and cope with growing competition in the financial-services markets and change in customers' tastes.

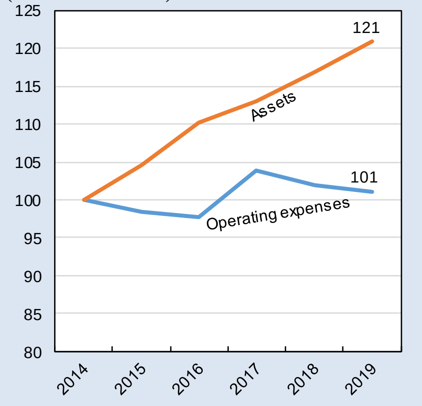
One of the most significant phenomena in banking systems in Israel and around the world is the move to greater efficiency. Ridding the system of inefficiencies means cost-cutting above all, so that banks can cope better with the revenue erosion that the escalation of competition is expected to cause. It also facilitates resource allocation for investment in advanced technologies, allowing the future banking system to tailor itself to the changing environment and rely on technologies that improve customers' access, enhance their experience, and bring down the costs of banking services.

Israel's banking system is already several years into its efforts to improve efficiency in view of the changing environment. To support these efficiency measures, incentivize them, and encourage technological innovation, the Banking Supervision Department has taken a series of steps during that time to define the direction in which the process should head and to make it easier for the banks to implement these major changes. Thus, in 2016 the Department instructed the banks to draw up multiyear efficiency plans, which have acquired lengthier time spans and broader contours over the years; took accounting relief measures allowing banks that carry out these plans to spread their costs for the purpose of calculating capital adequacy and leverage ratios; and eliminated barriers to the development of optimal digital banking. The banks' efficiency plans included internal processes, size of staff, adjusting activity centers, and real-estate assets, all of which, among other things, by assimilating and using advanced technologies.

These measures *en bloc* are having visible effects. Thus, **the system is successfully cutting its operating expenses while continuing to grow and to support economic activity.** Thus, the system has increased its banking output since the end of 2014—total assets of the five large banking groups growing by 21 percent while operating expenses increased by only 1 percent (Figure 1).[84] Consequently, the unit output cost ratio has decreased considerably, from 2.4 in 2014 to 1.88 in 2019[85] (Table 1.7 in the main report)—a major improvement by international standards as well (Figure 1). Similarly, the efficiency ratio has fallen to 61.4 (Figure 3, Table 1.7 in the main report). The contraction of operating expenses finds expression across the gamut of expenditure items but stands out particularly in payroll and maintenance (including building and real-estate expenditure, Figure 4).

The banking system in Israel is increasing output without a change in inputs (the system is increasing

Figure 1.2.1
Development of Operating Expenses[a] Compared with Increase in Assets, the Five Banking Groups[b], 2014–2019
(index: Dec. 2014=100)



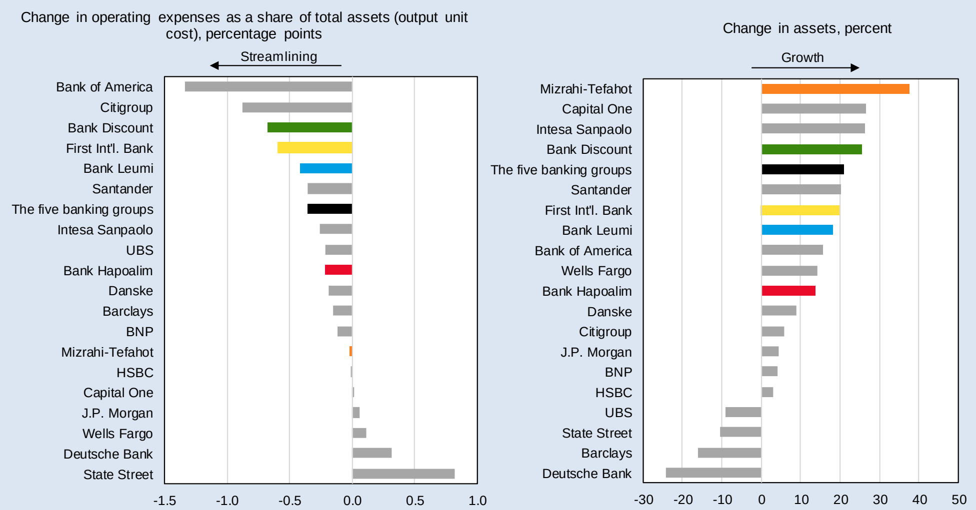
[a] The data are adjusted for provisions and expenses in respect of investigations by US authorities.
[b] Excluding the Isracard group and excluding adjustment for the effect of the separation of Leumicard.
SOURCE: Based on published financial statements.

[84] In a previous publication on the topic, it was stated that operating expenses contract by 8 percent. This reflects the change in operating expenses since 2014 including provisions and spending on account of US investigations; it is also affected by Bank Hapoalim's sale of Isracard.
[85] Including the effect of the sale of Leumi Card.

The digital transition has made banking transactions handier and more convenient and facilitated customers' access banking information while also making it less costly in view of the decline in bank charges for actions taken via direct channels. The streamlining of the banking system also abetted an upturn in the banks' profitability, resulting in larger dividends to shareholders, more than 80 percent of whom belong to the public at large. (Since 2015, the banks have distributed more than NIS 11.5 billion in dividends.[86])

The improvement in the output unit cost in the banking system in Israel, alongide the supoprt of economic growth, is exceptional in international comparison as well.

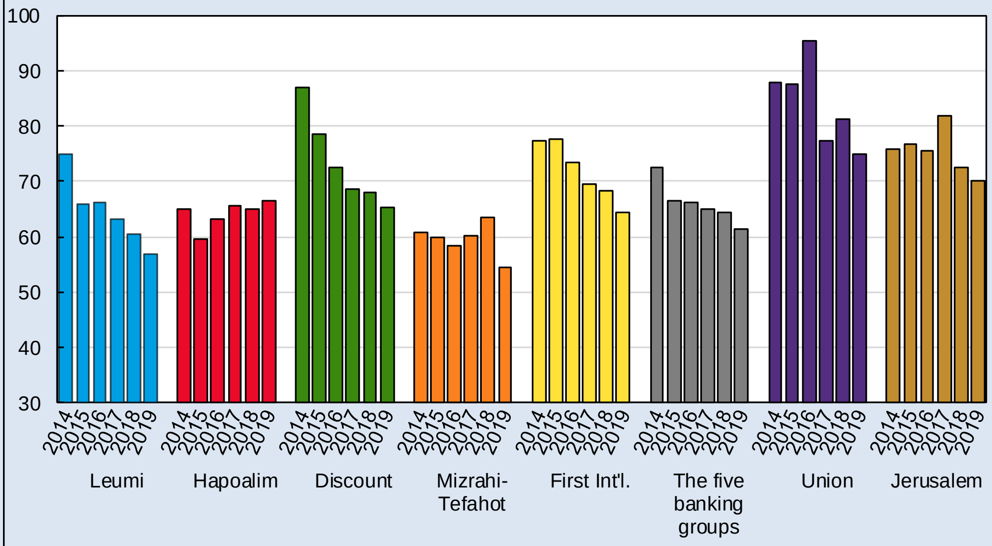
Figure 1.2.2
International Comparison of Streamlining in the Banking System: Change in the Operating Expense Ratio[a] as a Share of Total Assets (Output Unit Cost) and Cumulative Change in Assets, the Five Banking Groups in Israel[b] and Leading Banks Abroad, 2014–2019



[a] The data are adjusted for provisions and expenses in respect of investigations by US authorities.
[b] Excluding the Isracard group and excluding adjustment for the effect of the separation of Leumicard.
SOURCE: Israeli data - based on published financial statements; data on foreign banks - based on Bloomberg.

The efficiency ratios are in a trend of improvement.

Figure 1.2.3
Efficiency Ratio[a], the Banking System, 2014–2019 (percent)

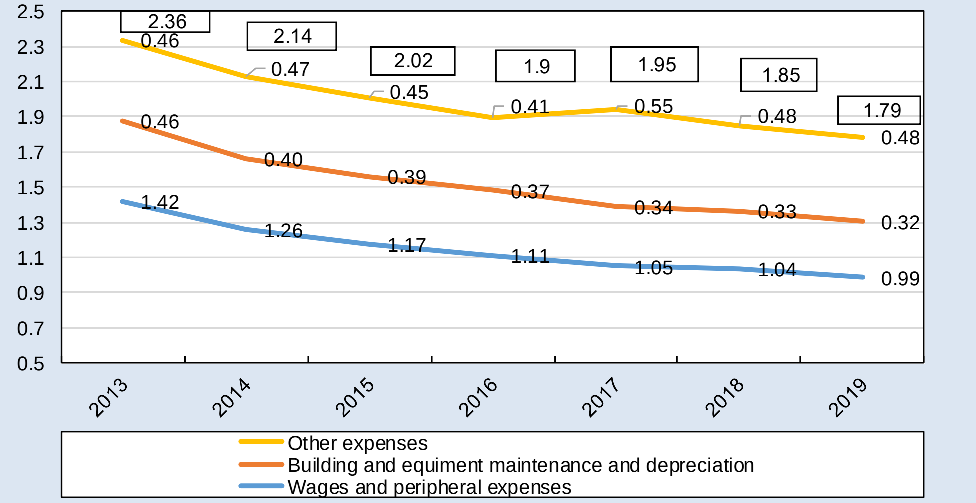


[a] The ratio between total operating and other expenses and total net interest income and noninterest income (cost to income).
SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

[86] Including dividends distributed in 2020.

The lower operating expenses relative to assets is particularly noticeable in wage and maintenance expenses.

Figure 1.2.4
Operating and Other Expenses[a] Relative to Assets, the Five Banking Groups[b], 2013–2019
(percent)



[a] Other expenses include marketing and advertising, professional services, computers, and more. The data are adjusted for provisions and expenses in respect of investigations by the US authorities.
[b] Presented from 2017 adjusted for the separated credit card companies.
SOURCE: Based on published financial statements.

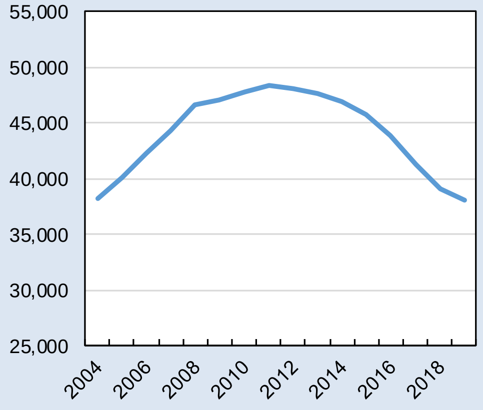
Reducing payroll expenditure

The main component in operating expenses is payroll, 53 percent of the system's total operating expenses and therefore a prime target for cutbacks. Achieving savings and reductions in this item has always been a complex task for the banking system because a large share of system employees have tenure and receive automatic wage increases, wages are indexed across multiple banks, and sensitivity is needed when dealing with employees and revising the wage, retirement, and resignation terms of people who, in some cases, have been working for the bank for years.

Nevertheless, the number of employee posts in the banking system came down by 6,293 between 2014 at the end of 2019[87] (14 percent of all posts, Figure 5)—creating by itself an average saving of NIS 1.5 billion in payroll expenditure each year.[88] Had the number of employees in the system continued to increase in direct proportion to assets and the level of efficiency that was accepted in the past, the system today would employ some 14,000 more workers than it does[89] and would spend more than NIS 5 billion extra per year (Figure 6).

Since 2014, the average number of job posts in the banking system has declined by about 19 percent.

Figure 1.2.5
Average Number of Job Posts[a], the Five Banking Groups[b], 2004–2019

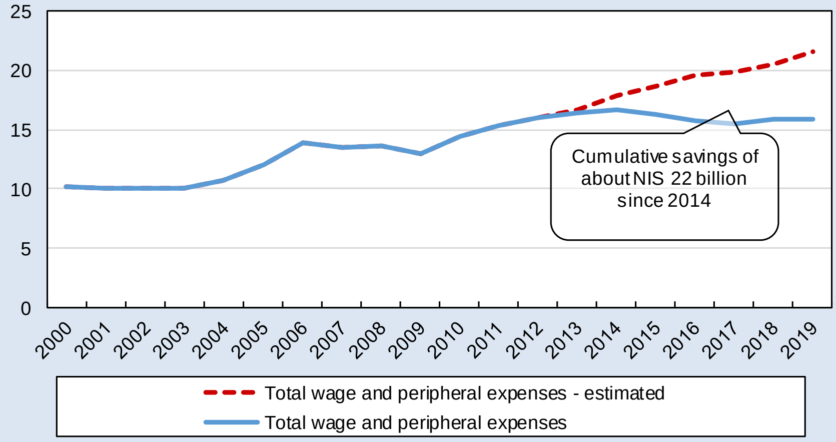


[a] The number of job posts includes positions at subsidiary companies abroad and at consolidated companies, as well as the cost of external overtime hours and human resources budgets required to regulate current manpower and implement projects.
[b] From 2017, the data are stated excluding Isracard. From 2018, the data are stated excluding Leumi Card.
SOURCE: Based on published financial statements.

[87] Net of the effect of the sale of the credit-card companies.
[88] This is based on average wage costs in the banking system. For elaboration, see the section on efficiency measures in the main report.
[89] Calculated on the basis of total added payroll expenditure, assuming that the share of expenditure in assets remained as recorded in 2002–12.

Without streamlining in wage expenses and to increase activity at the pace we have seen, the banking system would have spent an additional cumulative sum of about NIS 22 billion since

Figure 1.2.6
Total Wage and Peripheral Expenses, Compared with Estimated Wage Expenses Excluding Streamlining[a], the Five Banking Groups[b], 2000–2019 (NIS billion)



[a] The estimate is calculated according to a case where wage and peripheral expenses relative to assets remained identical to the average rate that existed between 2002 and 2012.
[b] From 2017, the data are presented excluding the separated credit card companies.
SOURCE: Based on published financial statements.

Just the same, the number of posts at medium-to-high wage levels (over NIS 360,000 per year) has been trending upward in recent years, for several reasons: (1) a change in the skills that the banking system needs as it transitions to technological and digital systems requires hiring workers who have advanced technological training and understanding, resembling in their characteristics those in high tech; (2) large-scale retirements give wages an upward bias because when these employees leave, they redeem entitlements that they accrued during their years of work, which are added to payroll expenditure for that year; (3) the banking system has enjoyed strong profitability in recent years, entitling employees to bonuses for good performance. Importantly, however, the rate of wage increase in the banking system (3.5 percent on annual average) resembles that of average wages in the business sector.

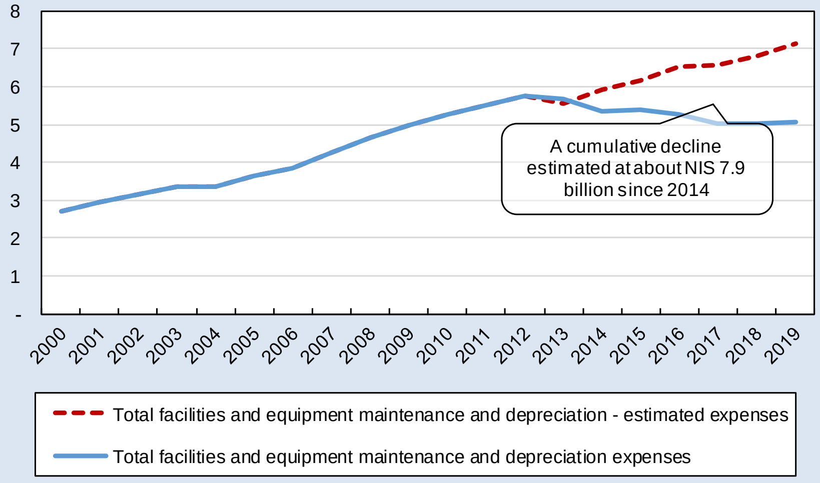
Cutting maintenance expenditure

Expenditure on maintenance, depreciation, buildings, and equipment has been falling due to several measures that the banks have been advancing in recent years, above all reducing the number of branches and their floorspace, allowing building and maintenance costs to fall, and switching to technologies that make working methods more efficient and save on expenses, both in customer interfaces and in office expenses and back-office outlays. If the share of operating expenses for maintenance, buildings, and depreciation in total assets remained at its 2002–12 level (0.44 percent on average), against the background of the increase in assets described above, annual spending on these items would be 40 percent greater than it is today. The additive saving on account of this contraction since 2014, for the banking system at large, is NIS 7.9 billion (Figure 7).

It is important to note that the changeover to advanced technologies imposes extra costs on the banks because it requires large investments of funds. The measures at issue, however, are essential inasmuch as investing in technology—apart from allowing greater efficiency in other avenues, such as reducing staff, branches, and other matters—is of definitive importance for the banks. This is because these technologies will help the banks to cope with the many challenges that they face in the financial-services arena, including the changing digital environment and the ascendancy of sophisticated financial-service entities, such as fintech firms, that compete with the banks along the same paths of activity.

Without streamlining in maintenance, depreciation, facilities and equipment, the banking

Figure 1.2.7
Total Maintenance, Depreciation, Facilities and Equipment Expenses, Compared with Estimates of These Expenses Excluding Streamlining[a], the Five Banking Groups[b], 2000–2019 (NIS billion)



[a] The estimate is calculated according to a case where facility and equipment maintenance and depreciation expenses relative to assets remained identical to the average rate that existed between 2002 and 2012.
[b] From 2017, the data are presented excluding the separated credit card companies.
SOURCE: Based on published financial statements.

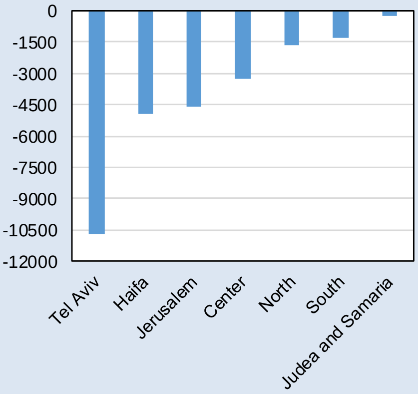
Closing bank branches

The technological revolution under way in recent years has not overlooked banking systems in Israel and abroad. Given the great convenience of technological devices for the public—their availability (24/7), the ability to carry out transactions at a distance without visiting the bank, and their reduced price—most customers wish to make more use of them. The transition to digital delivery of services is accompanied by a downward trend in the number of bank branches, helping to cut operating expenses because closing a branch saves on both personnel and real estate.

The closure of branches in the past three years has reduced the banking system's floorspace by 26,500 square meters, including more than 10,500 square meters in the Tel Aviv District (Figure 8). This downscaling lowered the banking system's rent expenditure (Figure 9), thereby also helping to trim depreciation expenses on account of buildings. Apart from enjoying a cutback in expenditure, banks were able by closing branches to improve their bottom line by selling buildings and equipment, for a cumulative system-wide profit of NIS 1.8 billion since 2014. In addition to closing branches, the banks are taking action to transfer staff units currently situated in downtown Tel Aviv. At the present writing, some banks are moving staff out of Tel Aviv altogether and others are considering doing so in order to reduce their real-estate expenses.

Total branch area declined by about 26,500 square meters since 2016.

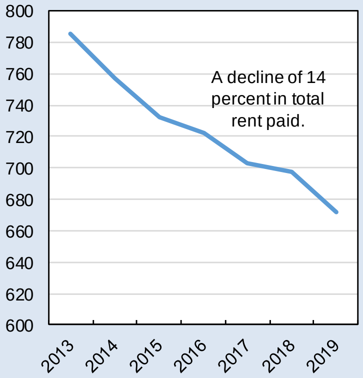
Figure 1.2.8
Total Area of Branches from 2016 to 2019, by District, Total Banking System
(square meters)



SOURCE: Reports to the Banking Supervision Department.

The reduced number of branches contributed to lower rent paid by the banks.

Figure 1.2.9
Total Rent on Facilities, the Five Banking Groups, 2013–2019
(NIS million)



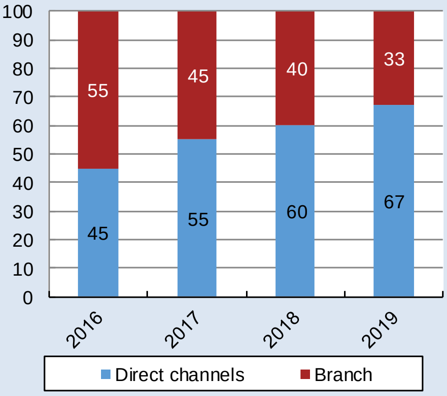
SOURCE: Reports to the Banking Supervision Department.

The closure of branches does have the effect of causing hardship for some population groups, particularly senior citizens who find it hard to adjust to the technological changes. The Banking Supervision Department is acting at several levels to minimize the damage to this group of customers and help it adapt to the change. Amendment 22 to the Banking (Licensing) Law, 2016, states that closing a permanent bank branch requires the consent of the Supervisor of Banks—a regulatory measure that exists nowhere else in the world. Accordingly, the Department reviews each request to close a branch and strikes a balance between the need to improve the bank's efficiency in the use of real estate and the need to come up with targeted solutions for customers who incur hardship due to the change. Thus, the Department conditions its approval for the closure of a branch on alternatives that will respond to customers' needs in accordance with circumstances, including issuing permits for, and requiring the activation of, a portable bank branch for seniors' homes and peripheral areas, branches that operate on a partial basis, compulsory stationing of automated teller machines in lieu of the closed branches where this is necessary, and others.

To continue helping senior citizens, the Department wields additional tools that include an investment in "Digital Banking Empowerment" for this population group—a countrywide project in conjunction with the Ministry of Social Equality that gives the elderly priority in the telephone hotline queue and enrolls senior citizens in reduced-rate bank-fee programs at banks' initiative.

Customers are adopting digital banking channels as a main way of obtaining banking services.

Figure 1.2.10
Households' Transactions by Direct Channels[a] and at the Branches, the Five Banking Groups, 2016–2019
(percent)



[a] Websites, mobile applications, ATMs, and call centers (excluding phone response by a teller at the branch).

SOURCE: Reports to the Banking Supervision Department.

Just the same, it is important to stress that branches are being closed more slowly in Israel than in Europe and the United States (11 percent since 2011 in Israel as against 27 percent on average in the EU countries and the US, Figure 11 in Box 1.3 of the main report) and that the focus of this activity is in central areas and those that rank from low to medium on the socioeconomic index. In addition to closing branches, the index of accessibility of the public in Israel to bank branches is high by foreign standards.[90]

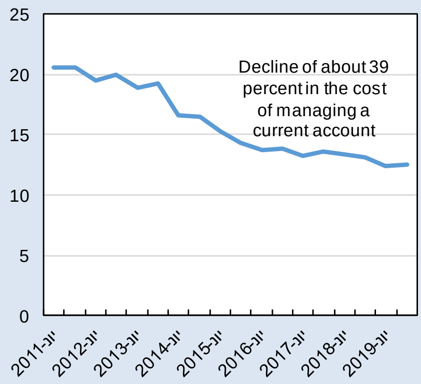
Technology-supported efficiency gains

In view of change in customers' tastes and changes in the array of bank branches, customer use of direct banking channels is continuing to trend upward. **Data from the Banking Supervision Department show that the Israeli customer has embraced digital banking as his or her main avenue of banking services.** Thus, the share of digital methods climbed to 45 percent of household banking transactions in 2016, to 55 percent in 2017, and 65 percent in the first half of 2019 (Figure 10).

Concurrently, the Department has spearheaded several measures that have **reduced bank charges to customers:** introducing programs that allow customers to buy a monthly package of transactions at lower prices than those on the fee schedule, lowering the minimum charge for current-account management, allowing more efficient price shopping by means of the "Banking ID Card", expanding the definition of small businesses that are entitled to be included in the retail-charge schedule, and amending the Banking Ordinance in regard to early payback of housing loans in a way that reduces costs to the customer. The Department also instructed the banks to install, as of the end of 2017, a lower fee schedule for all services delivered via direct channels[91] than the rates charged for the same services in person. As a result of these measures, the monthly cost of current-account management to households plunged from NIS 20 (up to 2013) to NIS 12.5 today (Figure 11). **The decrease in current-account management cost is estimated to have saved households around NIS 3.4 billion from 2014 to the present writing and a further decline is foreseen as households continue to switch to digital channels**. **It has also reduced the banks' income from fees relative to assets** (Figure 1.6 in the main report) even though bank customers are carrying out an increasing

The cost for households to manage a current account has been in a downward trend over the years.

Figure 1.2.11
Households' Monthly Cost of Managing a Current Account[a] Total Banking System, 2011–2019 (NIS)



[a] Total income from fees attributed to managing a current account, and partial information on the number of accounts.
SOURCE: Reports to the Banking Supervision Department.

The combination of switching to digital channels and reducing bank charges means that the public is able to access higher-quality services at lower prices. Bank transfers and payments are a conspicuous case in point. In the past, customers who wished to transfer funds had to contact a bank clerk; today they make the transaction quickly and immediately by means of web sites and applications, at a reduced price or at no charge. Digital banking also makes it less necessary to keep cash on hand and allows easier transfer of funds even in minute sums. Due to the ease and convenience of digital payment, 2.2 times more transfer and payment transactions were made in the first half of 2019 than in the first half of 2017. Similarly, 50 percent of transfer and payment transactions in the first half of 2019 were made via banks' applications and 32 percent more were

[90] The accessibility index is calculated as the number of commercial bank branches per 1,000 square kilometers.
[91] By means of web sites, cellular applications, automatic self-service machines, and telephone call centers that include both human and automatic digital response.

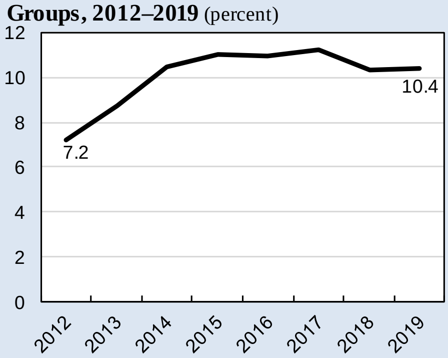
executed via their web sites. Total transfer and payment transactions increased by 54 percent while those carried out by personnel at bank branches contracted by 16 percent. In other words, **the transition to digital banking is enhancing the accessibility and availability of banking transactions and banking information for the customer public while bringing down costs to this public. The improvement in customers' access to information is also helpful in enhancing their financial awareness.**

The changeover to direct and advanced banking by customers is supported by major technological changes at the banks. The banks need to develop more sophisticated applications that will respond to customers' needs and deliver added value. To support this kind of evolution, banks must develop strong digital infrastructures and improve the technological level and computer competencies of their staff. These exigencies find expression in a large increase in information-technology budgeting, to 10.4 percent of total revenue in the Israeli banking system as against 7 percent on average abroad (Figure 12).

The changeover to advanced technologies not only affects interfaces for work with customers but also encourages greater efficiency at the back office, i.e., operating the systems that allow banks to engage in account management, settlement, and so on. The banks are acting to streamline their operational departments continually by assimilating new computer systems that replace and upgrade back-office work that was once done by clerks. Their efforts are reflected in reductions in their office and communication outlays (by 47 percent and 14 percent, respectively, Figure 13).

The information technology budgets have increased.

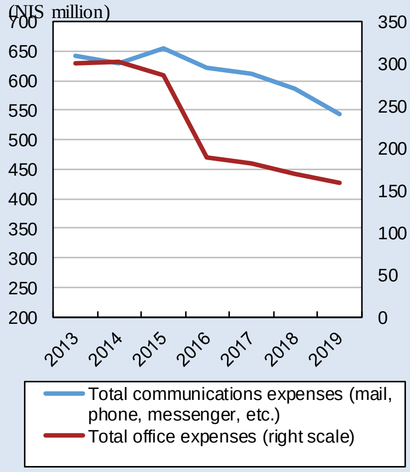
Figure 1.2.12
The Information Technology Budget[a] as a Share of Total Income[b], the Five Banking Groups, 2012–2019 (percent)



[a] The IT budget is defined as total expenses in respect of the IT array as included in the Profit and Loss Statement, and the addition to assets in respect of the IT array that are not imputed as an expense, minus expenses in respect of depreciation of the IT array as included in the Profit and Loss Statement.
[b] Total interest and noninterest income minus loan loss allowances.
SOURCE: Reports to the Banking Supervision Department and published financial statements.

Technological streamlining at the banks is contributing to reduced office expenses.

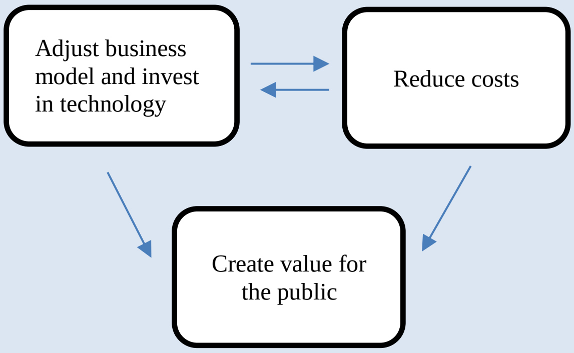
Figure 1.2.13
Total Office and Communication Expenses, the Five Banking Groups, 2013–2019
(NIS million)



SOURCE: Based on reports to the Banking Supervision Department.

Continuing the process of efficiency measures and digital transformation

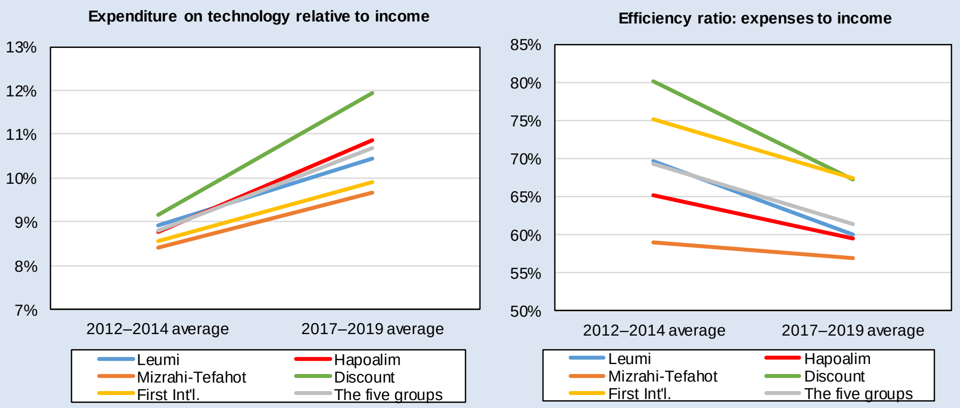
The process of enhancing efficiency of the banking system may be divided into three levels. The first and most basic of them, starting back in the beginning of the decade, is the reduction of operating expenses. This allows the banks to divert resources to the construction of the second level: adapting their business models to the changing environment and, in particular, investing in technology and innovation along with continued efficiency moves in regard to personnel and stewarding of customers as they switch to the digital world. At the current stage, customers already enjoy improved access to and availability of 24/7 remote banking services that obviate the need to visit the branch, the expansion of services to giving instructions and information, abetting responsible financial conduct, and other matters. At Level 3, we expect to see the fruit of the previous efficiencies continue to ripen as banks operate on the basis of advanced technological infrastructures and information-analysis capabilities that allow them to compete with fintech firms. This additional outcome of the efficiency measures is expected to find expression in added value for customers and investors—most of whom belong to the public at large, which holds more than 80 percent of bank shares. Similarly, we expect the system to adjust its abilities and its risk-management tools to the digital-technology world.



Variance among banks is visible today in both their level of efficiency and in the extent of improvement of efficiency over the years. It is particularly evident that some banks have chosen to invest more in technology than have others. Banks that underwent meaningful efficiency processes invest more in technology (Figure 14). To weather the changes that are sweeping the banking and financial-services world, all banks must devise business models of sustainable profitability and, in so doing, must make continued efficiencies. Just the same, making efficiencies means more than just cutting costs and attaining optimal efficiency ratios; it also entails additional measures that include the adjustment of business activity and internal processes to the changing technological world.

Banks that have undergone significant streamlining invest more in technology.

Figure 1.2.14
Improved Efficiency[a] Compared with Growth in the IT Budget[b], Difference Between 2012–2014 Average and 2017–2019 Average, the Five Banking Groups (percent)



[a] The efficiency ratio is presented minus anomalous expenses in respect of the banks' provisions for tax investigations in the US.
[b] The IT budget is defined as total expenses in respect of the IT array as included in the Profit and Loss Statement, and the addition to assets in respect of the IT array that are not imputed as an expense, minus expenses in respect of depreciation of the IT array as included in the Profit and Loss Statement.
SOURCE: Reports to the Banking Supervision Department and published financial statements.

Box 1.3
Israeli and Foreign Banks' Performance after the Global Financial Crisis

- **The Banking Supervision Department uses international comparisons to assess the domestic banks' activity, resilience, stability, and ability to cope with challenges.**
- **The coronavirus crisis is subjecting commercial banks in Israel and abroad to enormous challenges and amplifying the challenges that they faced after the global financial crisis.** The lessons of the earlier crisis, together with additional measures taken by the Banking Supervision Department in the past decade, left the banks strengthened, more resilient, and better able to cope with crisis.
- **The supply of bank credit in Israel, as in most developed countries, has increased since the global crisis by 50 percent in cumulative terms, much as did retail credit and, in particular, housing credit, and was the main growth driver during this time.** Bank lending to businesses in Israel increased in the past decade by a cumulative rate of 33 percent. The growth of bank credit in Israel and abroad largely tracks the increase in product and in economic activity.
- **The share of bank credit to construction and real-estate borrowers in total credit in Israel exceeds the average and the median in the sample group examined and surpasses its level in other advanced economies, even though Israel has a single-industry indebtedness ceiling.**
- **The quality of Israeli banks' credit portfolios is high, resembling that of the US banking system and counterparts in other advanced economies and surpassing the European level considerably—**due to protracted improvement in the past decade.
- **The quantity and quality of Israeli banks' capital comports with the banks' activity, risk profile, and ability to absorb unexpected losses.** This is the result of prudent regulation and supplemental measures to make the banks better able to absorb losses, implemented gradually so as not to deal a shock to the domestic economy. As a result of these steps, Israeli banks' equity increased by a steep 75 percent in the past decade.
- **The domestic banks display the resilience and the ability to generate revenues and profits at a level resembling those in advanced economies; their operational efficiency, too, is improving gradually and continually.** The improvement in Israel, like that abroad, was attained largely by eliminating inefficiencies in the deployment of bank branches and cutting back on staff, but the improvement in Israel, where bank efficiency is relatively low, was steeper.

The coronavirus crisis, erupting in the months preceding this report, is presenting enormous challenges to commercial banks in Israel and abroad and exacerbating the challenges that have been their lot since the global financial crisis. Due to their activity in Israel's small and open economy along with their participation in the world banking system, Israeli banks are heavily exposed to the trends that typify the global economy and the challenges that many banks worldwide confront, in addition to their exposure to domestic developments. (For elaboration on the risks that the Israeli banking system has to contend with, see the Risks section in this report.) To characterize changes in the indicators of Israeli banks' activity and to compare these institutions with those in other banking systems, the Banking Supervision Department has been monitoring trends in a series of banking activity variables and performance indices in the past decade.

The comparison pitted the Israeli banking system against the average among European Union countries, the average among other developed countries,[92] and the US banking system. Three variables were tested: the banks' credit portfolio and its quality, their profitability, and their business results. The results of the comparison show how important the Israeli banks are in credit activity countrywide, particularly in retail activity segments but not in them alone. The results also demonstrate the improvement in the banks' performance and, specifically, the steep upturn in credit-

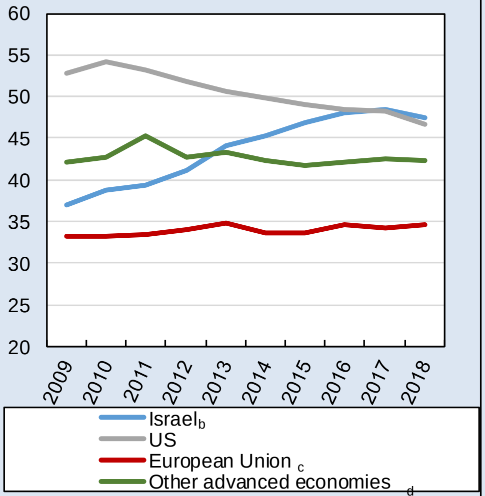
[92] Australia, Canada, Norway, South Korea, Switzerland, and the UK.

portfolio quality, rapid accumulation of capital, and gains in operating efficiency. These developments reflect the worldview that banking supervision adopted after the global financial crisis, focusing on making banks more resilient and better able to withstand exogenous shocks. It was by their merit that the Banking Supervision Department was able to relax its supervisory-capital requirements in order to help households and businesses cope with the coronavirus crisis.

The supply of bank credit in Israel grew by 50 percent (cumulative) in the decade after the financial crisis, approximating the growth rate in the other developed countries and exceeding the rate of change in the EU countries (10 percent, Figure 1). Segmented into business and retail credit, the main engine of growth in bank credit during that time (in Israel and in the other advanced economies) was retail credit, particularly for housing. (For elaboration, see Chapter 4 in the Bank of Israel *Annual Report* for 2019.) This trend mirrors economic realities and the change that the banks made in their business strategy after the financial crisis, typified by improving the efficiency of their capital allocation in view of the supervisory demand for higher capital ratios, by diverting sources to activity segments and areas that deliver larger yields than the cost of regulation and the risk. The transition was more intensive in Israel than elsewhere and found expression in a gradual protracted upturn in the share of retail credit in the Israeli banks' credit portfolios (Figure 2), in view of developments in the housing market and despite macroprudential measures that the Bank of Israel adopted in this context.

In the past decade, there has been a prolonged and gradual increase in the share of retail credit

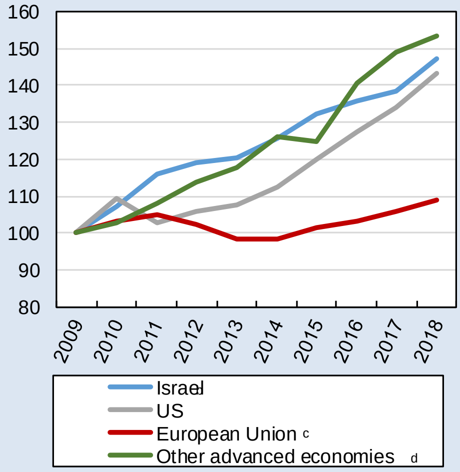
Figure 1.3.2
Retail Bank Credit as a Share of Total Bank Credit[a] Selected Banking Systems, 2009–2018 (percent)



[a] Based on supervisory authority reports to the IMF. There may be missing data in certain years for some of the countries.
[b] Total banking system.
[c] Excluding Hungary and Romania, due to a lack of data.
[d] The average of: Australia, UK, Norway, S. Korea, Canada, and Switzerland. The figure for 2018 includes 2017 data on South Korea.
SOURCE: Based on International Monetary Fund and reports to the Banking Supervision Department.

In the decade after the global financial crisis (2007-09) the supply of bank credit in Israel increased by about a cumulative 50 percent.

Figure 1.3.1
Development of Bank Credit[a], Israel and Selected Other Banking Systems, 2009–2018
(index: 2009=100)

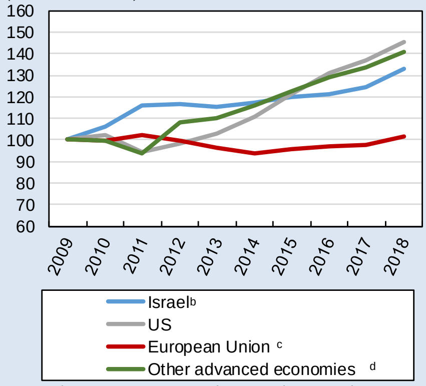


[a] Based on country reports to the IMF. There may be missing data in certain years for some of the countries.
[b] Total banking system.
[c] Excluding Estonia, France, and Sweden, due to a lack of data.
[d] The average of: Australia, UK, Norway, S. Korea, Canada, and Switzerland. The figure for 2018 includes 2017 data on South Korea.
SOURCE: Based on International Monetary Fund and reports to the Banking Supervision Department.

The supply of bank credit to real (business-sector) companies in Israel grew during this time by 33 percent in cumulative terms, only a little slower than in other developed countries and the US and much faster than in the EU countries—where many banks faced financing difficulties and larger supply of nonbank credit (Figure 3). The mild growth rate in Israel is associated with a decline in demand for credit by real companies in view of structural changes in the Israeli business sector in the past decade and an increase in firms' recourse to sources of their own (accrued earnings). (For elaboration, see Chapter 4 in the Bank of Israel *Annual Report* for 2019.) The supply side of business credit in Israel was strongly affected by structural reforms that the domestic financial-services system assimilated in the decade preceding the financial crisis, including the Bachar reform, the market-makers reform, the lowering of government debt, and the compulsory pension law.[93] These measures furthered the development of the capital market and the supply of nonbank business credit by making nonbanking sources more widely available. Business credit supply was also affected during this time by (1) developments in the housing market that stimulated households' demand for bank credit for housing and a low-interest environment that boosted demand for consumer credit and encouraged banks to reassign sources to this use at the expense of the business sector; (b) a decade of steadily prudent banking regulation in Israel and abroad in respect of capital,[94] making banks' capital requirements more stringent and inducing them to prefer retail activity segments, which have lower risk weights, over the business segment; (c) tightening of regulatory restrictions on credit concentration, including limits on lending to large borrowers[95] and single-industry indebtedness—sending firms into the arms of the nonbank market for their credit needs.

The supply of bank credit to businesses increased in Israel by slightly less than the rate in other advanced economies and the US.

Figure 1.3.3
Nonfinancial Business Credit[a], Selected Banking Systems, 2009–2018
(index: 2009=100)



[a] Based on country reports to the IMF. There may be missing data in certain years for some of the countries.
[b] Total banking system.
[c] Excluding Estonia, France, Spain, and Sweden, due to a lack of data.
[d] The average of: Australia, UK, Norway, S. Korea, Canada, and Switzerland. The figure for 2018 includes 2017 data on South Korea.
SOURCE: Based on International Monetary Fund and reports to the Banking Supervision Department.

Credit concentration is one of the most important focal points of credit risk for banks in Israel and abroad. To minimize the possible adverse effects of banks' overexposure to various industries, the Banking Supervision Department limited the indebtedness that a bank may incur from any single industry to 20 percent of its total indebtedness.[96] Construction and real estate is the only industry in Israel that verges on the indebtedness limit at some of the large banks. Despite the single-industry indebtedness limit, the share of construction and real estate in total bank credit is higher in Israel than the average and the median of the sample group and its rate in other advanced economies (Figure 4).[97] The Department has relaxed these limits in several ways, including allowing commercial banks to increase their exposure to the infrastructure industry.[98] This measure is expected to expand

[93] Under the new statute, compulsory pension contributions (including those for severance pay) increased steadily from 2.5 percent of wage to 17.5 percent in 2008–14.
[94] Application of the Basel II framework at the end of 2009 and the Basel III framework from 2014 onward.
[95] For elaboration, see Box 3 in *Israel's Banking System* for 2017.
[96] In March 2020, the Supervision relaxed this limit to 22 percent in the course of its measures, and those of the Bank of Israel, to help the banks and the economy to weather the coronavirus crisis.
[97] The data relate to December 2018 due to the lack of historical data in several countries. The sample group is comprised of twenty-three countries for which data at this point were found.
[98] In November 2019, in an amendment to Proper Conduct of Banking Business Directive 315 ("Industry Indebtedness Limitation"), the Banking Supervision Department allowed banks to issue additional credit at 4 percent of their credit portfolio to finance infrastructure projects that are classified as "civil engineering works," surpassing the 20 percent industry indebtedness limit for all other construction and real-estate activities. The idea behind the dispensation was to

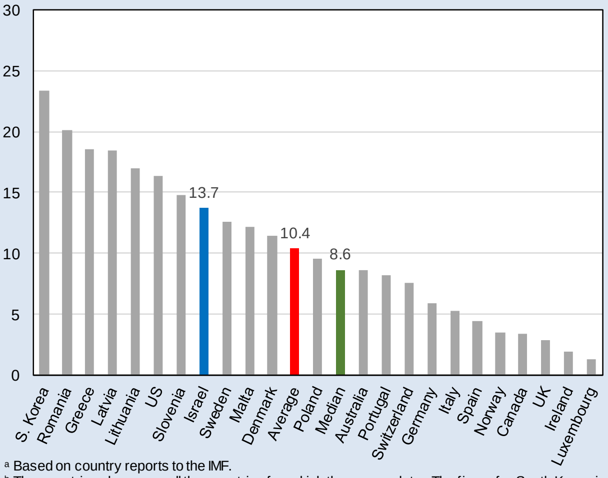
the supply of bank credit for domestic construction and real estate even more, implying that the gap between Israel and other countries is likely to widen further.

The quality of the Israeli banks' credit portfolios is high, approximating that of the US banking system and of counterparts in other advanced economies and far exceeding that in Europe. Israel's high level of credit quality, the outcome of a decade of steady improvement, manifests in the decline of impaired credit (nonaccruing loans plus 90+ days past due) in total credit to the public to a historical low (Figure 5) and a steep upturn in the coverage ratio.[99] The share of impaired credit reflects the quality of a banking corporation's management of its allocation of sources; when it is low, it has a salutary effect on the banking corporation's profitability, operational efficiency, and stability. Both Israel and the other advanced economies have posted proportional decreases in impaired credit in the past decade. In Israel, this is the result of a propitious domestic economic situation and resolute measures by the banks and the Banking Supervision Department in this regard, including the regulation of large-borrower and single-industry concentration, increasing the group loan-loss allowance in outstanding housing loans, and limiting high-risk housing credit. The coverage ratio, in turn, reflects the adequacy of loan-loss provisions over time and expresses the domestic banks' ability to absorb "expected losses." The development of this ratio over time in Israel and the comparison countries shows a steep and steady improvement in Israel's ratio between 2011 and 2018, converging to a historical high—exceptional in Israeli history and in comparison with other advanced economies (except the US), where coverage ratios are low (Figure 6).

The quantity and quality of Israeli banks' capital comport with the banks' activity, risk profile, and ability to absorb unexpected losses. In the past decade, the Banking Supervision Department,

Despite the industry indebtedness restriction, the share of bank credit issued to the construction and real estate industry in Israel is higher than the average of the sample group and than other advanced economies, but lower than in the US.

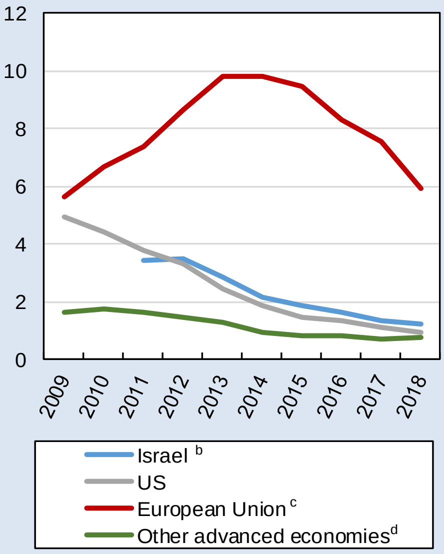
Figure 1.3.4
Credit to the Construction and Real Estate Industry as a Share of Total Credit[a], Selected Banking Systems[b], 2018 (percent)



[a] Based on country reports to the IMF.
[b] The countries shown are all the countries for which there were data. The figure for South Korea is from 2017.
SOURCE: Based on International Monetary Fund and reports to the Banking Supervision Department.

Credit quality in Israel is high, due to meticulous underwriting over the years and the continued improvement in credit quality over the past decade.

Figure 1.3.5
Impaired Credit and Credit in Arrears 90 Days or More as a Share of Total Credit to the Public[a], Selected Banking Systems, 2009–2018 (percent)



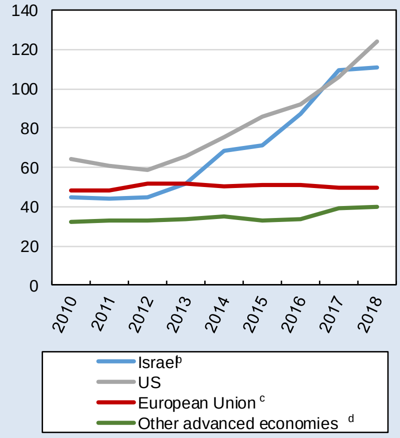
[a] Based on supervisory authority reports to the IMF. There may be missing data in certain years for some of the countries.
[b] Total banking system.
[c] Excluding Hungary and Romania, due to a lack of data.
[d] The average of: Australia, UK, Norway, S. Korea, Canada, and Switzerland. The figure for 2018 includes 2017 data on South Korea.
SOURCE: Based on International Monetary Fund and reports to the Banking Supervision Department.

help the economy finance engineering projects against the background of a large backlog of infrastructure projects planned for the next few years.
[99] The ratio of allowance for loan losses to impaired credit (nonaccruing loans plus 90+ days past due).

like other supervisory authorities, has taken a series of measures to improve capital and financial stability. They include adopting the new Basel III framework and, in Israel, supplemental measures such as higher minimum capital requirements and a capital buffer against systemic risk,[100] macroprudential policy measures relating to housing credit, and restrictions on the distribution of dividends. These supplemental steps were meant to improve the banks' ability to absorb losses occasioned by developments in the housing market and to help them converge to the new capital targets without dealing a shock to the domestic economy by recomposing the credit portfolio to reduce risk-weighted assets. (For elaboration, see Box 1.4 in this report.) These measures were reflected in a steep increase in the domestic banks' equity over the past decade (Figure 7) and a milder upturn in risk-weighted assets (resembling their development in the other advanced economies, Figure 8), due to which the Banking Supervision Department was able to relax its regulatory capital requirements when the current crisis began. (For further on the Department's measures during the crisis, see Box 3.1, and for more on steps taken by regulatory authorities abroad, see Box 3.2.)

The high credit quality in Israel is also reflected in the suitability of loan loss provisions over time and in the ability to absorb "expected

Figure 1.3.6
Credit Coverage Ratio[a], Selected Banking Systems, 2010–2018 (percent)



[a] Based on supervisory authority reports to the IMF. There may be missing data in certain years for some of the countries.
[b] Total banking system.
[c] Excluding Germany and Netherlands, due to a lack of data.
[d] The average of: Australia, UK, Norw ay, S. Korea, Canada, and Sw itzerland. The figure for 2018 includes 2017 data on South Korea.
SOURCE: Based on International Monetary Fund and

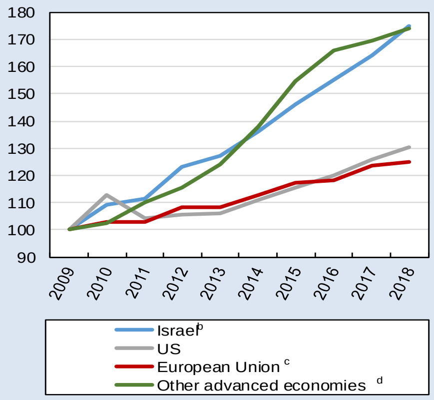
Difficulty in generating profits and adequate returns on equity has been one of the greatest challenges to banks worldwide in the past decade. Poor profitability may impair the stability of the banking and the financial-service systems by limiting banking corporations' ability to broaden their capital base by accruing profits, encouraging extra risk-taking, and restricting banks' ability to increase their lending and support economic activity. The low interest rate environment and the toughening of regulatory capital requirements, together with the upturn in competition from nonbank players, abetted the erosion of bank profits in Israel and the other developed countries. (Banks in Europe also had to contend with poor credit-portfolio quality.) Had the banks not adjusted their business models, including diverting credit to activity segments that offered higher returns (and posed greater risk), as described above, and had they not taken operational efficiency measures and improved the management of their expenditure function, their profitability in the past decade would have been much smaller than it was. Indeed, banks in Israel and abroad made continual incremental improvements in their operating efficiency over the past decade, but in Israel—where banks are relatively inefficient—the improvement was steeper (Figure 9), reflected in a decline in the operational efficiency ratio.

On the expenditure side, the Israeli banking system's average unit output/cost ratio, was twice as large as in the other advanced economies (Figure 10), **posted a steep decrease**. This target was attained largely by improving efficiency in the deployment of bank branches (Figure 11) and reducing staff, resulting in declines in operating and other expenses including the scale and share of wages in total operating and other expenditure (Figure 12). On the revenue side, the mix of revenues changed perceptibly, the share of net interest income rising in Israel and the US (Figure 13) and that of bank charges in revenue falling (Figure 14). The Israeli banks' return on equity (post-tax) resembles the average in the group of other advanced economies (Figure 15).

[100] An additional capital buffer against the specific characteristics of the Israeli economy and the systemic importance of the domestic banks.

Banking Supervision Department measures to improve equity and financial stability in the past decade have partly been reflected in a sharp increase in equity.

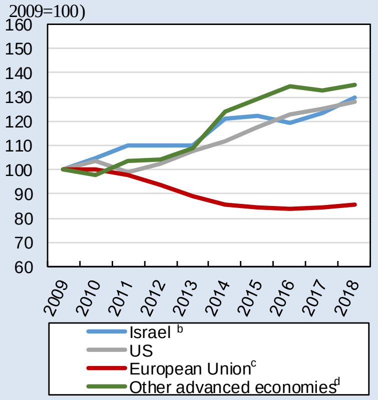
Figure 1.3.7
Equity[a], Selected Banking Systems, 2009–2018 (index: 2009=100)



[a] Based on country reports to the IMF. There may be missing data in certain years for some of the countries.
[b] Total banking system.
[c] Excluding Denmark, Estonia, Germany, and Greece, due to a lack of data.
[d] The average of: Australia, UK, Norway, S. Korea, Canada, and Switzerland. The figure for 2018 includes 2017 data on South Korea.
SOURCE: Based on International Monetary Fund and reports to the Banking Supervision Department.

The development of risk-weighted assets in Israel is similar to that in the US and other advanced economies.

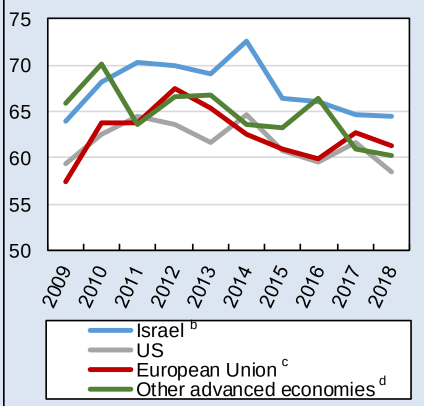
Figure 1.3.8
Risk-Weighted Assets[a], Selected Banking Systems, 2009–2018 (index: 2009=100)



[a] Based on country reports to the IMF. There may be missing data in certain years for some of the countries.
[b] Total banking system.
[c] Excluding Denmark, Estonia, and Germany, due to a lack of data.
[d] The average of: Australia, UK, Norway, S. Korea, Canada, and Switzerland. The figure for 2018 includes 2017 data on South Korea.
SOURCE: Based on International Monetary Fund and reports to the Banking Supervision Department.

Banks in Israel and abroad have taken measures in the past decade to improve their operating efficiency. In Israel, where banks were relatively inefficient at the outset, the improvement was greater, and was encouraged and guided by the Banking Supervision Department.

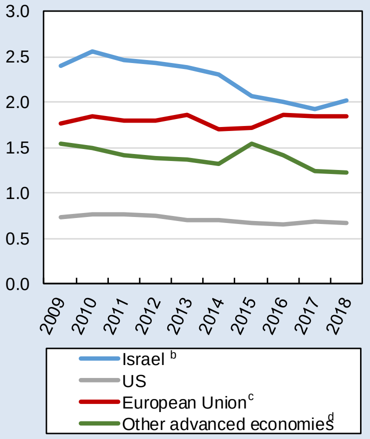
Figure 1.3.9
Operating Efficiency Ratio[a], Selected Banking Systems, 2009–2018 (percent)



[a] The ratio between total operating and other expenses and total net interest and noninterest income. Based on country reports to the IMF. There may be missing data in certain years for some of the countries.
[b] Total banking system.
[c] Excl. Hungary and Romania, due to a lack of data.
[d] The average of: Australia, UK, Norway, S. Korea, Canada, and Switzerland. The figure for 2018 includes 2017 data on South Korea.
SOURCE: Based on International Monetary Fund and reports to the Banking Supervision Department.

Improved efficiency: The sharp decline in the average unit output cost in Israel was achieved by lowering operating expenses, partly by improving the deployment of branches and reducing the number of employees.

Figure 1.3.10
Unit Output Cost[a], Selected Banking Systems, 2009–2018 (index)

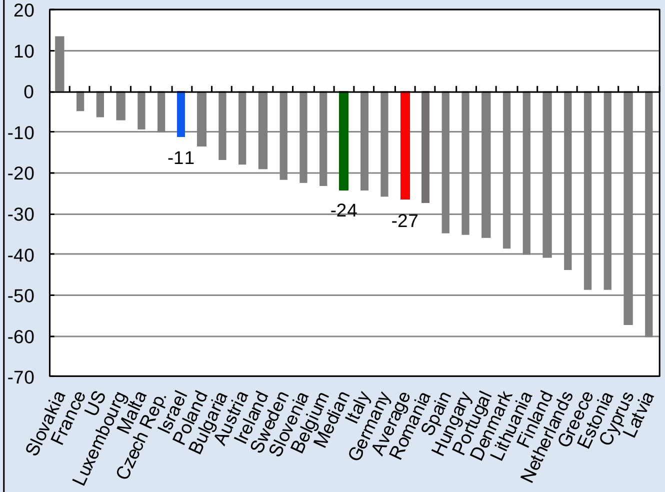


[a] Based on country reports to the IMF. Calculated as the ratio between total operating and other expenses and the average balance of assets. There may be missing data in certain years for some of the countries.
[b] Total banking system.
[c] Excluding Ireland, Germany, and Spain, due to a lack of data.
[d] The average of: Australia, UK, Norway, S. Korea, Canada, and Switzerland. The figure for 2018 includes 2017 data on South Korea.

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

Reducing the number of branches: The trend in Israel began slightly later and with less intensity than in other countries.

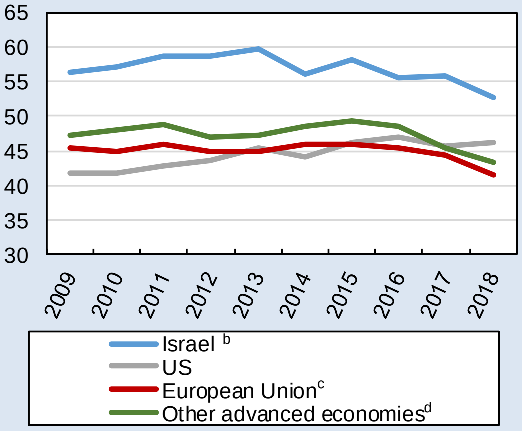
Figure 1.3.11
Cumulative Rate of Change in the Number of Bank Branches, Israel, EU[a], and the US, 2011–2018 (percent)



[a] The UK and Croatia are excluded due to the lack of historical data.
SOURCE: Europe: ECB; US: Federal Reserve and FDIC; Israel: Based on published financial statements.

Wage expenses have declined: The streamlining of the expense function has been reflected in a decline in wage expenses as a share of total operating and other expenses.

Figure 1.3.12
Wage Expenses as a Share of Total Operating and Other Expenses[a], Selected Banking Systems, 2009–2018 (percent)

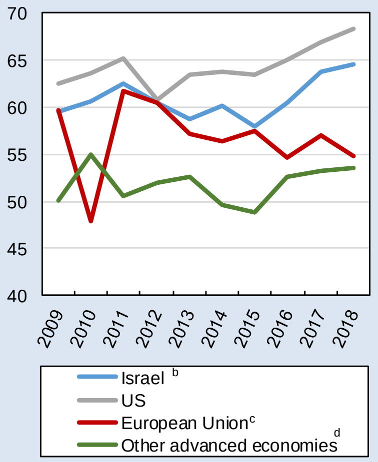


[a] Based on supervisory authority reports to the IMF. There may be missing data in certain years for some of the countries.
[b] The five large banking groups.
[c] Excluding Hungary, Romania, and Sweden due to a lack of data.
[d] The average of: Australia, UK, Norway, S. Korea, Canada, and Switzerland. The figure for 2018 includes 2017 data on South Korea.

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

Net interest income increased due to the increase in total credit. In the past decade, the mix of income has changed with an increase in the share of net interest income in Israel.

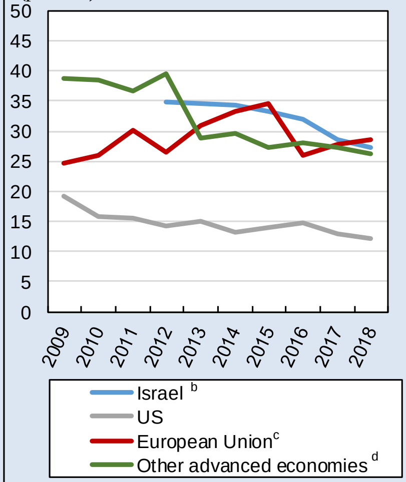
Figure 1.3.13
Net Interest Income as a Share of Total Income[a], Selected Banking Systems, 2009–2018 (percent)



[a] Based on supervisory authority reports to the IMF. There may be missing data in certain years for some of the countries.
[b] Total banking system.
[c] Excluding Hungary and Romania, due to a lack of data.
[d] The average of: Australia, UK, Norway, S. Korea, Canada, and Switzerland. The figure for 2018 includes 2017 data on South Korea.
SOURCE: Based on IMF and reports to the Banking Supervision Department.

The change in the mix of income also featured a decline in the rate of fees income.

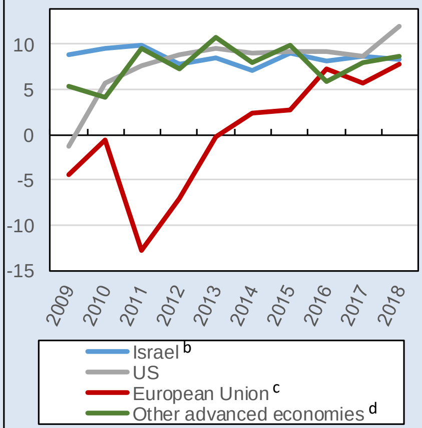
Figure 1.3.14
Fees as a Share of Total Income[a], Selected Banking Systems, 2009–2018
(percent)



[a] Based on country reports to the IMF. There may be missing data in certain years for some of the countries.
[b] Net interest income plus operating and other income.
[c] Excluding Austria, Italy, Estonia, Bulgaria, Netherlands, Hungary, Luxembourg, Latvia, Slovenia, Poland, France, Croatia, Romaia, and Sweden, due to a lack of data.
[d] The average of: Australia, UK, S. Korea, Canada, and Switzerland. The figure for 2018 includes 2017 data on South Korea.
SOURCE: Based on IMF and reports to the Banking Supervision Department.

The banks' profitability in Israel is strong. The Israeli banks' after-tax return on equity (ROE) is similar to the average of the other advanced economies, and slightly lower than that of the US.

Figure 1.3.15
Return on Equity (ROE) After Tax[a], Selected Banking Systems, 2009–2018
(percent)



[a] Based on country reports to the IMF. There may be missing data in certain years for some of the countries.
[b] Total banking system.
[c] Excluding Austria, Italy, Estonia, Bulgaria, Germany, Hungary, Luxembourg, Slovenia, Poland, France, Croatia, Romaia, and Sweden, due to a lack of data.
[d] The average of: Australia, UK, S. Korea, Canada, and Switzerland. The figure for 2018 includes 2017 data on South Korea.
SOURCE: Based on IMF and reports to the Banking Supervision Department.

Box 1.4
Supervisory Capital Requirements and Banking Capital Ratios in Israel and Abroad

- **The eruption of the coronavirus pandemic handed economics and banking systems worldwide an enormous challenge.** However, the higher minimum capital requirements in Israel relative to those laid down in the Basel III framework (Figure 1), coupled with requiring local banks to maintain additional capital buffers, placed the Israeli banks at a propitious starting point for coping with the potential implications of the crisis, enabling the Banking Supervision Department to temporarily relax its capital requirements.
- **Supervisory authorities abroad set minimum capital requirements in order to keep the banks and the economy safe against unexpected losses;** the requirements are corollaries of the level of risk that inheres to the banks' activity (risk-based capital ratios) or the scale of their activity (leverage ratio).
- **Supervisory authorities abroad also establish additional capital requirements that exceed the minimum** (composed of Tier 1 equity) in order to attain various microprudential and macroprudential targets. In Israel, some of these requirements are explicit (e.g., on account of SREP, the housing-credit buffer, and SIFI) while others are implicit (macroprudential measures relating to housing credit).
- **The level of risk-based capital ratios depends on the capital allocation approach in use.** The standard approach, which derives a higher level of risk-weighted assets and therefore sets low risk-based capital ratios in comparison with other countries, is used in Israel.
- **The Banking Supervision Department has taken macroprudential measures in regard to housing credit in recent years;** they have had an upward effect on capital by raising the risk weights of various kinds of credit and by explicitly requiring the allocation of a capital buffer against the activity at issue.
- **All Israeli banks have attained the minimum regulatory capital requirements** in a staggered process of accruing earnings and adjusting their credit portfolios by reducing exposure to high-risk-weighted business activity segments and increasing exposure to retail segments.
- **The leverage ratio was formed as a complementary tool to the risk-based capital ratios;** it requires the banks to reserve a minimum level of capital as a function of their scale of activity irrespective of their risk characteristics.
- **Israeli banks' leverage ratios exceed those of leading banks in other advanced economies, surpass those of Global Systemically Important Banks** (GSIBs), and resemble those of banks that resemble Israel's in their shares of risk-weighted assets.

Table 1
Supervisory Capital Requirements, Israel vs. Basel III Framework and Other Countries

Requirement	Israel	Basel / other countries	Notes
Tier 1 equity ratio	4.5%	4.5%	In Israel, these three capital components combine to create the minimum capital requirement.
Capital conservation buffer	2.5%	2.5%	
System risk buffer (SRB)[101]			
DSIB buffer	1%	0%–3%	Varies among countries and among banks in each country. In Israel, it applies to the two largest banks; in other small countries, it applies to a larger number of banks.
Approach to capital allocation	Standardized approach	Advanced approaches / standardized approach	Varies among countries and among banks in each country although in the advanced economies most risk-weighted assets of large banks are calculated on the basis of IRB approaches.
Macroprudential capital requirements in housing credit with effect on capital	From a 0.3%–0.5% increase for all banks to a 1.1%–1.4% increase for mortgage-intensive banks	Not found	As in Israel, other countries took macroprudential measures in view of developments in the housing market, but they centered on limiting LTV and PTI or the rate of increase in high-risk loans without requiring an additional capital allocation.
Macroprudential requirement of an additional capital buffer allocation against the extent of activity in the housing-credit portfolio	From a 0.2%–0.3% increase for all banks to 0.9% for mortgage-intensive banks		As in Israel, other countries took various macroprudential measures in view of developments in the housing market, but they centered on limiting LTV and PTI or the rate of increase in high-risk loans without requiring an additional capital allocation.[102]
Countercyclical buffer	Framework not applied	0%–2%	All countries in the comparison group applied the framework and most set the buffer at 0.[103]
Minimum leverage ratio	5% for all banks, 6% DSIB	3% (Basel III)	Additional countries toughened their threshold requirements (Table 2).

A. Introduction

The eruption of the coronavirus pandemic poses an enormous challenge to countries that are exposed to its impact, of which Israel is one. The rapid and acute effect of the pandemic on the capital market and the real economy via the business sector, together with the subversion of many households' economic situation, project onto the entire financial-services industry including the banking system.

[101] A buffer at the discretion of supervisors in the EU countries, derived from characteristics of the economy and the financial system, is usually applied to systemically important banks in addition to or instead of capital requirements on account of systemic importance. In Israel, a 2 percent buffer applies to all banks in the system and is built into the capital-adequacy requirement.
[102] This is likely to change in 2022, when a change in estimating credit risk under the standard approach within the Basel IV framework goes into effect.
[103] As of the present writing, eleven EU countries established a positive-rate countercyclical buffer and seven eroded it partly or fully in view of the coronavirus crisis.

At the present writing, the intensity and duration of the crisis are questionable and the expected impact on the economy and the banks is not clear. The Banking Supervision Department has, for the past decade, been taking action to improve the Israeli banks' ability to absorb unexpected losses by adopting advanced international standards and by setting an additional capital buffer against the unique characteristics of the Israeli economy and the systemic importance of the banks in Israel. The Banking Supervision Department also required banks to make a supplemental provision for developments in the housing market and even stopped the distribution of dividends for several years going forward. All these measures, together with the use of the more "conservative approach" toward weighting risk assets (the "standard approach"), placed the Israeli banks at a propitious starting point for their efforts to cope with the crisis and its possible implications.

The Banking Supervision Department announced in March 2020, much as did supervisory authorities abroad, a 1 percentage-point relaxation of the supervisory-capital requirement for all banks in the system for a six-month period (with the possibility of a six-month extension if needed) and in April it rescinded the regulatory requirement of a countercyclical sectorial capital buffer against new housing loans during the crisis.[104] These alleviations made it possible to earmark some of the capital that has accumulated rapidly in the past decade for macroprudential challenges of the types that the Israeli economy faces today. The purpose of this countercyclical move was to allow the banks to continue lending to businesses and households even at this time.

A banking corporation may be exposed to a wide assortment of risks as a consequence of its ongoing business activity (most typically liquidity, credit, market, and operational risks[105]; for elaboration, see the Risks section in the main report).[106] These risks are partly unforeseeable and may originate in the bank's on or off balance sheet activity. If they come to pass, they may have adverse micro- and macroprudential implications for a banking corporation's ability to continue functioning if its business results deteriorate, as well as macroprudential repercussions for the entire financial-services system and economic activity countrywide.

To protect banking corporations and the economy against the realization of these unforeseeable risks and to protect the public's deposits and its trust in the system, supervisory authorities in every country establish minimum capital requirements commensurate with the degree of risk intrinsic to the bank's activity (i.e., risk-based capital ratios) and also, in recent years, relating to the extent of activity irrespective of risk (leverage ratios). These requirements are applied to all banks in the system in a standard manner. In addition to the minimum requirements, supervisory authorities around the world make additional capital requirements (most composed of Tier 1 equity) to attain various micro- and macroprudential objectives. In Israel, these additional requirements are composed of SREP requirements,[107] a capital buffer against the importance of banking groups that have more than a 24 percent market share (DSIB), and macroprudential capital requirements that, at the present writing, pertain to developments in the housing-credit portfolio. Additional capital requirements abroad also include a capital conservation buffer (2.5 percent), which in Israel is built into the minimum capital requirement, and a countercyclical buffer (0–2.5 percent), which is not applied in Israel (and is set at 0 percent in most countries in the sample).

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[104] For elaboration, see press releases on lowering the banking system's capital requirements: (1) "The Banking Supervision Department announces a reduction in the banks' capital requirements, and instructs them to examine the distribution of dividends in order to increase the supply of credit in the economy," March 29, 2020, https://www.boi.org.il/en/NewsAndPublications/PressReleases/Pages/29-3-2020a12.aspx), and (2) "Leniencies in the provision of mortgage loans in view of the corona crisis," April 22, 2020, https://www.boi.org.il/en/NewsAndPublications/PressReleases/Pages/21-4-20.aspx .

[105] Including cyber and compliance risks.

[106] Liquidity risks are treated separately; they are covered not by accumulation of capital but by accumulation of high-quality liquid assets and a specified level of stable sources of finance.

[107] SREP: Supervisory Review and Evaluation Process—differentiated capital requirements flowing from a supervisory process in which each bank's capital adequacy is evaluated as a consequence of the extent of risk in its activity, the quality of its corporate governance, the adequacy of its business models, and so on. (For elaboration, see Part 3.)

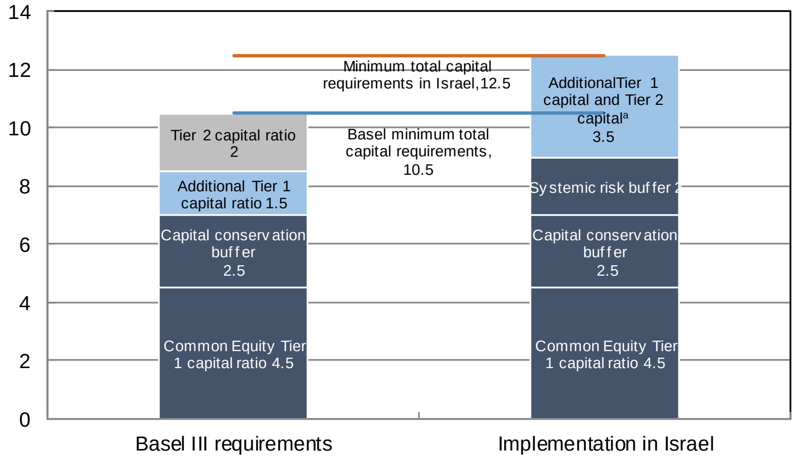
Both capital buffers accumulate during auspicious economic times and erode in recessions and are part of the Basel III framework. Their purpose is to improve the banks' ability to absorb losses and avoid a procyclical situation in which rigid capital requirements may cause a financial crisis to spill into the real economy, exacerbating the financial crisis at a time when risk and credit losses are increasing. The Basel Committee chose to confront the challenge (apart from improving capital quality and quantity) by making a structural change in regulatory capital. According to the Basel framework, some of the regulatory capital requirements will not be minimum requirements; instead, they will be defined as (compulsory) additional capital requirements that may be eroded under specific conditions and on the basis of supervisors' professional discretion. The Committee specified two capital buffers of this kind that may be eroded: one for a microprudential purpose (the "capital conservation buffer") and another of macroprudential nature (the "countercyclical buffer"). The mechanism of erosion (and re-accumulation) is meant to give banks elbow room in the event of losses and capital erosion. It is understood that the minimum capital requirements, however stringent they may be, do not give banks the elbow room that they need to cope with a downturn in their business results or with an excessive credit growth and the development of systemic risks. The erosion mechanism allows a bank that is absorbing losses to relax its level of regulatory capital without falling below the minimum capital requirement; by so doing, it allows banks to continue their financial intermediation activity and make credit available to the public.

In this box, we examine the minimum and additional capital ratios from an international perspective. Due to data limitations, the examination is performed on systemically important (SI) European banks and is based on reports to the European Central Bank (ECB).[108] We also present data for the US banking system at large, where possible.

The differences between the minimum capital requirements in the original Basel III framework and the higher ones in Israel are shown in Figure 1.

The minimum capital requirements in Israel are more stringent than the Basel III framework.

Figure 1.4.1
Basel III Minimum Capital Requirements and their Implementation in Israel (including capital conservation buffer) (percent)



[a] Tier 2 capital shall not exceed 100 percent of Tier 1 capital, and capital instruments that are fit to be included in Tier 2 capital shall not exceed 50 percent of Tier 1 capital after the required deductions from that capital.
SOURCE: Banking Supervision Department calculations.

[108] The findings obtained in this study were validated by means of individually parsed banking data from the European Banking Authority (EBA).

B. Minimum capital requirements

1. Risk-based capital ratios

Risk-based capital ratios are the lowest levels of qualified capital that a banking corporation must maintain in reference to a risk that is intrinsic to its activity ("risk-weighted assets"—RWA); they are part of the Basel Committee frameworks that are applied in Israel. These ratios are capital buffers that accumulate in auspicious times and are eroded when recession strikes. Although their main purpose is microprudential, they have taken on an additional countercyclical macroprudential purpose in recent years: keeping financial crises from seeping into the real economy. These capital ratios are composed of a Common equity Tier 1 ratio, an additional Tier 1 capital ratio, and a Tier 2 capital ratio, together forming the total capital ratio.

$$\begin{aligned} &\text{T}otal\ Capital\ Ratio \\ &= \frac{Common\ Equity\ Tier\ 1\ Capital\ (CET1)}{Risk\ Weighted\ Assets\ (RWA)} \\ &+ \frac{Additional\ Tier\ 1\ Capital\ (AT1)}{Risk\ Weighted\ Assets\ (RWA)} \\ &+ \frac{Tier\ 2\ Capital}{Risk\ Weighted\ Assets\ (RWA)} \end{aligned}$$

The Basel Committee differentiates among three tiers of capital that together form the "capital base" (the numerator): (a) common equity Tier 1 —the highest-quality capital, composed mainly of the bank's equity (after offsets and adjustments), (b) additional Tier 1 capital, including debt instruments that have characteristics of perpetual capital, are subordinate in the hierarchy of writeoff, have a structured loss-absorption mechanism (conversion into shares or partial or full amortization of interest payments), and (c) Tier 2 capital—including senior debt instruments in the writeoff hierarchy that have a structured loss-absorption mechanism.

The Committee also allows the use of one of two approaches[109] to calculate RWA for the purpose of estimating risk (the denominator): (a) the "standard approach"—based on the idea that every balance-sheet and off-balance-sheet asset receives a risk weight that largely ranges from 0 to 150 percent, determined on the basis of credit ratings by outside firms and supervisory dictates; and (b) the "Internal Rating-Based Approach" (IRB)—in which the risk weight of each asset is determined in accordance with internal models that each bank develops on the basis of historical information in its possession and its credit-risk estimation systems.

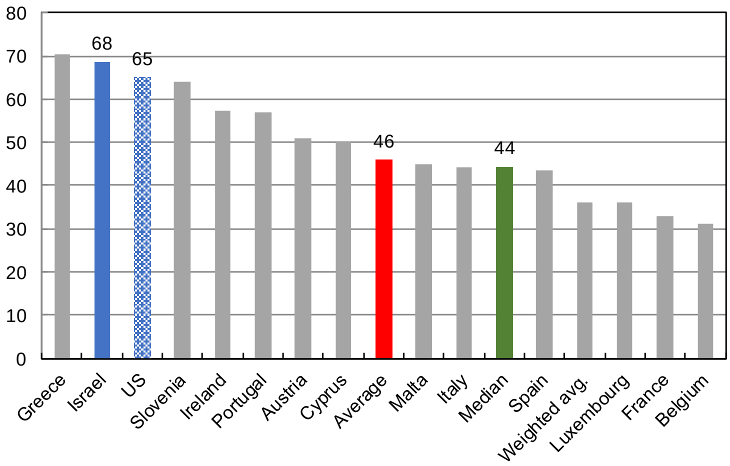
In contrast to the definition of common equity Tier 1capital, which is similar among countries (as of the date of full implementation), calculation of risk-weighted assets is non-standard and depends on the approach taken toward capital allocation. The Banking Supervision chose to be conservative and to prefer calculating RWA on the basis of the more stringent ("standard") approach over the more advanced and lenient one (IRB), which most advanced economies' supervisory authorities have chosen. This conservatism has proven itself in recent years in view of flaws inherent in the IRB approaches, which led in December 2017 to instructions to revise them (Basel IV).

[109] The description relates to credit-risk-weighted assets, which constitute the dominant component of risk-weighted assets.

According to the instructions, limits will be imposed on the use of these approaches[110] in order to narrow the advantage that is built atop the capital ratios (benefiting banks that allocate capital on the basis of IRB approaches) and in order to make risk-weighted assets more comparable over time and among banks irrespective of the capital-allocation approach or the type and quality of internal models used. When the standardized approach is invoked, a higher level of RWA results (Figure 2), causing a spread to open between Israel and other advanced economies in the share of such assets in total balance-sheet activity—with the exception of the US, where capital ratios obtained under the standardized approach are used as a mandatory lower bound for large banks.[111] The gap creates a downward bias in Israel's risk-based capital ratios relative to those of other advanced economies (Figure 3). Support for this is found when the relation between the share of credit-risk-weighted assets managed under IRB approaches and common equity Tier 1 capital at large European banks is examined.[112] The test shows a positive correlation between them, i.e., when IRB approaches are applied to large portions of the total exposure to credit risk, the result is a higher common equity Tier 1 ratio (Figure 4).

The rate of risk assets in Israel is higher, causing a downward bias on the risk-based capital ratios.

Figure 1.4.2
Risk Assets as a Share of Total Assets, Israel and Systemically Important Banks in the European Union[a,b], September 2019 (percent)



[a] Data on foreign countries are as of September 2019. Data on Israel are as of December 2019.
[b] The data on Europe relate to 109 banks (consolidated basis) that are defined as having systemic importance (SI) and that are supervised by the European Central Bank (ECB).
SOURCE: Foreign countries: ECB and Federal Reserve; Israel: Based on published financial statements.

2. *Supervisory effects on risk-based capital ratios*

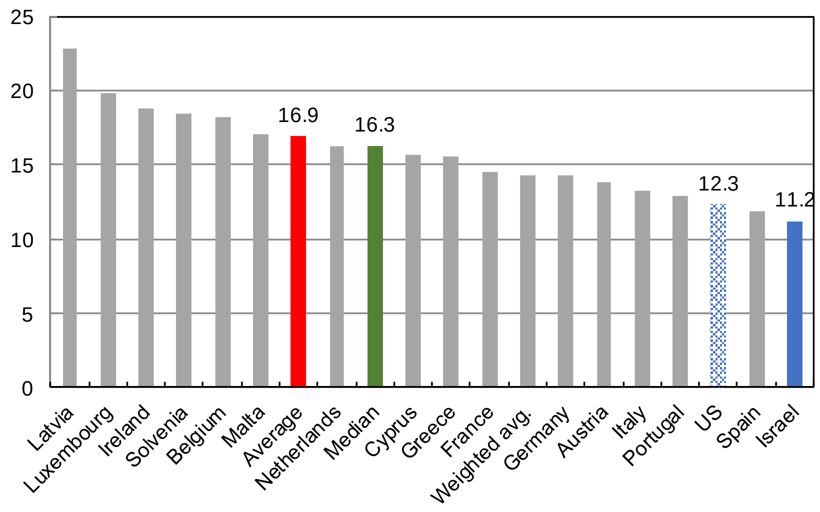
Discretion is central in ongoing supervisory work and policymaking. Over the years, various supervisory authorities have taken many policy measures in various fields that have had a direct or

[110] The restrictions include, but are not limited to, a minimum threshold for the ratio of risk-weighted assets yielded by the IRB approach and risk-weighted assets under the standard approach (the ratio will rise gradually, from 50 percent in 2022 to 72.5 percent in 2027). Although the threshold is meant to make banks more comparable, it is expected to increase risk-weighted assets and lower the capital ratios that banks around the world report.
[111] In the course of 2011, the Dodd-Frank Wall Street Reform and Consumer Protection Act ("the Act") was amended (Section 171) to stipulate that capital ratios obtained via the standardized approach shall serve as a compulsory lower bound for US banks that invoke IRB approaches. The situation described, known as "Collins' floor," is meant to prevent a situation in which large banks with complex activity will hold less capital than smaller banks with less complex activity.
[112] Since the institutions at issue are leading banking groups that have cross-border activity, some of the exposure to credit risk in the consolidated portfolio belongs to subsidiaries that apply the standard approach (in part).

indirect effect on risk-based capital ratios. An example in recent years is the use of macroprudential measures to damp demand for housing credit and bolster the capital buffer that absorbs losses on account of exposure to the housing market. These steps force banks to reduce their exposure to the risk that inheres to activity in housing credit. In Israel, they include assigning higher risk weights to credit risk (in lending to buyer groups and high-LTV and high-PTI loans) and an explicit instruction to allocate an additional capital buffer at 1 percent of the housing-credit portfolio. These measures have an upward effect on the capital base and on risk-weighted assets (relative to the original framework). Notably, other countries have taken macroprudential measures in regard to housing credit but unlike Israel—where the measures include explicit and implicit demands for larger capital buffers or risk-weighted assets on account of this activity—the steps in most other countries focus on limiting the extent of high-LTV or high-PTI lending and have no effect on capital ratios. Furthermore, apart from measures pertaining to housing credit, the Banking Supervision Department has taken additional policy measures that affect capital ratios—sometimes loosening and at other times tightening—in comparison with the original Basel frameworks.[113]

The use of the "standard approach" in allocating capital in Israel downward biases the value of risk-based capital ratios in Israel relative to banks in other countries.

Figure 1.4.3
Tier 1 Capital Ratios, Israel, US and Systemically Important Banks in EU Countries[a,b,c], September 2019 (percent)

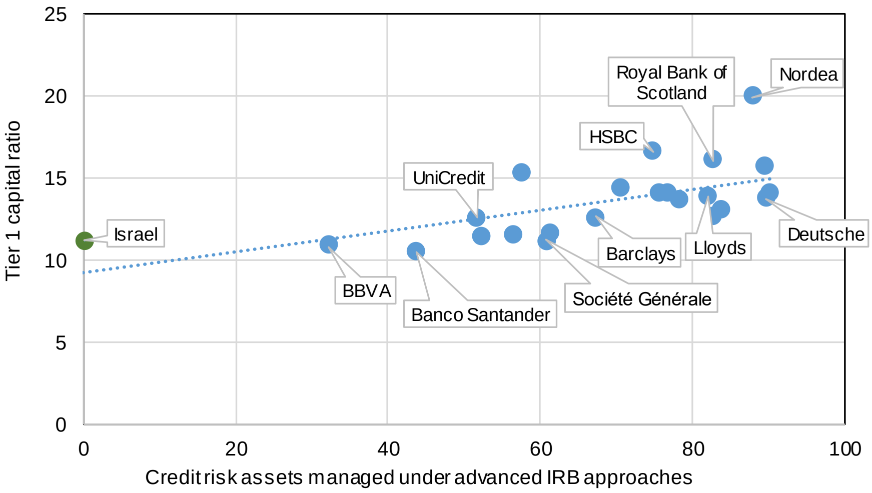


[a] Data are as of September 2019. US data are as of December 2018.
[b] The data on Europe relate to 117 banks (consolidated basis) that are defined as having systemic importance (SI) and that are supervised by the European Central Bank (ECB). US data relate to all bank holding groups and commercial banks.
[c] The average and median do not include the US and Israel.
SOURCE: Foreign countries: ECB and Federal Reserve; Israel: Based on published financial statements.

[113] Among them are adjustments of Tier 1 equity for operational efficiency programs and changes in the discount rate that is used to calculate liabilities for employees' rights, revision of the conversion coefficient for credit relating to guarantees of homebuyers' investments under the Sales Law, and other matters.

There is a positive correlation between the high rate of credit risk assets, which are managed under the advanced IRB approaches, and the value of the Tier 1 capital

Figure 1.4.4
Tier 1 Capital Ratios and Rate of Credit Risk Assets Managed under the Advanced IRB Approaches, Large European Banks and Israel, June 2018[a]



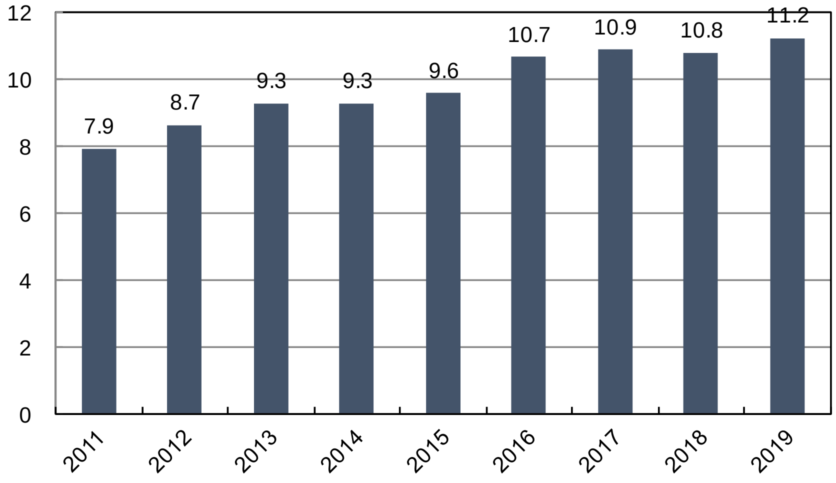
[a] The 22 largest banks operating in the EU countries. The data for Israel are as of September 2019.
SOURCE: Foreign countries: EBA; Israel: Based on published financial statements.

3. Development of risk-based capital ratios in Israel

By December 2019, all Israeli banks met the Banking Supervision Department's minimum capital targets. This convergence was realized in a staggered process that began when the Basel II framework was adopted but accelerated in 2012 with the adoption of the Basel III framework and the issuance of supervisory directives on the topic (Figure 5). The process was accompanied by a lengthy series of supervisory measures that improved the quality and quantity of the capital base (Figure 5). The purpose of gradual implementation was to allow the banks to amass capital and to continue to support activity by increasing their lending to the public. The graduality policy also enabled the banks to adjust their credit portfolios more easily, by expanding their exposure to retail activity segments and cutting back on exposure to the business sector, which carries a higher risk weight (Figure 7). During this time, the share of RWA in the total exposure fell to its lowest level in the past seven years. The graduated application (together with the supervisory limit on distributing dividends) helped the banks to restructure their capital base while accruing profits.

The capital targets were met through a gradual process in Israel, beginning with the implementation of the Basel II framework, but was accelerated in 2012 with the adoption of the Basel III framework.

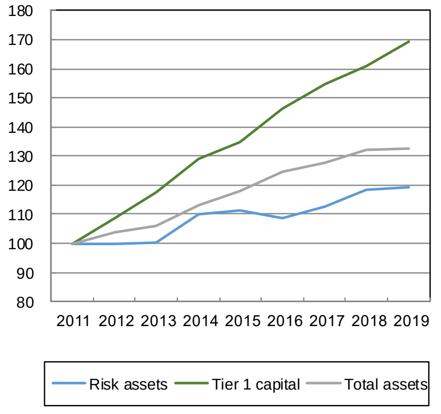
Figure 1.4.5
Tier 1 Capital Ratios[a], the Five Banking Groups, 2011 to September 2019 (percent)



[a] Until 2013 (inclusive), presented in Basel II terms.
SOURCE: Based on reports to the Banking Supervision Department.

The gradual implementation made it easier for the banks to continue financial intermediation activity and to make adjustments in the credit portfolio by reducing the growth rate of risk assets in building the capital base by accumulating profits.

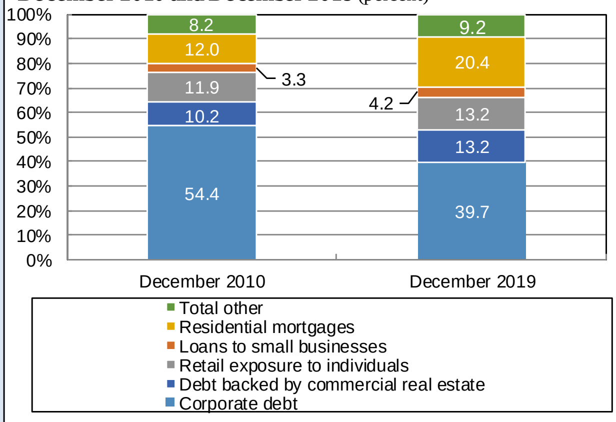
Figure 1.4.6
Assets, Risk Assets, and Tier 1 Capital[a], the Five Banking Groups, 2011 to September 2019
(index: December 2011=100)



[a] Until 2013 (inclusive), presented in Basel II terms.
SOURCE: Based on reports to the Banking Supervision Department.

The growth rate of risk assets was reduced in order to meet capital targets, by increasing exposure to retail segments and reducing exposure to the business segment, which is weighted at a higher risk coefficient.

Figure 1.4.7
Composition of Credit Risk Exposure, by Main Category[a], the Five Banking Groups
December 2010 and December 2019 (percent)



[a] "Others" includes sovereign debt, public sector debt, securities companies, and other assets.
SOURCE: Based on reports to the Banking Supervision Department.

4. *The leverage ratio*[114]

The leverage ratio (Basel III) is the share of Tier 1 capital in a bank's balance-sheet and off-balance-sheet activity. First introduced as part of the work of Basel III[115] as a supplemental tool for risk-based regulatory capital ratios, it requires banks to provision a minimum level of capital commensurate with the extent of their activity and irrespective of their risk profiles.

The leverage ratio was formulated in response to the 2008 global financial crisis, after it was found that the risk weights and models then used for capital allocation did not necessarily estimate correctly the intrinsic riskiness of the various assets. This meant that many banks, although satisfying the minimum capital requirements, did not have enough capital on hand to absorb losses. Thus, the Basel Committee worked out a capital ratio not based on risk that would serve as an effective "backstop" for activity for banks that measure their risk as low (mainly those that base their capital allocation on an IRB approach). The minimum value of the ratio was set at 3 percent—a threshold that does not crimp the activities of most banks except for those that have small risk-weighted assets relative to their level of activity. For the other banks, the risk-based capital ratios still posted an effective limit on activity.

From the supervisory standpoint, the ratio serves two purposes: (a) in the microprudential context, it is meant to restrain large capital issues in favor of expanding banking activity, including the kind that supervisory authorities do not consider risky; (b) in the macroprudential context, it is intended to lower the likelihood of banks' having to deleverage when the business cycle slows, which would erode the value of assets and impair the stability of banks and of other investors who hold the same assets—a demarche that would exacerbate the downturn in the business cycle.

According to the framework, the ratio was set for full implementation in January 2018. In many countries, however, it underwent adjustments and revisions in comparison with the original directive, including adjustments relating to the extent of implementation (by all banks in the system or only by some), the timing of full implementation, and the minimum requirement and how it is calculated. (These adjustments in various countries are examined in Table 2 below.) The supervisory authorities in the US, Switzerland, Canada, and Israel, for example, set a higher minimum leverage ratio than that specified in the Basel III framework, yet most of them added this requirement for banks of domestic or global systemic importance. The minimum leverage ratio in Israel was set at 5 percent for the system at large and 6 percent for systemically important banks (those with market shares of more than 24 percent)—as against the 3 percent requirement within the Basel III framework.

[114] The leverage ratio was formulated in a simple way in order to facilitate comparison of capital ratios between local and other banks from an international perspective, reliably and irrespective of the capital-allocation approach taken. In practice, although the ratio was indeed formulated simply, the goal was not attained due to other accounting and regulatory discrepancies, particularly in the rules pertaining to offsetting derivative instruments and calculating total exposure.

[115] BCBS189.

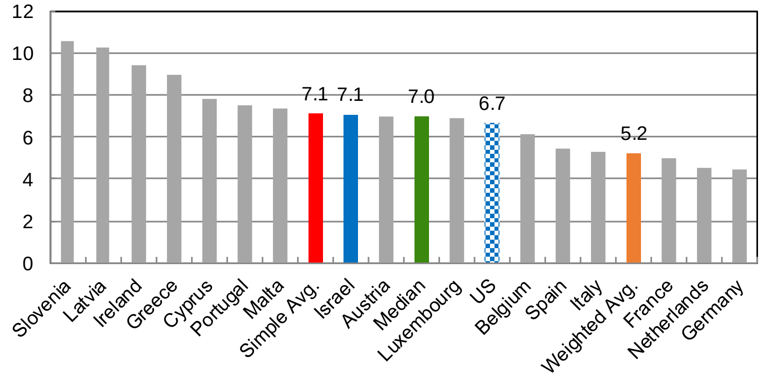
Table 2
Implementation of the Basel III Framework in Selected Countries[116]

Country	Minimum requirement	Extent of implementation	Deadline for full implementation
United States[117]	3% for banks that use IRB approaches to capital allocation[118] and foreign banks (IHC[119]); 5% for Global Systemically Important Banks (GSIB); 6% for IDI[120] that are subsidiaries of GSIB	Banks that use IRB approaches to capital allocation (including systemically important banks)	January 2018
European Union	3%	All banks in EU countries	2019
Switzerland	3% for all banks in the system; 3% + a differentiated increase equal to 50% of the additional capital requirement for	All banks in the system	January 2018
UK	3% + a differentiated increase[121]	All banks in the system	January 2016
Japan	3%	Japanese banks defined as G-SIB	March 2018
Canada	3% + a differentiated increase set by the regulator, opaque to the public	All banks in the system	March 2015
Israel	5% for all banks in the system 6% for systemically important banks (market share in excess of 24%)	All banks in the system	January 2018

[116] Based in part on Baldo et al., "Leverage Ratio and Central Bank Operations in the Euro Area," *Economic Notes*, 47:1 (2018), pp. 21–68.
[117] Other US banks must attain a 4 percent minimum ratio of Tier 1 equity to their average balance of balance-sheet assets.
[118] Banks that have more than $250 billion in total assets (consolidated) or more than $10 billion in total balance-sheet exposure to foreign countries or subsidiaries that are depository institutions (commercial banks, investment banks, credit unions, savings and loan associations; BHC (Bank Holding Company) or IHC (Intermediate Holding Company).
[119] According to the Dodd-Frank Act, the Federal Reserve must apply stricter prudential standards to bank holding companies that have more than $50 billion in assets. As part of its treatment of the matter, the Federal Reserve instructed all foreign banking corporations that operate in the United States and have activity exceeding $50 billion to pool all subsidiaries' activity under an Intermediate Holding Company (IHC).
[120] Insured depository institutions.
[121] The increase is equal to 35 percent of the countercyclical buffer (which today stands at 1 percent) plus 35 percent of the buffer against systemic importance (relevant for banks defined as DSIB / GSIB).

The leverage ratio in Israel is slightly lower than the simple average of the ratio in Europe, but higher than in advanced economies where the advanced capital allocation methods are implemented.

Figure 1.4.8
Leverage Ratio (Basel III) - Israel, American Banks and Systemically Important Banks in the EU[a,b,c], September 2019 (percent)

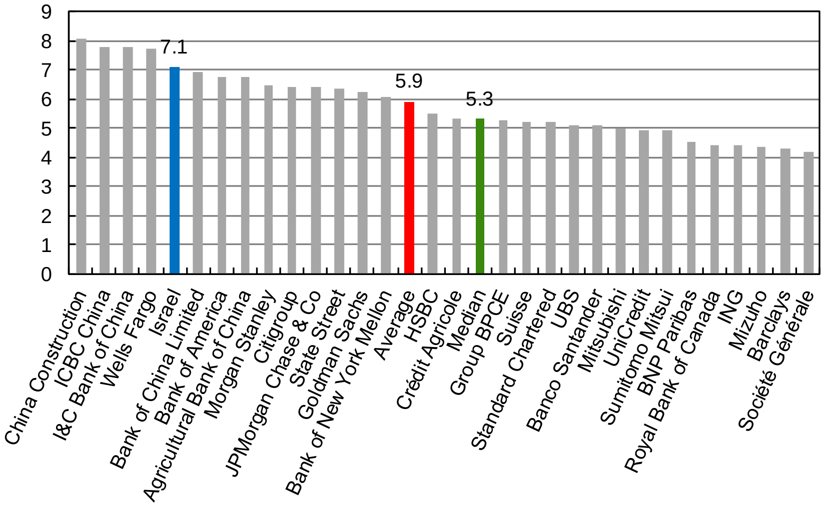


[a] US data are as of December 2018.
[b] The data on Europe relate to 109 banks (consolidated basis) that are defined as having systemic importance (SI) and that are supervised by the European Central Bank (ECB). US data relate to the eight bank holding groups defined as GSIB.
[c] The average and median do not include the US and Israel.
SOURCE: Foreign countries: ECB and Federal Reserve; Israel: Based on published financial statements.

Israeli banks usually have higher leverage ratios than do leading banks in advanced economies (Figure 8) and Global Systemically Important Banks (GSIB, Figure 9) and similar ratios to those at banks with similar RWA rates to those in Israel (the US and small European economies). Israel’s ratio (7.1 percent) resembles the average among the sample group in Europe (7.1 percent) and the median of that group (7 percent) and exceeds the average among GSIBs (5.9 percent, Figure 9). There are two explanations for this: (1) When the standardized approach to capital allocation is used to calculate risk-based capital ratios, it dictates higher outstandings of capital to banks' activity than in countries that use IRB approaches (Table 1, Figure 2), and (2) the relatively large extent of off-balance-sheet activity (Figure 10) at GSIBs and banks operating in advanced economies dictates a high “total exposure” (the denominator of the ratio). Differences in the outstandings of additional Tier 1 equity have no material effect on the level of the leverage ratio and do not explain the inter-country differences (Figure 11).

The leverage ratio in Israel is slightly higher than the average at global systemically important banks, where the volume of off-balance-sheet activity is high and the advanced capital allocation approaches are implemented.

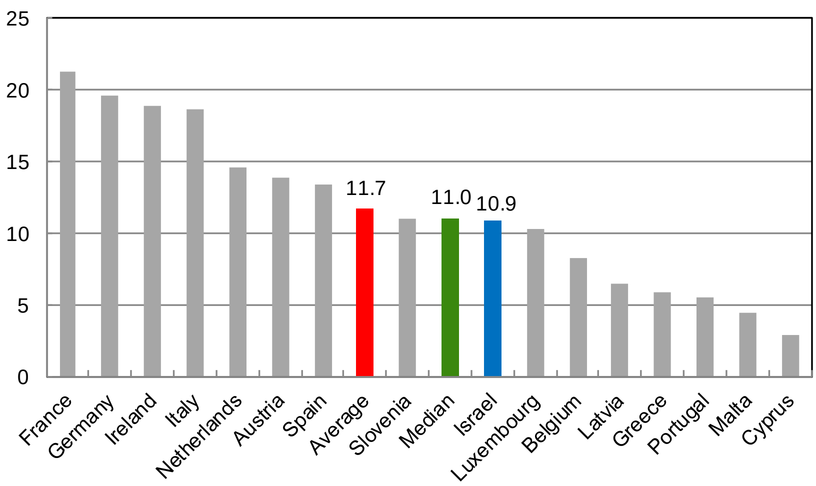
Figure 1.4.9
Leverage Ratio (Basel III) - Israel[a] and Global Systemically Important Banks (GSIB)[b], December 2018[c] (percent)



[a] The five banking groups.
[b] Banks defined as globally systemically important by the BIS.
[c] Data on foreign countries is as of December 2018. Israeli data is as of September 2019.
SOURCE: Foreign banks: Federal Reserve; Israel: Based on published financial statements.

The leverage ratio in Israel is positively affected to some extent by the low volume of off-balance-sheet activity relative to banks in the other advanced economies, and the opposite relative to banks in less advanced economies.

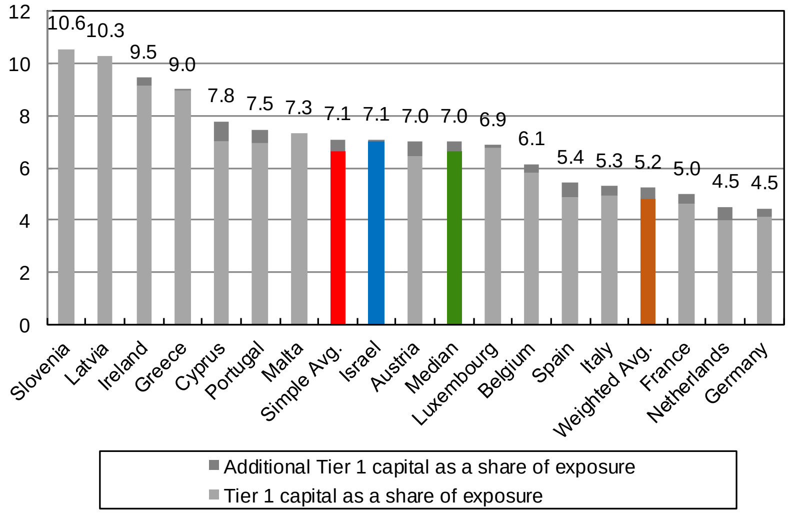
Figure 1.4.10
Off-Balance-Sheet Activity as a Share of Total Exposure - Israel and Systemically Important Banks in EU Countries[a], September 2019 (percent)



[a] The data on Europe relate to 109 banks (consolidated basis) that are defined as having systemic importance (SI) and that are supervised by the European Central Bank (ECB).
SOURCE: Foreign countries: ECB; Israel: Based on published financial statements.

The differences in additional Tier 1 capital volume do not explain the differences in the leverage ratio.

Figure 1.4.11
Composition of the Leverage Ratio (Basel III) - Israel and Systemically Important Banks in EU Countries[a], September 2019 (percent)



[a] The data on Europe relate to 109 banks (consolidated basis) that are defined as having systemic importance (SI) and that are supervised by the European Central Bank (ECB).

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

Box 1.5
The Banking System in the Coronavirus Crisis Era—Credit and Interest Rates

- Since the coronavirus crisis began, the Bank of Israel and, as part of it, the Banking Supervision Department have been acting to enable and encourage the banking system to supply the economy with credit, to price loans fairly, and to defer repayments by customers in order to soften the blow to the economy and alleviate pressure on bank customers' cash flow.
- In the first two months of the crisis (March and April 2020), credit increased by an unprecedented NIS 21 billion (12 percent in annual terms) with variance among activity segments: rapid growth in commercial and large-business credit and mortgage loans, offset by an acute decrease in household credit, largely due to a decrease in demand for credit. Small-business credit also declined because risk increased markedly and the banks waited for the State Guarantee Fund for Small Businesses to go into action, which it did on April 1.
- As the crisis unfolded, interest rates changed to different degrees among the activity segments. Consumer and commercial and large-business credit saw hardly any change in rates. For small businesses, the average rate declined considerably, mainly due to the issuance of credit via the State Guarantee Fund for Small Businesses. Mortgage-loan rates went up in CPI-indexed lending but changed direction in late April.

Background

The banking system has played an important role in supporting economic and business activity during the coronavirus crisis, manifested in providing regular banking services and making credit available to firms and businesses to help them cope with the ramifications of the crisis.

Given the importance of the banking system during the crisis, the Banking Supervision Department acted to assure its sound activity and its ability to continue lending to customers and businesses. The Banking Supervision Department tracked the amounts of credit that the banks issued to their customers, the interest rates that they charged, and other data. Below are several main emphases that emerge from the data gathered by the Department since the crisis began.

Change in volume of credit

- In March–April, after the crisis began, the banking system issued credit in the sum of NIS 21 billion net, 12.1 percent up in annual terms, as against an increase of only NIS 3.4 billion in January–February 2020.
- The upturn was primarily to commercial and business borrowers, at NIS 22.5 billion (35.2 percent up in annual terms). These customers created much of the new credit by using facilities that they had been given before the crisis.
- In mortgage lending, there was an NIS 7.1 billion increase (10.8 percent in annual terms). Sixty-six percent of the upturn took place in March (NIS 4.7 billion). This credit also includes all-purpose consumer credit given with a dwelling as collateral and based on the relief in this regard that the Banking Supervision Department established by temporary directives for the crisis period. Many customers moved up their taking of mortgage loans to March 2020 due to macroeconomic uncertainty. Mortgage-lending activity slumped in April relative to March, for reasons including a small number of business days that month and problems encountered by would-be mortgage borrowers in concluding transactions under the limitations that had been imposed in order to protect the public's health.
- Consumer credit decreased by NIS 6.8 billion in March–April (27.1 percent in annual terms). The decline in lending to retail customers traced largely to the contraction of private consumption during the lockdown, manifested in a steep decrease in demand for consumer credit and, particularly, in credit-card activity (purchases using credit cards declined by 40 percent in the

course of April.) Credit supply also eroded somewhat due to the contraction of the banking system's activity (occasioned by lockdown-related restrictions) and a falloff in proactive activity to make credit available and activity at sales centers.

- Similarly, small-business credit declined by NIS 1.9 billion in March–April (10.6 percent in annual terms). The State Guarantee Fund for Small Businesses was launched by the Ministry of Finance on March 31; therefore, its effect on credit volume manifested only toward the end of April. Notably, some of the decline in credit volume is explained by a decrease in credit-card payments and activity among small businesses; another portion traces to a downturn in the activity of the businesses themselves amid the lockdown.

(NIS thousand)[122]	**Consumer**	**Housing**	**Small business**	**Commercial**	**Total**
Outstanding credit, Dec. 31, 2019	153,216,929	391,270,410	107,133,490	381,474,735	1,033,095,563
Outstanding credit, Feb. 29, 2020	151,244,692	395,448,074	106,054,178	383,754,676	1,036,501,621
Change in Jan.–Feb.	-1,972,237	4,177,664	-1,079,312	2,279,942	3,406,058
Rate of change vs. December, annual terms	**-7.7%**	**6.4%**	**-6.0%**	**3.6%**	**2.0%**
Outstanding credit, Apr. 30, 2020	144,409,714	402,584,616	104,188,461	406,294,757	1,057,477,549
Change in March–April	-6,834,978	7,136,542	-1,865,717	22,540,081	20,975,928
Rate of change vs. February, annual terms	**-27.1%**	**10.8**	**-10.6%**	**35.2%**	**12.1%**

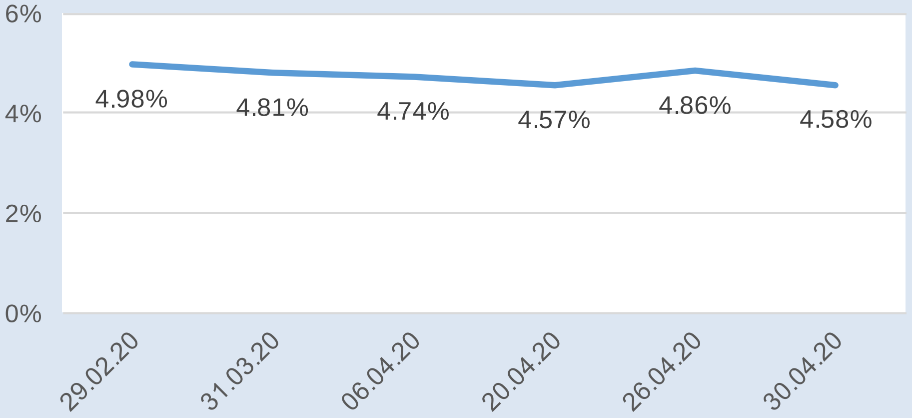
Change in interest rates during the crisis

- Overall, average lending rates in the last week of April were unchanged from the pre-crisis period; in some activity segments they actually declined in view of measures taken by the Ministry of Finance and the Bank of Israel.
- The average interest rate on consumer credit showed mild volatility during this period; at the present writing, it is lower than the pre-crisis rate (4.58 percent vs. 4.98 percent).
- The average rate charged to small businesses fell steeply in the last two weeks of April due to activity of the State Guarantee Fund for Small Businesses and funding made available by the Bank of Israel against small-business loans. The rate was 3.77 percent in the last week of April as against 5.0 percent in February, on the brink of the crisis.
- The average interest rate for commercial and large-business credit was unchanged from February and saw very mild volatility throughout the crisis period.

[122] The data presented in this box were reported by the banks in accordance with their boards of directors' approach to activity segmentation; therefore, they do not fully correspond to the information in Chapter 1 of this report.

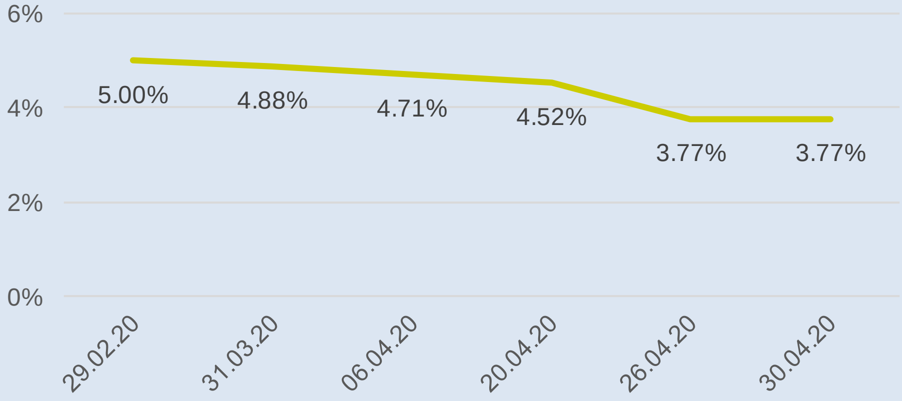
- The average interest rate on housing credit rose slightly relative to February, the last pre-crisis month, with most of the increase taking place in CPI-indexed lending (0.53 percent). According to the data, **the upward trend in rates that began at the onset of the crisis changed direction in late April.** Housing-loan credit reflects interest rate quotes given twenty-four business days earlier. Accordingly, the price increase up to April 20, 2020, mirrors the high quotes that were given at the peak of the crisis due to an increase in the cost to the banking system of raising sources, particularly to long terms. In the last week of April, there was a slight decrease relative to the previous week; a further decline is foreseen.

Figure 1.5.1
The Interest Rate on Unindexed Shekel Consumer Credit During the Crisis (percent)



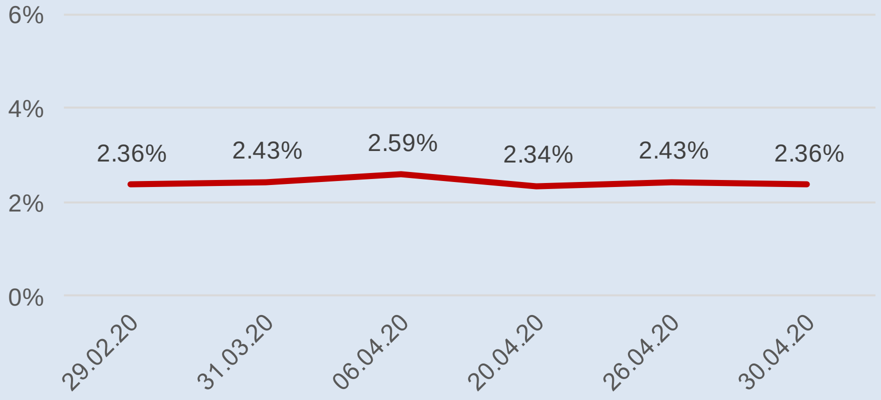
SOURCE: Based on reports pursuant to the requirements of the designated management approach to the crisis, which are sent to the Banking Supervision Department.

Figure 1.5.2
The Interest Rate on Unindexed Shekel Small-Business Credit During the Crisis (percent)



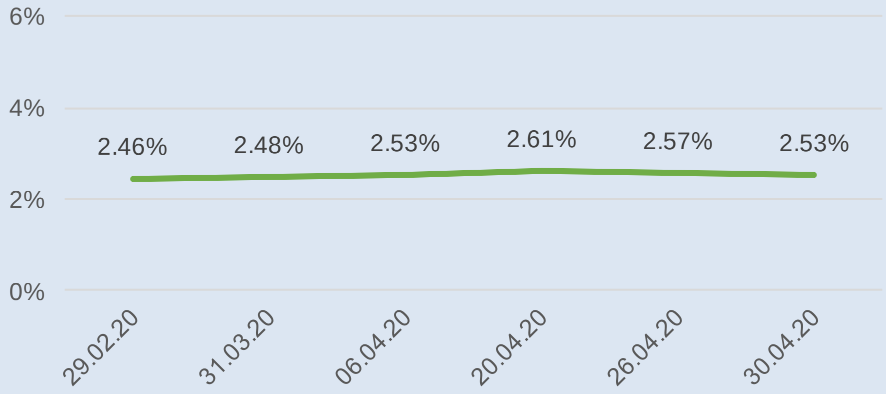
SOURCE: Based on reports pursuant to the requirements of the designated management approach to the crisis, which are sent to the Banking Supervision Department.

Figure 1.5.3
The Interest Rate on Unindexed Shekel Business and Commercial Credit During the Crisis (percent)



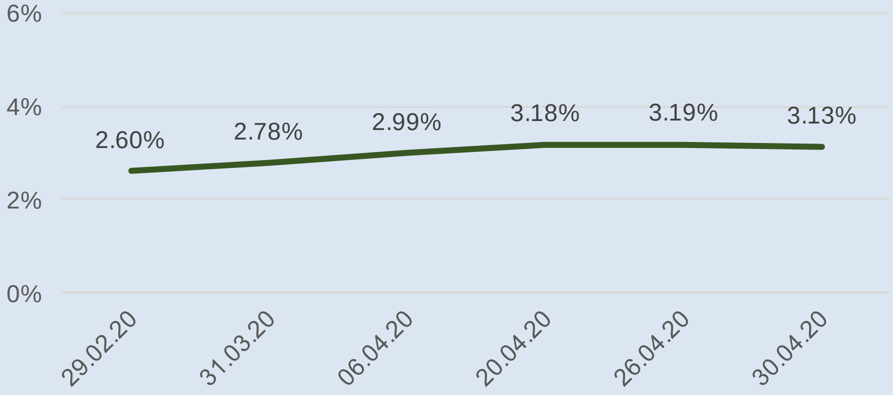
SOURCE: Based on reports pursuant to the requirements of the designated management approach to the crisis, which are sent to the Banking Supervision Department.

Figure 1.5.4
The Interest Rate on Unindexed Shekel Housing Credit During the Crisis (percent)



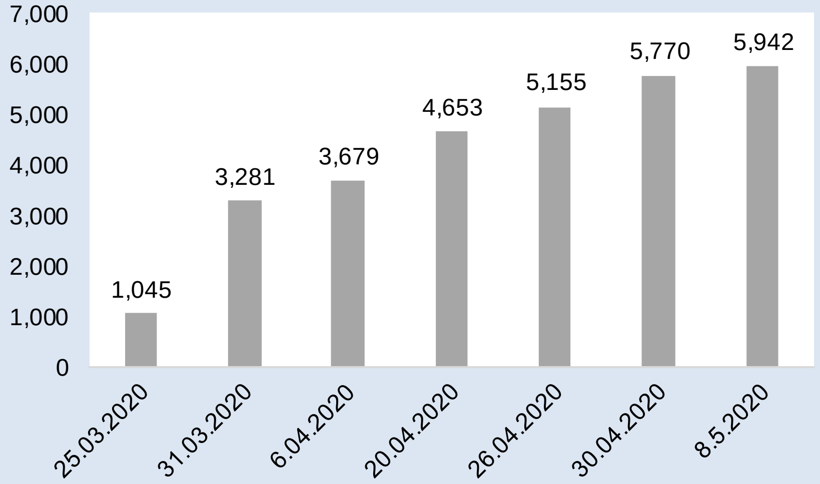
SOURCE: Based on reports pursuant to the requirements of the designated management approach to the crisis, which are sent to the Banking Supervision Department.

Figure 1.5.5
The Interest Rate on Indexed Shekel Housing Credit During the Crisis
(percent)



SOURCE: Based on reports pursuant to the requirements of the designated management approach to the crisis, which are sent to the Banking Supervision Department.

Figure 1.5.6
Volume of Loan Payments Actually Deferred (NIS million)



SOURCE: Based on reports pursuant to the requirements of the designated management approach to the crisis, which are sent to the Banking Supervision Department.

Deferral of payback (due to the coronavirus crisis)

- In March–April 2020, the banking system approved some 450,000 requests for deferral of loan payback in the total sum of NIS 5.2 billion. The outstanding credit on account of which the requests were made was NIS 138 billion, 13 percent of the banking system's total credit portfolio.
- Most requests for payback deferral related to consumer credit (46 percent), housing credit (29 percent), and small-business credit (24 percent).
- At the beginning of the crisis, most banks adopted a policy of allowing payback of consumer-credit, housing, and small-business loans to be deferred for all customers who had been servicing their loans properly on the eve of the crisis and were expected to weather the crisis.
- On May 7, 2020, the Banking Supervision Department announced a comprehensive standard framework for payback deferral in order to continue helping bank customers to cope with the repercussions of the crisis. The framework, adopted by the banking system, resembles those introduced in other advanced economies.

	Consumer		**Small business**	**Commercial**	**Total**
No. of deferral requests approved from March onward	221,479		111,025	5,309	472,149
Distribution of deferral requests	47%		24%	1%	100%
Outstanding credit for which payback was deferred (NIS million)	10,979		20,159	19,533	141,580
Share of total credit portfolio	7.3%		19.2%	4.8%	13.3%
Total payback actually deferred (NIS million)	875		2,178	1,077	5,942
Share of deferred payback in total credit	8.0%		10.8%	5.5%	4.2%

Box 1.6
The Coronavirus Crisis—Its Effect on the First-Quarter Business Results of Foreign Banks

A review of recent media releases by several leading US and European banks indicates the following:

- **All the reporting banks recorded a sharp increase in loan-loss allowances and expenses in the first quarter of 2020 due to the expected effects of the coronavirus crisis.**
- **They also recorded a significant decrease in their regulatory capital ratios for several crisis-related reasons.**

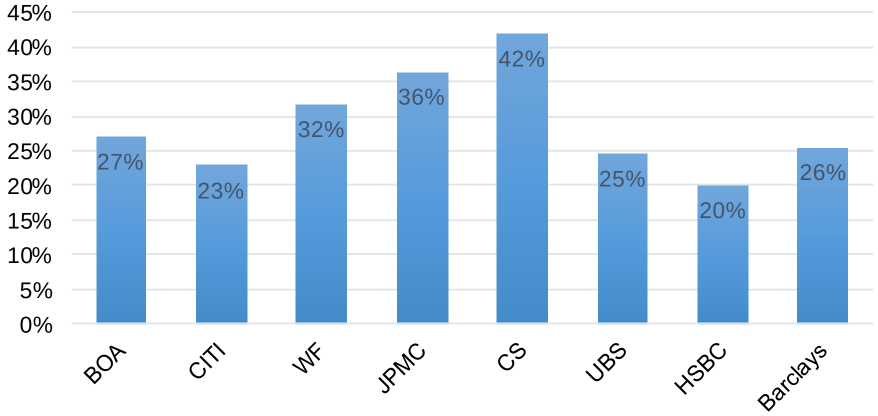
The review below relates to selected presentations from foreign banks' financial statements for the first quarter of 2020. The analysis shows the effect of the implications of the coronavirus crisis on the financial situation and business results of banks around the world, focusing on trends in credit losses, profitability, and regulatory capital ratios.

We emphasize that as of the time of writing this review, many banks have not yet released their full financial results, and the review therefore focuses on releases of eight leading banks in the US, the UK, and Switzerland[123] (hereinafter: the eight banks) that released data from their statements before other banks.

The outstanding loan-loss allowances of the eight banks increased in the first quarter by 28 percent on average relative to the beginning of 2020, with relatively small variance among the banks (in the 20–42 percent range). The increase in allowances is due to results from expectations of all of the surveyed banks of a significant increase in loan losses in the near and middle terms as a result of a recession associated with a significant upturn in unemployment rates, significant damage to business, and contraction of Gross Domestic Product due to the effects of the coronavirus crisis.

It is stated for clarity that since the rules for calculating the allowances are not identical[124], the rate of change of outstanding loan-loss allowances is the better indicator for the impact of the crisis on the various banks.

Figure 1.6.1
Increase in Loan Loss Allowances, Selected Global Banks, 2020:Q1
(percent)



SOURCE: Based on published financial statements.

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[123] The review is based on press releases issued in April 2020 by the four largest American banks (J.P. Morgan Chase, Citigroup, Bank of America, Wells Fargo), two large British banks (HSBC, Barclays), and the two largest banks in Switzerland (Credit Suisse, UBS)

[124] The loan-loss allowance data for the American banks (and for Credit Suisse, which applies the US generally accepted accounting principles (GAAP) are neutralized for the effects of first implementation, starting on January 1, 2020, of the new US Current Expected Credit Losses (CECL) principles. Among the other European banks, loan-loss allowances are measured under the new European GAAP concerning expected loan-loss allowances that became effective on January 1, 2018 (IFRS-9). Allowances are also affected by each bank's credit mix and business environment.

Increase in outstanding loan-loss allowances, eight surveyed banks

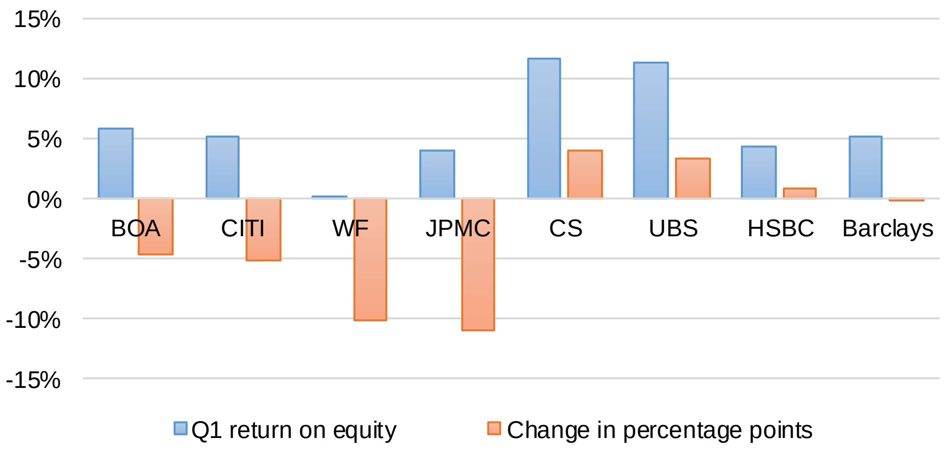
	Total		Thereof: US		Thereof: Europe	
($ million)[125]	**31.3.20**	**1.1.20**	**31.3.20**	**1.1.20**	**31.3.20**	**1.1.20**
Loan-loss allowance	101,920	79,600	77,193	59,661	24,727	19,939
Rate of change	28%		29%		24%	

Profitability

Due to the expected impact of the coronavirus crisis, the first-quarter 2020 earnings of all eight banks show a sharp increase in loan-loss expenses compared with the average quarterly expense in 2019. The average increase in expense was 374 percent, again without major variance among the eight banks. Accordingly, the annualized average ratio of loan-loss expense to outstanding credit increased from 0.5 percent in 2019 to 2.1 percent in the first quarter of 2020.

Thus, as one would expect, the US banks sustained a perceptible decline in pre-tax earnings and return on equity (the decrease in ROE was 4.7–11.0 percentage points; see Figure 2). The European banks' results, in contrast, were affected by exceptional events in such a way that their profitability indicators actually improved despite the significant effect of the coronavirus crisis on the first-quarter results. This was due mainly to expense on legal proceedings and on structural changes, significant impairments of goodwill recorded in 2019, and the effect of a change in tax rates on banks in Switzerland in 2020.

Figure 1.6.2
Return on Equity, Selected Global Banks, 2020:Q1 (percent)



SOURCE: Based on published financial statements.

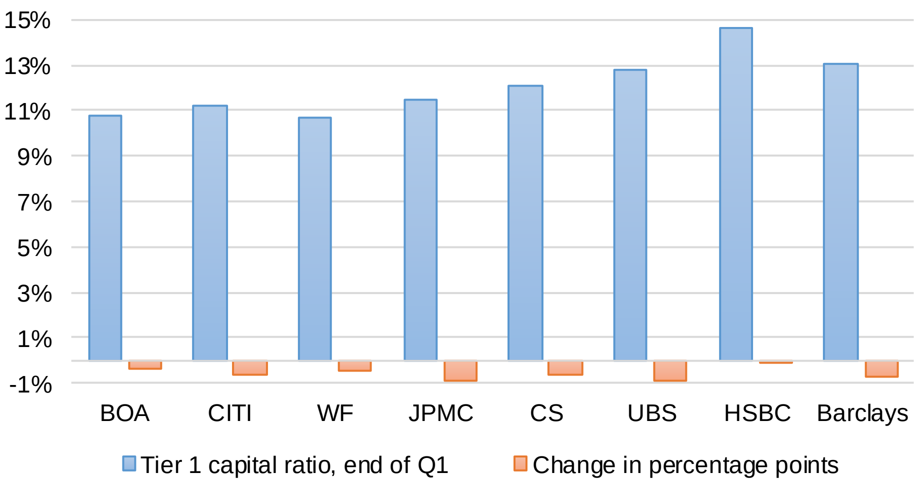
[125] The European banks' data were converted into USD at the April 30, 2020 exchange rate.

Main profitability indicators, the eight surveyed banks

	Total		Thereof: US		Thereof: Europe	
	Q1	Avg. qtr.	Q1	Avg. qtr.	Q1	Avg. qtr.
($ million)	**2020**	**2019**	**2020**	**2019**	**2020**	**2019**
Loan-loss expense	30,593	6,457	24,033	5,061	6,560	1,396
Rate of change	374%		375%		370%	
Ratio of expense to credit	2.1%	0.5%	2.6%	0.6%	1.2%	0.3%
Pre-tax profit	19,138	37,697	11,421	30,310	7.717	7.386
Rate of change	-49%		-62%		4.5%	
ROE (annual)	5.95%	8.83%	3.78%	11.54%	8.13%	6.13%
Change in pct. points	-2.9%		-7.8%		2.0%	

Capital adequacy—The eight banks' average Tier 1 equity ratio was 12.1 percent at the end of the first quarter, 0.6 percentage points down from the previous quarter. All eight banks reported a decline, within a range of 0.1–0.9 percentage points. The downturn in capital adequacy was due to a major increase in outstanding credit to the public during the quarter, an upturn in market-risk assets (as market volatility exacerbated market risk), and a decrease in Tier 1 capital due to distribution of dividends and share buybacks, mainly before the crisis began.

Figure 1.6.3
Tier 1 Capital Ratio, Selected Global Banks, 2020:Q1 (percent)



SOURCE: Based on published financial statements.

Tier 1 equity ratios, the eight surveyed banks

	Total		**Thereof: US**		**Thereof: Europe**	
	31.3.20	**31.12.19**	**31.3.20**	**31.12.19**	**31.3.20**	**31.12.19**
Tier 1 equity ratio[126]	12.10%	12.68%	11.05%	11.64%	13.15%	13.73%
Change in pct. points	-0.6%		-0.6%		-0.6%	

As noted, several banks predicted in their media releases that they expect their capital ratios to continue to decline in the coming quarters due to their intention to continue issuing credit and the acute uncertainty that surrounds the duration and severity of the crisis, which projects onto the extent of credit losses and the possibility that they will grow.

[126] The US banks' effective equity ratios are calculated using the standardized approach.Those of the European banks are computed under advanced approaches.

Box 1.7
A Comprehensive Framework for Deferring Loan Payments

- With the outbreak of the coronavirus pandemic, many households and business owners have encountered economic difficulties, which are reflected in, among other things, a marked decline in income that leads to difficulty in repaying loans that they took out prior to the pandemic.
- Several days after the scope of the pandemic and its effects became clear, and in the interest of assisting households and businesses in dealing with the drastic change imposed on them, the banking system began to permit the deferral of loan repayments, with the Banking Supervision Department's encouragement, among things by clarifications and accounting leniencies.
- From the beginning of the crisis through the end of April, the banks deferred loans for approximately 470,000 customers in all activity segments, at a total amount of NIS 5.9 billion, which are unprecedented scopes.
- In order to continue to assist bank customers to get through the crisis, while managing risks conscientiously and responsibly, and in order to create certainty for the public regarding the possibility of deferring payments, **a uniform framework for deferring payments was formulated and adopted by all the banks.**

Global experience indicates that in advanced economies that are comparable to Israel (in terms of credit rating), such as Belgium, France, Canada, New Zealand, Australia, the UK, Singapore, Ireland, and the Netherlands, deferring of payments was not adopted across the board for all the credit sectors in the economy but was adjusted in each country for its needs and economic status. In addition, the initiatives for deferring payments, in all those countries were adopted as a voluntary framework vis-à-vis the credit providers, similar to the framework formulated in Israel and presented below.

There are 2 types of assistance required for those negatively impacted by the crisis: households and businesses that just before the crisis were meeting their loan repayments and for whom the negative impact on their income is expected to be short term, can get through the crisis by **cash flow assistance in the form of credit or the deferral of loan repayments.**

To the extent that the negative impact on income is long term, or that the business is at high risk and there is a doubt regarding its ability to meet the loan repayments for a long time, there is no place to increase the credit, and **the assistance can be given only in the form of budget assistance by the government, or by credit provided with large government guarantees.** This is particularly the case in high risk industries and in industries that were severely impacted by the crisis.

As such, and in order to assist bank customers who require cash flow assistance in order to get through the crisis, and after studying the global experience in this area, a uniform framework for deferring loan repayments was formulated, which is expected to assist with cash flow difficulties of households and small businesses affected by the coronavirus crisis (and as a complement to tools the government has provided and is expected to provide).

The framework refers to the deferral of loan repayments in 3 activity segments (mortgages, consumer credit, and business credit), and it enables households and small business owners to defer their loan payments in the following manner, and as detailed in Table 1 below:

✓ <u>Mortgages:</u> The deferral is for a period of 6 months, without a limitation on the amount of the loan balance.

- ✓ <u>Consumer loans:</u> The deferral is for a period of 3 months for loans with an outstanding balance of up to NIS 100,000. In addition, there is an option (in accordance with the bank's judgment) for an additional 3-month deferral for those loans.
- ✓ <u>Loans to small businesses:</u> The loan deferral is granted unrelated to the amount of the loan balance, for a period of up to 6 months, in accordance with the bank's judgment.
- ✓ <u>Fees:</u> No fees will be charged in respect of the loan repayment deferrals.
- ✓ <u>Interest rate:</u> The deferred payments will bear an interest rate that does not exceed the interest rate in the loan contract. It is important to emphasize that deferring the repayment of the loan is like taking out a new loan, at the amount of the deferred balance.
- ✓ <u>Manner of spreading out the loan payments:</u> For mortgages, the payments will be spread over the entire remaining period of the loan, and in consumer credit and business credit, in general, the payments will be deferred until the end of the loan period.
- ✓ <u>Period for submitting a deferral request:</u> A request to defer loan repayments may be submitted to a bank in accordance with this framework until July 31, 2020.

It should be clarified that the framework that was formulated presents the **minimum terms** for deferring loan repayments, and each bank may expand it for its customers' benefit and at their request.

It is emphasized that deferring the loan repayments involves interest over the period of the deferral. Thus, prior to deciding on a loan repayment deferral, it is important that the customer examines the ramifications of the deferral, including the economic cost of the deferral (from the aspects of the interest charged, the amount of the monthly charge after the deferral, etc.) in order to make an informed decision.

Table 1: The framework for deferring loan repayments

	Customer group	**Deferral period**	**Maximum interest rate**	**How payments are spread out**
Mortgages	*All borrowers**	*6 months*	*The contracted interest rate*	*Distributed over the loan period*
Consumer credit up to NIS 100,000**	A borrower without arrears, as of February 28, 2020	3 months. In addition, an option for extension of 6 months, in line with the bank's judgment	The contracted interest rate	Payments added at the end of the loan period***
Business credit	A business with annual turnover of up to NIS 25 million, which was negatively impacted by the crisis. The business's loans have been repaid regularly up to Feb. 28, 2020, during the year preceding this date, and it is expected that it will get through the crisis and be able to meet the loan repayment after the crisis.	Up to 6 months, in line with the bank's judgment	The contracted interest rate	Payments added at the end of the loan period***
The deferral will not incur a fee.				

Clarifications:
In Israel, the framework that was adopted refers to 3 groups of customers/3 types of credit—consumer, mortgages, and small businesses, while around the world some of the arrangements that were formulated only referred to 1 group. In addition, around the world different covenants were set for each type of deferral (as presented in the international comparison table below).

*A customer who was in arrears before February 28, 2020, will be able to defer up to a period that does not exceed 180 days from the day the arrears began.
*Not including a borrower who is in a legal proceeding.
**Not including loans in commercial collaboration with a third party.
***The manner of spreading out the loan is subject to technical limitations derived from the bank's computer system. Should it be necessary, alternative solutions for the distribution mechanism will be suggested.

Data on deferrals made in March–April in the banking system in Israel
Several days after the scope of the pandemic and its effects became clear, and in the interest of assisting households and businesses in dealing with the drastic change imposed on them, which incorporates dramatic economic ramifications, the Bank of Israel, similar to central banks worldwide, adopted accounting rules that enable the banks to spread out or to defer loans without those loans being classified as problematic debt. As such, since the outbreak of the crisis the banking system has deferred loan repayments at unprecedented scopes in all the activity segments, as detailed below:

In March–April 2020, the banking system **approved 472,149 requests** that were submitted for loan deferrals, **at a total amount of NIS 5.9 billion.** The credit balance for which the deferral was requested is NIS 135 billion, which makes up 12.8 percent of the total credit portfolio of the banking system.

To carry out the numerous deferrals in such a short period of time, the banks prepared, even at the height of the coronavirus crisis and with the labor force limitations that derived from it, to provide a rapid response to the hundreds of thousands of customers who contacted them to request a deferral. Thus, for example, in the mortgages segment, the banks deferred payments on loans representing 21.6 percent of the total mortgage portfolio.

Credit repayment deferrals in March–April 2020 (NIS billion)

	Consumer	**Housing**	**Small business**	**Business Commercial**	**Total**
Number of customers for whom there was a payment deferral	221,479	134,336	111,025	5,309	**472,149**
Balance of payments actually deferred	0.9	1.8	2.2	1.1	5.9
Balance of credit in respect of which the payments were deferred	10.3	87.0	19.0	18.9	135.2
Share of total credit portfolio	7.3%	22.7%	19.2%	4.8%	**13.3%**

International comparison—Steps taken in various countries worldwide:
In many countries, various plans for deferring credit repayments have been carried out as part of the broad plans to support the economy as a result of the coronavirus crisis.
These steps are complementary steps to the providing of government guarantees to credit suppliers for the benefit of providing new credit, primarily to small and medium enterprises, and additional monetary steps, the goal of which is to support economic activity and to provide credit. The various types of plans in different countries are differentiated by the type of mechanism and the criteria and threshold conditions that grant eligibility to participation in the program.

In advanced economies that are comparable to Israel, in terms of credit rating, such as Belgium, France, Canada, New Zealand, Australia, the UK, Singapore, Ireland, and the Netherlands, the initiatives for deferring payments were adopted as a voluntary framework vis-à-vis the credit providers. Most of the countries that adopted a process of legislation for deferring payments are developing economies with a credit rating lower than Israel's. Note that in advanced economies in which there was such legislation, it was designated mainly for government plans for credit, such as in the US (mortgages secured by the government) or Canada (student loan plans).

While the said framework that was adopted in Israel by the banking system refers to 3 activity segments and includes minimum thresholds, in most of the plans around the world, various covenants were established, which limit the borrower groups eligible for payment deferrals (as detailed by country in Table 2). For example:

- Businesses whose activities were limited, and workers who have been laid off or placed on unpaid leave
- Borrowers who repaid their loans on a regular basis until the beginning of the crisis and not to borrowers who were facing difficulties before that.
- The borrower's available financial assets do not exceed a certain limit.
- The borrower's income was considerably negatively impacted

Table 2

Type of credit and length of period of deferral					**Covenants limiting the group of borrowers eligible for the deferral of the payment**		
Country	**Housing loans**	**Consumer credit**	**Small & medium business**	**Length of deferral period**	**Contingent on adverse impact on borrower's income**	**Contingent on regular repayment of loans prior to the crisis**	**Additional covenants**
Israel	**V**	**V**	**V**	**Up to 6 months**	**Only for business**	**Only for business**	**A company with annual turnover of NIS 25 million**

UK[127]	V			3 months	V	V	The request can be denied assuming the deferral doesn't serve the customer's best interest
Italy[128]			V	Until Sept. 30, 2020	V	V	There are gov't guarantees of 33% for 18 months after the end of the deferral
Belgium[129]	V		V	Up to 6 months	V	V	Housing loans- borrower's total financial assets must be less than €25,000. The home for which they request the deferral is their only home.
Australia[130]			V	Up to 6 months	V	V	Total debts of the firm must be less than $10 million to all credit providers.

127 https://www.gov.uk/government/news/payment-holidays-offered-to-help-to-buy-homeowners-affected-by-covid-19, https://www.fca.org.uk/firms/mortgages-coronavirus-guidance-firms

128 https://ec.europa.eu/commission/presscorner/detail/en/IP_20_530, http://www.mef.gov.it/en/inevidenza/Protect-health-support-the-economy-preserve-employment-levels-and-incomes-00001/

129 https://www.nbb.be/en/financial-oversight/prudential-supervision/areas-responsibility/credit-institutions/qas-moratorium

130 https://www.ausbanking.org.au/covid-19/the-business-relief-package/

New Zealand[131]	V		V	Up to 6 months	V		
Singapore[132]	V	V	V	Until the end of 2020	V	V	Adverse impact on consumer credit income. Businesses – only fully secured loans.
Lithuania[133]	V	V	V	6 months	V	V	
Spain[134]	V		V	3 months	V		Limited to requests in which the family unit's income is lower than the law's threshold
US[135]			V	6 months	V	V	Only gov't-guaranteed loans
Canada[136]	V	V		6 months	Bank's judgment	Bank's judgment	Consumer – student loans – deferral for all
Germany[137]		V	V	3 months with option	V		Businesses – intended only for micro companies

131 https://www.nzba.org.nz/consumer-information/covid-19/banking-industry-response-to-covid-19/

132 https://www.mas.gov.sg/-/media/MAS/News/Media-Releases/2020/Annex-on-MAS-and-Financial-Industry-Support-Measures-31-Mar.pdf

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				to extend			
Netherlands[138]	V		V	Up to 6 months	Bank's judgment	Bank's judgment	Total debts of the company must be less than €2.5 million to all credit providers
Portugal[139]	V		V	Up to Sept. 30, 2020	V	V	Borrower must not have debts to tax authority and to social security
Ireland[140]	V	V	V	Up to 6 months	V		
Netherlands[141]			V	Up to 6 months	V	Bank's judgment	
France[142]			V	Up to 6 months	Bank's judgment	Bank's judgment	

[138] https://www.nvb.nl/english/corona-banks-offer-smes-extra-breathing-space-six-months-postponement-of-repayments/

[139] https://www.bportugal.pt/sites/default/files/decree_law_no_10_j_2020_en.pdf, https://www.bportugal.pt/en/comunicado/covid-19-moratorium-credit-agreements-bank-customers-entered-force

[140] https://www.bpfi.ie/news/banks-set-joint-plan-support-businesses-personal-customers-impacted-covid-19-pandemic/, https://www.bpfi.ie/key-topics/banking-payments-industry-covid-19-support-faqs/

[141] https://www.nvb.nl/english/corona-banks-offer-smes-extra-breathing-space-six-months-postponement-of-repayments/

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Table 1.1

Principle banking system indices, December 2001 to December 2019

	Ratio of market value to book value[a] (MV/BV)	Average yield spread between bonds of the banks and government bonds[b]	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 (percent)[e,f]	Ratio of liquid assets[g] to short term liabilities[f,h]	Liquidity coverage ratio[d,g] (percent)	Ratio of credit[h] to deposits	Common Equity Tier 1 capital ratio[i] (percent)	Equity to total assets[f] (percent)	Leverage ratio[d,j] (percent)	ROE[d] (percent)
2001	0.91	0.7	109.4	-	0.84	-		0.81		4.9		5.6
2002	0.56	0.8	104.6	-1.13	1.32	0.42		0.83		4.9		2.5
2003	0.85	0.7	102.8	-1.74	1.12	0.41		0.82		5.3		8.3
2004	1.06	0.7	98.5	0.11	0.92	0.41		0.80		5.5		12.4
2005	1.45	0.7	99.7	6.69	0.69	0.42		0.82		5.4		14.5
2006	1.33	0.6	94.6	2.04	0.52	0.38		0.80		5.9		17.3
2007	1.21	0.9	94.8	7.72	0.28	0.29		0.85		6.1		15.6
2008	0.56	2.0	98.9	10.32	0.72	0.27		0.90		5.7		0.3
2009	1.11	1.6	93.0	-1.36	0.75	0.38		0.86	7.9[k]	6.3		8.8
2010	1.06	1.0	92.7	7.17	0.41	0.32		0.91	8.2	6.7		9.8
2011	0.69	1.3	89.6	3.71	0.39	0.37		0.89	8.0	6.2		10.2
2012	0.78	1.1	86.4	2.11	0.40	0.39		0.87	8.7	6.6		7.9
2013	0.84	0.8	82.0	1.07	0.25	0.37		0.86	8.9	6.6		8.8
2014	0.72	0.8	80.7	3.16	0.16	0.36		0.84	9.4[l]	6.7		7.3
2015	0.74	0.9	80.0	4.37	0.11	0.39	111	0.82	9.3	6.9	6.4[l]	9.1
2016	0.83	0.0	78.1	2.61	0.10	0.44	135	0.80	9.6	6.9	6.6	8.3
2017	0.95	0.8	77.9	3.54	0.14	0.42	125	0.80	10.7	7.2	25.3	8.8
2018	0.91	0.9	79.1	6.27	0.22	0.38	128	0.83	10.9	7.4	32.6	8.5
2019	1.07	0.6	78.0	4.32	0.29	0.38	-	0.83	10.8	7.4	33.2	8.3

[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 in relation to gross credit.

[d] Measured in relation to the five banking groups. Where not noted, the figure is 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] Calculated on a consolidated basis, and based on end-of-period balances.

[g] Liquid assets include total government bonds, cash, and deposits with the Bank of Israel and with banks, with an original maturity date of up to three months.

[h] Short-term liabilities include total deposits with an original maturity date of up to three months.

[i] Calculated in relation to net credit.

[j] 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.

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

[l] Calculated in accordance with Basel II principles.

[m] Calculated in accordance with Basel III principles as per the transition directives.

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

Table 1.2

Structure of the banking system, December 2019[a]

Bank	Balance-sheet data						Direct holdings[b]			Size data	
	Share of total banking system assets	Share of total bank credit	Total assets	Credit to the public	Total deposits	Equity	Holdings by parties at interest[c]	Institutional holdings[d]	Public holdings	Number of branches[e]	Number of employee posts[f]
	(Percent)		(NIS million)				(Percent)				
Leumi[g]	27.9	25.9	469,134	285,806	373,644	35,874	0	17	83	214	9,719
Hapoalim	27.5	27.0	463,688	297,647	361,645	38,221	16	13	72	219	9,278
Discount	15.4	16.6	259,823	182,991	201,450	19,193	0	26	74	186	8,542
Mizrahi-Tefahot	16.2	18.7	273,244	206,401	210,984	16,805	44	0	56	201	6,373
First International	8.4	8.1	141,110	88,829	120,052	8,924	48	10	41	151	4,150
Total for the five banking groups	**95.5**	**96.3**	**1,606,999**	**1,061,674**	**1,267,775**	**119,017**				**971**	**38,062**
Union Bank of Israel	2.5	2.4	42,467	26,119	31,668	2,638	75	0	25	35	1,153
Bank of Jerusalem	0.8	1.0	14,298	10,731	10,888	962	87	0	13	20	578
Total for the independent banks	**3.4**	**3.3**	**56,765**	**36,850**	**42,556**	**3,600**				**55**	**1,731**
Total for foreign bank branches[f]	**1.2**	**0.4**	**19,487**	**4,160**	**17,274**					**6**	
Total for banking system	**100**	**100**	**1,683,251**	**1,102,684**	**1,327,604**	**122,617**				**1,032**	**39,793**

[a] Financial data for the five banking groups are presented on a consolidated basis, and the numbers of branches and of employee posts include all banks belonging to the group.
[b] As of April 2020
[c] A "party at interest" is defined as someone holding five percent or more of the issued share capital of a corporation or of voting rights in the corporation. In addition, the reporting on holdings of parties at interest includes the holdings of the CEO and of Directors.
[d] Institutional investors' holdings above 5 percent of the issued share capital of the corporation, or based on voting rights. An institutional investor as defined in Regulation 33(i) of the Securities Regulations (Periodic and
[e] The number of branches includes activities abroad, performance units, and extensions of parent branches.
[f] On a monthly average basis.
[g] Bank Leumi is the only banking group in the system where there is still a government holding (about 6 percent of the bank's capital).
[h] The balance-sheet data for Barclays Bank are not included in the calculation of aggregate values due to the nature of its activity.
SOURCE: Based on published financial statements, reports to the Banking Supervision Department, and reports to the Stock Exchange.

Table 1.3
Main items in consolidated profit and loss statements of the five banking groups, 2017–19
(NIS millon, at current prices)

	Leumi				Hapoalim				Discount			
	2017	2018	2019	% change in 2019 compared with 2018	2017	2018	2019	% change in 2019 compared with 2018	2017	2018	2019	% change in 2019 compared with 2018
Interest income	10,069	11,346	11,437	0.8	10,613	11,672	11,920	2.1	6,213	7,053	7,567	7.3
Interest expenses	2,023	2,456	2,596	5.7	2,189	2,766	2,601	-6.0	1,238	1,527	1,674	9.6
Net interest income	**8,046**	**8,890**	**8,841**	**-0.6**	**8,424**	**8,906**	**9,319**	**4.6**	**4,975**	**5,526**	**5,893**	**6.6**
Loan loss provisions	172	519	609	17.3	202	613	1,276	108.2	574	540	690	27.8
Net interest income after loan loss provisions	**7,874**	**8,371**	**8,232**	**-1.7**	**8,222**	**8,293**	**8,043**	**-3.0**	**4,401**	**4,986**	**5,203**	**4.4**
Noninterest income	**5,342**	**4,871**	**5,081**	**4.3**	**4,153**	**4,868**	**3,889**	**-20.1**	**3,358**	**3,494**	**3,771**	**7.9**
of which: Noninterest financing income	919	682	1,686	147.2	652	1,445	559	-61.3	595	586	742	26.6
of which: Stocks[a]	90	479	475	-0.8	185	403	297	-26.3	233	107	123	15.0
Bonds[b]	41	-35	339	-1068.6	126	180	225	25.0	139	108	158	46.3
Activity in derivative instruments[c]	-1,722	2,484	-1,112	-144.8	-951	2,324	-1,260	-154.2	-904	1,265	-846	-166.9
Exchange rate differentials	2,501	-2,246	1,969	-187.7	1,288	-1,518	1,288	-184.8	1,107	-900	1,300	-244.4
of which: Fees	4,052	4,121	3,225	-21.7	3,338	3,318	3,240	-2.4	2,676	2,851	2,972	4.2
Total operating and other expenses	**8,415**	**8,337**	**7,908**	**-5.1**	**8,121**	**8,960**	**8,776**	**-2.1**	**5,694**	**6,148**	**6,299**	**2.5**
of which: salaries and related expenses	4,591	4,544	4,325	-4.8	4,209	4,097	4,018	-1.9	3,204	3,385	3,343	-1.2
Pre-tax profit	**4,801**	**4,905**	**5,405**	**10.2**	**4,254**	**4,201**	**3,156**	**-24.9**	**2,065**	**2,332**	**2,675**	**14.7**
Provision for tax on profits	1,692	1,619	1,830	13.0	1,959	2,009	1,681	-16.3	747	789	932	18.1
After tax profit	**3,109**	**3,286**	**3,575**	**8.8**	**2,295**	**2,192**	**1,475**	**-32.7**	**1,318**	**1,543**	**1,743**	**13.0**
Net profit attributed to shareholders	**3,172**	**3,257**	**3,522**	**8.1**	**2,660**	**2,595**	**1,799**	**-30.7**	**1,259**	**1,505**	**1,702**	**13.1**
Total pre-tax ROE (percent)	**14.83**	**14.31**	**15.02**		**11.99**	**11.44**	**8.10**		**13.78**	**14.41**	**14.77**	
Total after-tax ROE (percent)	**9.80**	**9.50**	**9.79**		**7.50**	**7.06**	**4.62**		**8.40**	**9.30**	**9.40**	
Total ROA (percent)	**0.71**	**0.71**	**0.76**		**0.59**	**0.57**	**0.39**		**0.57**	**0.65**	**0.68**	

Table 1.3 (cont'd.)
Main items in consolidated profit and loss statements of the five banking groups, 2016–18
(NIS millon, at current prices)

	Mizrahi-Tefahot				First International				Total for the five groups			
	2017	2018	2019	% change in 2019 compared with 2018	2017	2018	2019	% change in 2019 compared with 2018	2017	2018	2019	% change in 2019 compared with 2018
Interest income	6,222	7,359	7,711	4.8	2,704	3,001	3,085	2.8	35,821	40,431	41,720	3.2
Interest expenses	1,875	2,437	2,371	-2.7	402	515	483	-6.2	7,727	9,701	9,725	0.2
Net interest income	**4,347**	**4,922**	**5,340**	**8.5**	**2,302**	**2,486**	**2,602**	**4.7**	**28,094**	**30,730**	**31,995**	**4.1**
Loan loss provisions	192	310	364	17.4	121	166	138	-16.9	1,261	2,148	3,077	43.2
Net interest income after loan loss provisions	**4,155**	**4,612**	**4,976**	**7.9**	**2,181**	**2,320**	**2,464**	**6.2**	**26,833**	**28,582**	**28,918**	**1.2**
Noninterest income	**1,653**	**1,967**	**1,966**	**-0.1**	**1,450**	**1,637**	**1,520**	**-7.1**	**15,956**	**16,837**	**16,227**	**-3.6**
of which: Noninterest financing income	136	445	357	-19.8	83	231	225	-2.6	2,385	3,389	3,569	5.3
of which: Stocks[a]	12	17	58	241.2	11	79	71	-10.1	531	1,085	1,024	-5.6
Bonds[b]	43	7	46	557.1	19	9	12	33.3	368	269	780	190.0
Activity in derivative instruments[c]	-1,119	1,502	-1,014	-167.5	-520	582	-419	-172.0	-5,216	8,157	-4,651	-
Exchange rate differentials	1,196	-1,081	1,267	-217.2	573	-439	561	-227.8	6,665	-6,184	6,385	-
of which: Fees	1,423	1,475	1,535	4.1	1,305	1,325	1,286	-2.9	12,794	13,090	12,258	-6.4
Total operating and other expenses	**3,611**	**4,384**	**3,988**	**-9.0**	**2,607**	**2,819**	**2,654**	**-5.9**	**28,448**	**30,648**	**29,625**	**-3.3**
of which: salaries and related expenses	2,271	2,407	2,562	6.4	1,579	1,696	1,601	-5.6	15,854	16,129	15,849	-1.7
Pre-tax profit	**2,197**	**2,195**	**2,954**	**34.6**	**1,024**	**1,138**	**1,330**	**16.9**	**14,341**	**14,771**	**15,520**	**5.1**
Income tax provision	806	922	1,029	11.6	358	408	478	17.2	5,562	5,747	5,950	3.5
After tax profit	**1,391**	**1,273**	**1,925**	**51.2**	**666**	**730**	**852**	**16.7**	**8,779**	**9,024**	**9,570**	**6.1**
Net income attributed to shareholders	**1,347**	**1,206**	**1,842**	**52.7**	**678**	**733**	**865**	**18.0**	**9,116**	**9,296**	**9,730**	**4.7**
Total pre-tax ROE (percent)	**16.64**	**15.47**	**19.08**		**13.74**	**14.44**	**16.14**		**13.86**	**13.52**	**13.29**	
Total after-tax ROE (percent)	**10.20**	**8.50**	**11.90**		**9.10**	**9.30**	**10.50**		**8.81**	**8.51**	**8.33**	
Total ROA (percent)	**0.57**	**0.48**	**0.69**		**0.51**	**0.54**	**0.63**		**0.61**	**0.61**	**0.62**	

[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 1.4

The effect of quantity[a] and price[b] on interest income and expenses, the five banking groups, 2019 compared with 2018 (NIS million)

	Quantity effect			Price effect			Net change		
2019	Assets side	Liabilities side	Net quantity effect	Assets side	Liabilities side	Net price effect	Assets side	Liabilities side	Contribution to net interest income
Credit to the public (assets) / deposits of the public (liablities) in Israel	1,479	222	1,257	-1,492	280	-1,772	-13	502	-515
Credit to the public (assets) / deposits of the public (liabilities) abroad	132	58	74	87	199	-112	219	257	-38
Total credit to the public / deposits of the public	**1,611**	**280**	**1,331**	**-1,405**	**479**	**-1,884**	**206**	**759**	**-553**
Other interest-bearing assets / liabilities in Israel	67	75	-8	735	-727	1,462	802	-652	1,454
Other interest-bearing assets / liabilities abroad	-35	-26	-9	77	-58	135	42	-84	126
Total other interest-bearing assets / liabilities	**32**	**49**	**-17**	**812**	**-785**	**1,597**	**844**	**-736**	**1,580**
Total interest income / expenses	**1,643**	**329**	**1,314**	**-593**	**-306**	**-287**	**1,050**	**23**	**1,027**

	Quantity effect			Price effect			Net change		
2018	Assets side	Liabilities side	Net quantity effect	Assets side	Liabilities side	Net price effect	Assets side	Liabilities side	Contribution to net interest income
Credit to the public (assets) / deposits of the public (liablities) in Israel	1,842	125	1,717	1,469	1,285	184	3,311	1,410	1,901
Credit to the public (assets) / deposits of the public (liabilities) abroad	65	-38	103	509	428	81	574	390	184
Total credit to the public / deposits of the public	**1,907**	**87**	**1,820**	**1,978**	**1,713**	**265**	**3,885**	**1,800**	**2,085**
Other interest-bearing assets / liabilities in Israel	16	-101	117	647	345	302	663	244	419
Other interest-bearing assets / liabilities abroad	-221	-70	-151	324	2	322	103	-68	171
Total other interest-bearing assets / liabilities	**-205**	**-171**	**-34**	**971**	**347**	**624**	**766**	**176**	**590**
Total interest income / expenses	**1,702**	**-84**	**1,786**	**2,949**	**2,060**	**889**	**4,651**	**1,976**	**2,675**

[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 1.5

Average balances, interest income and expense rates, and interest rate gap in respect of assets and liabilities, the five banking groups, 2019 and 2018 (NIS million, percent)

2019								
Assets				Liabilities				
	Average yearly balance (NIS million)	Interest income	Income rate (%)		Average yearly balance (NIS million)	Interest expenses	Expense rate (%)	Interest rate gap
Credit to the public	995,541	37,269	3.74	Deposits of the public	856,313	-7,131	-0.83	2.91
Deposits at banks	23,372	384	1.64	Deposits from banks	15,808	-123	-0.78	0.86
Deposits at central banks	185,769	788	0.42	Deposits from central banks	405	-10	-2.47	-2.04
Bonds	198,527	3,109	1.57	Bonds	92,029	-2,408	-2.62	-1.05
Other assets[a]	12,401	248	2.00	Other liabilities[a]	3,795	-57	-1.50	0.50
Total interest-bearing assets	1,415,610	41,798	2.95	Total interest-bearing liabilities	968,350	-9,729	-1.00	1.95
Net yield on interest-bearing assets (net interest margin)[b]	1,415,610	32,069	2.27					

2018								
Assets				Liabilities				
	Average yearly balance (NIS million)	Interest income	Income rate (%)		Average yearly balance (NIS million)	Interest expenses	Expense rate (%)	Interest rate gap
Credit to the public	953,103	37,063	3.89	Deposits of the public	823,885	-6,372	-0.77	3.12
Deposits at banks	20,830	277	1.33	Deposits from banks	16,826	-119	-	1.33
Deposits at central banks	192,091	465	0.24	Deposits from central banks	423	-10	-2.36	-2.12
Bonds	190,430	2,724	1.43	Bonds	87,931	-3,069	-3.49	-2.06
Other assets[a]	11,244	219	1.95	Other liabilities[a]	4,965	-136	-2.74	-0.79
Total interest-bearing assets	1,367,698	40,748	2.98	Total interest-bearing liabilities	934,030	-9,706	-1.04	1.94
Net yield on interest-bearing assets (net interest margin)[b]	1,367,698	31,042	2.27					

[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 margin is shown in percent.

SOURCE: Banking Supervision Department based on published financial statements.

Table 1.6

Fees and other income, and operating expenses, the five banking groups, 2017–19

	Amounts			Distribution			Changes compared with	
	2017	2018	2019	2017	2018	2019	2018	2019
	(NIS million, at current prices)			(Percent)				
1. Fees and other income								
Income from banking services								
Account management fees	2,702	2,704	2,618	19.9	20.1	20.7	0.1	-3.2
Credit cards	2,738	2,975	2,329	20.2	22.1	18.4	8.7	-21.7
Credit services and contracts	619	636	654	4.6	4.7	5.2	2.7	2.8
Foreign trade activity and special services	359	353	344	2.6	2.6	2.7	-1.7	-2.5
Conversion differentials	1,079	1,144	1,144	8.0	8.5			
Net income from credit portfolio services	102	96	87	0.8	0.7			
Other fees[a]	366	358	341	2.7	2.7	2.7	-2.2	-4.7
Income from capital market activity								
From securities activity	2,402	2,334	2,259	17.7	17.4	17.8	-2.8	-3.2
Financial products[b] distribution fees	879	928	908	6.5	6.9	7.2	5.6	-2.2
Management, operational and trust fees for institutional investors	223	241	207	1.6	1.8	1.6	8.1	-14.1
Total income from capital market activity	3,504	3,503	3,374	25.8	26.0	26.7	0.0	-3.7
Fees from financing transactions	1,325	1,321	1,367	9.8	9.8	10.8	-0.3	3.5
Other income[c]	777	358	400	5.7	2.7	3.2	-53.9	11.7
Total fees and other income	**13,571**	**13,448**	**12,658**	100.0	100.0	**100.0**	**-0.9**	**-5.9**
2. Operating expenses								
Salaries and related expenses[d]	15,854	16,129	15,849	55.7	52.6	53.5	1.7	-1.7
Of which: Salaries	10,711	10,930	10,616	37.7	35.7	35.8	2.3	-3.8
Maintenance and depreciation of premises and equipment	5,177	5,107	5,076	18.2	16.7	17.1	-1.4	-0.6
Amortization and write-down of intangible assets and goodwill	94	91	92	0.3	0.3	0.3	-3.2	1.1
Other expenses	7,323	9,321	8,608	25.7	30.4	29.1	27.3	-7.6
Of which: Marketing and advertising	715	829	773	2.5	2.7	2.6	15.9	-6.8
Computer expenses	902	1,000	1,106	3.2	3.3	3.7	10.9	10.6
Communications	612	587	543	2.2	1.9	1.8	-4.3	-5.9
Insurance	90	73	75	0.3	0.2	0.3	-18.9	2.7
Office expenses	181	169	159	0.6	0.6	0.5	-6.2	-4.8
Professional services	949	1,447	1,331	3.3	4.7	4.5	52.5	-8.0
Total operating expenses	**28,448**	**30,648**	**29,625**	100.0	100.0	**100.0**	**7.7**	**-3.3**

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

b Within the framework of the Bachar reform, the banks began to charge a distribution fee. The distribution fee ceiling with regard to mutual funds is currently 0.2 percent of the assets in funds that focus on investments in government or low-risk bonds (Type 1 fund), 0.1 percent of assets in money market funds (Type 4 fund), and 0.35 percent of assets in other funds (Type 3 funds). The fee ceiling for provident funds and pension funds is 0.25 percent of assets in the 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 1.7

Unit output cost[a] and efficiency ratio[b] of the banking corporations in Israel[c], 2015–19

(percent)

	Year	Leumi	Hapoalim	Discount	Mizrahi-Tefahot	First International	**Five banking groups**	Union	Jerusalem	**Total banking system**
Unit output cost	2015	2.17	1.81	2.78	1.58	2.23	**2.07**	2.05	2.58	**2.06**
	2016	1.99	1.85	2.72	1.50	2.12	**1.99**	2.46	2.72	**2.01**
	2017	1.89	1.80	2.58	1.54	1.98	**1.92**	2.15	2.91	**1.93**
	2018	1.83	1.96	2.67	1.76	2.09	**2.01**	2.25	3.01	**2.02**
	2019	1.70	1.90	2.52	1.50	1.93	**1.88**	2.04	2.97	**2.02**
Efficiency ratio	2015	65.9	59.6	78.7	59.8	77.6	**66.4**	87.6	76.7	**67.0**
	2016	66.1	63.2	72.6	58.5	73.5	**66.1**	95.4	75.7	**66.9**
	2017	62.9	64.6	68.3	60.2	69.5	**64.6**	77.3	81.9	**65.1**
	2018	60.6	65.1	68.2	63.6	68.4	**64.4**	81.1	72.4	**64.9**
	2019	56.8	66.4	65.2	54.6	64.4	**61.4**	74.8	70.0	**61.8**

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

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

[c] Data for the Hapoalim group do not include the Isracard group. From 2019, data for the Lumi group do not include the Leumicard group.

SOURCE: Based on published financial statements.

Table 1.8

Expenses of the five banking groups in respect of employees[a], 2000–19

(Reported amounts[b], in current prices)

Year	Average number of employee posts[c]	Salaries: Total	Salaries: Per employee post	Related expenses in respect of employees[d]: Total	Related expenses in respect of employees[d]: Per employee post	Salaries and related expenses: Total	Salaries and related expenses: Per employee post
		(NIS million)	(NIS thousand)	(NIS million)	(NIS thousand)	(NIS million)	(NIS thousand)
2000	39,251	7,220	184	3,557	91	10,777	275
2001	39,753	7,231	182	3,560	90	10,791	271
2002	39,531	6,819	172	3,976	101	10,795	273
2003	38,427	7,260	189	3,566	93	10,826	282
2004	38,170	7,898	207	3,681	96	11,579	303
2005	40,029	8,595	215	4,283	107	12,878	322
2006	42,200	9,561	227	5,354	127	14,915	353
2007	44,286	9,798	221	4,718	107	14,516	328
2008	46,628	9,015	193	5,705	122	14,720	316
2009	47,097	9,640	205	4,378	93	14,018	298
2010	47,818	10,336	216	5,280	110	15,616	327
2011	48,344	10,717	222	5,814	120	16,531	342
2012	48,010	10,872	226	6,389	133	17,261	360
2013	47,577	11,336	238	6,363	134	17,699	372
2014	46,889	11,042	235	7,286	155	18,328	391
2015	45,714	11,506	252	5,941	130	17,447	382
2016	43,833	10,793	246	5,009	114	15,802	361
2017	41,219	10,787	262	5,067	123	15,854	385
2018	39,101	11,036	282	5,093	130	16,129	412
2019	38,062	10,616	279	5,233	137	15,849	416
	Change compared with the previous year (percent)						
2001	1.3	0.1	-1.1	0.1	-1.2	0.1	-1.1
2002	-0.6	-5.7	-5.2	11.7	12.3	0.0	0.6
2003	-2.8	6.5	9.5	-10.3	-7.7	0.3	3.2
2004	-0.7	8.8	9.5	3.2	3.9	7.0	7.7
2005	4.9	8.8	3.8	16.4	11.0	11.2	6.1
2006	5.4	11.2	5.5	25.0	18.6	15.8	9.9
2007	4.9	2.5	-2.3	-11.9	-16.0	-2.7	-7.3
2008	5.3	-8.0	-12.6	20.9	14.8	1.4	-3.7
2009	1.0	6.9	5.9	-23.3	-24.0	-4.8	-5.7
2010	1.5	7.2	5.6	20.6	18.8	11.4	9.7
2011	1.1	3.7	2.6	10.1	8.9	5.9	4.7
2012	-0.7	1.4	2.2	9.9	10.7	4.4	5.1
2013	-0.9	4.3	5.2	-0.4	0.5	2.5	3.5
2014	-1.4	-2.6	-1.2	14.5	16.2	3.6	5.1
2015	-2.5	4.2	6.9	-18.5	-16.4	-4.8	-2.4
2016	-4.1	-6.2	-2.2	-15.7	-12.1	-9.4	-5.5
2017	-6.0	-0.1	6.3	1.2	7.6	0.3	6.7
2018	-5.1	2.3	7.9	0.5	6.0	1.7	7.2
2019	-2.7	-3.8	-1.2	2.7	5.6	-1.7	0.9

[a] Beginning in 2017, the data do not include the Isracard group, and include a reclassification of expenses in respect of pension and benefits after the end of employment in accordance with the circular published by the Banking Supervision Department in January 2018 on "Improvement of the presentation of expenses in respect of pension and other benefits upon completion of employment." Beginning in 2018, the data do not include Leumi Card.

[b] Until 2002, the amounts are adjusted for the effect of inflation based on the CPI reading for December 2003.

[c] The number of employee posts includes employee posts at subsidiary companies abroad and at consolidated companies, as well as a translation of the cost of overtime and budgets for outside manpower required for adjustment of current manpower and and implementation of projects.

[d] This item mainly includes severance pay, benefits, advanced training funds, pension, vacation, National Insurance payments and payroll tax, other related expenses, voluntary retirement expenses, and benefits due to the allocation of options to employees.

SOURCE: Based on published financial statements.

Table 1.9

Number of employee posts and expenses by annual wage level[a], the five banking groups, 2017–19

	2017		2018		2019		Rate of change from 2018 to 2019 (percent)	
	Number of employee posts	Salaries and related expenses (NIS million)	Number of employee posts	Salaries and related expenses (NIS million)	Number of employee posts	Salaries and related expenses (NIS million)	Number of employee posts	Salary and related expenses
Active employees in Israel, Annual wage levels (NIS thousand)								
Up to 60	89	3	15	1	15	0	0.0	-35.9
60–120	4,186	419	3,495	361	2,189	212	-37.4	-41.2
120–240	15,093	2,909	14,856	2,648	12,761	2,396	-14.1	-9.5
240–360	11,471	3,335	11,194	3,295	10,809	3,210	-3.4	-2.6
360–600	8,541	3,830	8,898	4,049	9,572	4,249	7.6	4.9
600–1,000	1,924	1,496	2,057	1,463	2,182	1,556	6.1	6.4
More than 1,000	265	409	313	473	366	521	16.9	10.3
Total salary and related expenses attributed to active employees in Israel	**41,569**	**12,400**	**40,828**	**12,289**	**37,894**	**12,144**	**-7.2**	**-1.2**
of which: Expenses for manpower employees, annual wage levels (NIS thousand)	2,164	867	2,160	816	2,318	981	7.3	20.2
Up to 120	543	60	471	51	294	31	-37.6	-39.7
More than 120	1,621	807	1,689	765	2,024	950	19.8	24.2
Salary and related expenses not attributed to active employees in Israel								
of which: Expenses for pension and benefits		552		234		211		-9.7
Payroll tax		1,894		1,929		1,986		3.0
Other related expenses		808		1,036		732		-29.3
Expenses in respect of updating actuarial reserves		981		137		198		44.3
Expenses derived from payments based on nonattributable shares		95		67		156		132.7
Total Salary and related expenses not attributed to active employees in Israel		**4,330**		**3,402**		**3,283**		**-3.5**
Bank employees at offices abroad	1,983	1,266	1,901	1,281	1,792	1,224	-5.7	-4.5
Wage expenses capitalized to assets	-1,014	-564	-1,189	-522	-1,625	-801	36.7	53.4
Total	**42,538**	**17,434**	**41,540**	**16,450**	**38,061**	**15,849**	**-8.4**	**-3.7**

SOURCE: Based on reports to the Banking Supervision Department.

Table 1.10

Distribution of the holdings of bank shares and dividends distributed, Israeli banks[a], 2019–20

	Rate of holdings by parties at interest, April 2020	Rate of holdings by the public[b], April 2020	Dividends[c] distributed in 2019	Dividends distributed net of holdings by parties at interest	Dividends[c] as a share of net profit
	(percent)		(NIS million)		(percent)
Hapoalim	16	84	1,000	842	56
Leumi	0	100	2,087	2,086	59
Mizrahi-Tefahot	44	56	561	314	30
Discount	0	100	255	255	15
First International	48	52	410	212	47
Union	75	25	100	25	62
Jerusalem	87	13	20	3	22
Total banking system	**17**	**83**	**4,433**	**3,736**	**37**

[a] By bank.

[b] Including holdings through institutional investors.

[c] Including share buybacks.

SOURCE: Based on the Tel Aviv Stock Exchange and reports to the Banking Supervision Department.

Table 1.11

Distribution of capital and capital ratios at the five banking groups[a], December 2018 and December 2019

	Leumi		Hapoalim		Discount		Mizrahi-Tefahot		First International		The five groups	
	Dec 2018	Dec 2019	Dec 2018	Dec 2019	Dec 2018	Dec 2019	Dec 2018	Dec 2019	Dec 2018	Dec 2019	Dec 2018	Dec 2019
	(NIS million)											
Equity[b]	36,161	35,874	37,656	38,221	17,669	19,193	15,390	16,805	8,413	8,924	115,289	119,017
Common Equity Tier 1 capital[c]	35,190	37,603	38,004	38,795	17,504	19,009	15,172	16,520	8,321	8,785	114,191	120,712
Tier 1 capital[c]	35,190	37,603	38,981	39,528	18,216	19,543	15,172	16,520	8,321	8,785	115,880	121,979
Tier 2 capital[c]	11,033	11,987	10,042	9,707	5,140	6,021	5,515	6,090	2,713	2,345	34,443	36,150
Total capital base	46,223	49,590	49,023	49,235	23,356	25,564	20,687	22,610	11,034	11,130	150,323	158,129
Total balance sheet	460,780	469,134	460,926	463,688	239,176	259,823	257,873	273,244	134,120	141,110	1,552,875	1,606,999
Credit risk	288,862	288,340	312,900	309,303	154,522	167,372	140,572	150,878	71,847	73,862	968,703	989,755
Market risks	6,295	5,008	3,429	3,528	3,412	2,858	1,494	1,791	889	875	15,519	14,060
Operational risk	22,713	23,116	24,268	23,556	12,987	14,216	9,561	10,189	6,401	6,512	75,930	77,589
Total risk-weighted assets	317,870	316,464	340,597	336,387	170,921	184,446	151,627	162,858	79,137	81,249	1,060,152	1,081,404
	(percent)											
Common Equity Tier 1 capital ratio	**11.1**	**11.9**	**11.2**	**11.5**	**10.2**	**10.3**	**10.0**	**10.1**	**10.5**	**10.8**	**10.8**	**11.2**
Tier 1 capital ratio	11.1	11.9	11.4	11.8	10.7	10.6	10.0	10.1	10.5	10.8	10.9	11.3
Tier 2 capital ratio	3.5	3.8	2.9	2.9	3.0	3.3	3.6	3.7	3.4	2.9	3.2	3.3
Total capital adequacy ratio	**14.5**	**15.7**	**14.4**	**14.6**	**13.7**	**13.9**	**13.6**	**13.9**	**13.9**	**13.7**	**14.2**	**14.6**

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

[b] Including minority interest as per the groups' balance sheets.

[c] After deductions.

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

Table 1.12
Main capital indices of the five banking groups, December 2014 to December 2019

(percent)

	Year	Leumi	Hapoalim	Discount	Mizrahi-Tefahot	First Int'l	Five Groups
Common Equity Tier 1 capital ratio[a]	2014	9.1	9.3	9.4	9.1	9.7	9.2
	2015	9.6	9.6	9.5	9.5	9.8	9.6
	2016	11.2	11.0	9.8	10.1	10.1	10.7
	2017	11.4	11.3	10.0	10.2	10.4	10.9
	2018	11.1	11.2	10.2	10.0	10.5	10.8
	2019	11.9	11.5	10.3	10.1	10.8	11.2
The ratio between credit risk assets and total exposure to credit[b]	2014	66	68	60	56	56	63
	2015	63	66	60	55	54	61
	2016	57	59	60	51	53	57
	2017	57	58	61	52	51	57
	2018	59	61	61	52	52	58
	2019	58	60	61	52	51	58
Leverage ratio[c]	2015	6.3	7.1	6.5	5.3	5.4	6.4
	2016	6.8	7.2	6.6	5.3	5.5	6.6
	2017	6.9	7.4	6.8	5.5	5.5	25.3
	2018	7.1	7.5	6.9	5.4	5.8	32.6
	2019	7.3	0.6	6.9	5.6	5.8	33.2
Equity to total balance-sheet assets	2014	6.6	7.7	6.3	5.7	6.0	6.7
	2015	7.0	7.7	6.6	5.9	5.8	6.9
	2016	7.2	7.6	6.8	5.8	5.9	7.0
	2017	7.4	7.9	7.3	6.0	5.9	7.2
	2018	7.8	8.2	7.4	6.0	6.3	7.4
	2019	7.6	8.2	7.4	6.2	6.3	7.4

[a] In Basel III terms, as per the transition directives.

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

[c] 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.

Table 1.13
Total balance sheet of the Israeli banking system[a], 2017–19

	In current prices			Rate of change during 2018	Rate of change during 2019	Distribution		
	2017	2018	2019			2017	2018	2019
	(NIS million)			(Percent)		(Percent)		
Assets								
Cash and deposits at banks	286,653	274,487	289,543	-4.2	5.5	18.4	17.1	17.4
Of which:								
Cash[b]	267,200	251,003	266,696	-6.1	6.3	93.2	91.4	92.1
Deposits at commercial banks	23,147	23,484	22,847	1.5	-2.7	8.1	8.6	7.9
Securities	203,679	198,800	212,038	-2.4	6.7	13.1	12.4	12.7
Of which:								
Securities provided as collateral to lenders	17,007	12,816	11,008	-24.6	-14.1	8.3	6.4	5.2
At fair value	118,844	172,257	183,729	44.9	6.7	58.3	86.6	86.6
Securities borrowed or bought under reverse repurchase agreements	4,504	4,196	2,603	-6.8	-38.0	0.3	0.3	0.2
Credit to the public	**990,865**	**1,053,040**	**1,098,524**	**6.3**	**4.3**	**63.6**	**65.5**	**66.0**
Allowance for credit losses	11,650	12,352	13,540	6.0	9.6	0.7	0.8	0.8
Net credit to the public	979,216	1,040,688	1,084,985	6.3	4.3	62.9	64.7	65.2
Of which:								
Unindexed local currency	701,272	738,807	784,791	5.4	6.2	71.6	71.0	72.3
Local currency indexed to the CPI	171,096	175,432	186,248	2.5	6.2	17.5	16.9	17.2
Indexed to or denominated in foreign currency	108,758	124,578	112,118	14.5	-10.0	11.1	12.0	10.3
Of which: In dollars	87,099	98,026	89,244	12.5	-9.0	80.1	78.7	79.6
Nonmonetary items	1,750	1,871	1,828	6.9	-2.3	0.2	0.2	0.2
Credit to governments	5,631	7,876	7,925	39.9	0.6	0.4	0.5	0.5
Investments in subsidiary and affiliated	15,184	16,616	2,614	9.4	-84.3	1.0	1.0	0.2
Premises and equipment	11,404	11,588	11,694	1.6	0.9	0.7	0.7	0.7
Intangible assets	498	503	515	0.9	2.4	0.0	0.0	0.0
Assets in respect of derivative instruments	29,691	32,300	30,856	8.8	-4.5	1.9	2.0	1.9
Other assets	20,836	20,430	20,992	-1.9	2.7	1.3	1.3	1.3
Total assets	**1,557,296**	**1,607,484**	**1,663,764**	**3.2**	**3.5**	**100**	**100**	**100**
Liabilities and equity								
Deposits of the public	**1,225,764**	**1,259,568**	**1,310,331**	**2.8**	**4.0**	**78.7**	**78.4**	**78.8**
Of which:								
Unindexed local currency	850,041	863,841	923,099	1.6	6.9	69.3	68.6	70.4
Local currency indexed to the CPI	61,658	56,549	51,881	-8.3	-8.3	5.0	4.5	4.0
Indexed to or denominated in foreign currency	315,540	337,200	332,524	6.9	-1.4	25.7	26.8	25.4
Of which: In dollars	260,775	285,350	283,303	9.4	-0.7	82.6	84.6	85.2
Deposits from banks	15,722	19,899	18,400	26.6	-7.5	1.0	1.2	1.1
Deposits from governments	2,086	2,248	1,563	7.8	-30.5	0.1	0.1	0.1
Securities lent or sold under repurchase	2,868	1,667	825	-41.9	-50.5	0.2	0.1	0.0
Bonds and subordinated notes	92,877	98,428	104,025	6.0	5.7	6.0	6.1	6.3
Liabilities in respect of derivative instruments	29,949	30,466	33,002	1.7	8.3	1.9	1.9	2.0
Other liabilities	76,681	76,526	73,002	-0.2	-4.6	4.9	4.8	4.4
Of which: Allowance for credit losses in respect of off-balance-sheet credit instruments	1,439	1,393	1,268	-3.2	-9.0	1.9	1.8	1.7
Total liabilities	**1,445,947**	**1,488,801**	**1,541,148**	**3.0**	**3.5**	**92.8**	**92.6**	**92.6**
Minority interest	1,933	2,515	2,151	30.1	-14.5	0.1	0.2	0.1
Shareholders equity	109,415	116,167	120,466	6.2	3.7	7.0	7.2	7.2
Total equity	111,348	118,682	122,617	6.6	3.3	7.2	7.4	7.4
Total liabilities and equity	**1,557,296**	**1,607,484**	**1,663,764**	**3.2**	**3.5**	**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, and Bank of Jerusalem).

[b] Including deposits at the Bank of Israel.

SOURCE: Based on published financial statements.

Table 1.14

Total securities portfolio of the banking system, December 2018 and December 2019

		Bank Leumi				Bank Hapoalim				Bank Discount			
		December 2018		December 2019		December 2018		December 2019		December 2018		December 2019	
		Book value	Distribution	Book value	Distribution	Book value	Distribution	Book value	Distribution	Book value	Distribution	Book value	Distribution
		(NIS million)	(Percent)	(NIS million)	(Percent)	(NIS million)	(Percent)	(NIS million)	(Percent)	(NIS million)	(Percent)	(NIS million)	(Percent)
	Of Israeli government	38,584	51.7	38,927	45.8	32,639	58.2	40,019	67.3	23,989	63.3	23,784	63.0
	Of foreign governments	5,956	8.0	18,334	21.6	10,489	18.7	8,111	13.6	768	2.0	1,683	4.5
	Of Israeli financial institutions	119	0.2	101	0.1	512	0.9	299	0.5	107	0.3	162	0.4
Securities	Of foreign financial institutions	9,839	13.2	9,798	11.5	8,273	14.7	6,830	11.5	1,356	3.6	927	2.5
	Asset-backed or mortgage-backed securities[a]	11,300	15.2	9,445	11.1	-	-	-	-	7,383	19.5	7,444	19.7
	Other - Israeli	532	0.7	193	0.2	141	0.3	-	-	210	0.6	380	1.0
	Other - foreign	4,683	6.3	4,439	5.2	2,541	4.5	2,454	4.1	3,046	8.0	2,385	6.3
	Stocks	3,558	4.8	3,712	4.4	1,521	2.7	1,773	3.0	1,039	2.7	980	2.6
	Total securities, all types	**74,571**	**100**	**84,949**	**100**	**56,116**	**100**	**59,486**	**100**	**37,898**	**100**	**37,745**	**100**

		Mizrahi-Tefahot				First International				Total system[b]			
		December 2018		December 2019		December 2018		December 2019		December 2018		December 2019	
		Book value	Distribution	Book value	Distribution	Book value	Distribution	Book value	Distribution	Book value	Distribution	Book value	Distribution
		(NIS million)	(Percent)	(NIS million)	(Percent)	(NIS million)	(Percent)	(NIS million)	(Percent)	(NIS million)	(Percent)	(NIS million)	(Percent)
	Of Israeli government	8,625	77.8	7,821	77.3	7,692	61.1	6,423	58.4	115,622	58.2	122,051	57.6
	Of foreign governments	1,862	16.8	1,781	17.6	2,050	16.3	1,956	17.8	21,462	10.8	33,302	15.7
	Of Israeli financial institutions	-	-	-	-	159	1.3	103	0.9	1,397	0.7	1,163	0.5
Securities	Of foreign financial institutions	484	4.4	362	3.6	630	5.0	640	5.8	20,818	10.5	18,804	8.9
	Asset-backed or mortgage-backed securities[a]	-	-	-	-	436	3.5	625	5.7	19,188	9.7	17,580	8.3
	Other - Israeli	-	-	-	-	602	4.8	431	3.9	2,347	1.2	1,767	0.8
	Other - foreign	18	0.2	-	-	799	6.3	478	4.3	11,306	5.7	10,073	4.8
	Stocks	92	0.8	149	1.5	227	1.8	339	3.1	6,661	3.4	7,297	3.4
	Total securities, all types	**11,081**	**100**	**10,113**	**100**	**12,595**	**100**	**10,995**	**100**	**198,800**	**100**	**212,038**	**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 and Bank of Jerusalem.

SOURCE: Based on published financial statements.

Table 1.15
Transactions in off-balance-sheet financial instruments where the par value reflects credit risk, total banking system[a], 2018 and 2019

	End of year balance		Rate of	Distribution	
	2018	2019	change	2018	2019
	(NIS million)			(percent)	
Documentary credit	4,683	2,828	-39.6	1.0	0.6
Credit guarantees	16,623	17,670	6.3	3.4	3.4
Guarantees for home purchases	65,621	66,840	1.9	13.4	13.0
Other guarantees and liabilities	67,056	70,275	4.8	13.7	13.7
Unutilized credit card facilities	85,741	78,887	-8.0	17.5	15.3
Unutilized credit facilities to the public	94,572	97,555	3.2	19.3	19.0
Irrevocable commitments to provide credit that has not yet been extended	102,430	119,094	16.3	20.9	23.2
Commitments to issue guarantees	53,430	60,825	13.8	10.9	11.8
Total	**490,157**	**513,973**	**4.9**	**100**	**100**

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

Table 1.16

Distribution of the balance of derivative instruments, total banking system[a], 2018 and 2019

(NIS million)[b]

	By type of instrument		
	2018	2019	Rate of change
Interest rate contracts	1,165,690	1,461,151	25.3
Exchange rate contracts	821,570	937,781	14.1
Other contracts[c]	425,232	381,740	-10.2
Total	**2,412,492**	**2,780,673**	**15.3**

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

Table 1.17
Outstanding credit to the public, by principal industries, the five banking groups, 2018 and 2019

	Total balance of credit risk[a]					Balance-sheet credit[b,d] (debts)				
	Balance		Distribution of credit to the public		Change in credit	Balance[d]		Distribution of credit to the public		Change in credit
	2018	2019	2018	2019	2019	2018	2019	2018	2019	2019
	(NIS million)		(percent)		(percent)	(NIS million)		(percent)		(percent)
Borrower activity in Israel	**1,323,945**	**1,387,714**	**89.1**	**90.2**	**4.8**	**929,292**	**979,761**	**91.2**	**92.3**	**5.4**
Business sector	**706,616**	**749,932**	**47.6**	**48.7**	**6.1**	**436,758**	**467,551**	**42.9**	**44.0**	**7.1**
Agriculture	7,339	7,908	0.5	0.5	7.8	5,842	6,258	0.6	0.6	7.1
Manufacturing	92,270	89,503	6.2	5.8	-3.0	51,814	51,620	5.1	4.9	-0.4
Mining and quarrying	6,313	5,476	0.4	0.4	-13.3	3,759	4,082	0.4	0.4	8.6
Construction and real estate	246,526	273,830	16.6	17.8	11.1	140,595	152,472	13.8	14.4	8.4
Of which: Construction	174,051	195,008	11.7	12.7	12.0	78,529	84,846	7.7	8.0	8.0
Real estate	72,475	78,822	4.9	5.1	8.8	62,066	67,626	6.1	6.4	9.0
Electricity and water	20,751	23,261	1.4	1.5	12.1	11,290	13,473	1.1	1.3	19.3
Commerce	103,862	105,683	7.0	6.9	1.8	80,692	82,926	7.9	7.8	2.8
Tourism	18,053	17,840	1.2	1.2	-1.2	15,451	14,891	1.5	1.4	-3.6
Transport and storage	27,815	27,332	1.9	1.8	-1.7	20,564	20,089	2.0	1.9	-2.3
Communications and computer services	17,366	16,451	1.2	1.1	-5.3	11,130	10,177	1.1	1.0	-8.6
Financial services	102,009	110,013	6.9	7.2	7.8	48,552	57,794	4.8	5.4	19.0
Other business services	37,871	40,198	2.5	2.6	6.1	26,109	27,481	2.6	2.6	5.3
Public and community services	26,441	32,437	1.8	2.1	22.7	20,960	26,288	2.1	2.5	25.4
Private individuals	**617,329**	**637,782**	**41.5**	**41.5**	**3.3**	**492,534**	**512,210**	**48.4**	**48.2**	**4.0**
Of which: Housing loans	365,484	400,637	24.6	26.0	9.6	344,938	371,203	33.9	35.0	7.6
Nonhousing loans[c]	251,845	237,145	16.9	15.4	-5.8	147,596	141,007	14.5	13.3	-4.5
Borrowers' activity abroad	**161,948**	**150,637**	**10.9**	**9.8**	**-7.0**	**89,331**	**81,913**	**8.8**	**7.7**	**-8.3**
Total	**1,485,893**	**1,538,351**	**100.0**	**100.0**	**3.5**	**1,018,623**	**1,061,674**	**100.0**	**100.0**	**4.2**

[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.

[c] In annual terms.

[d] During 2019, Hapoalim reclassified loans to the housing industry that had previously been classified under the business sector. In addition, some of the data were reclassified in order to properly reflect cleansing in the main measurement methods.

SOURCE: Banking Supervision Department based on published financial statements.

Table 1.18
Indices of balance-sheet credit quality, by principal industry, the five banking groups, 2018 and 2019
(percent)

	Impaired loans as a share of total balance-sheet credit to the industry		Loan loss provisions as a share of total balance-sheet credit to the industry[a]		Net write-offs as a share of total balance-sheet credit to the industry[a]		Allowance for credit losses as a share of total balance-sheet credit to the industry		Coverage ratio: Allowance for credit losses as a share of impaired loans to the industry	
	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019
Borrowers' activity in Israel	**0.92**	**1.1**	**0.2**	**0.3**	**0.2**	**0.2**	**1.3**	**1.4**	**144.9**	**129.3**
Business Sector	**1.61**	**1.9**	**0.2**	**0.4**	**0.1**	**0.2**	**1.7**	**1.9**	**108.1**	**99.7**
Agriculture	1.18	1.3	-0.4	0.0	-0.3	-0.2	1.4	1.4	120.3	107.2
Manufacturing	2.58	2.8	0.2	0.4	-0.1	0.5	2.7	2.6	104.5	91.8
Mining and quarrying	0.35	24.7	-0.1	12.2	0.0	0.0	0.8	12.9		
Construction and real estate	1.69	1.4	-0.2	-0.1	-0.2	-0.2	1.5	1.4	90.4	104.5
Of which : Construction	1.59	1.3	-0.1	0.0	-0.2	-0.1	1.7	1.6	105.5	124.4
Real estate	1.82	1.5	-0.4	-0.3	-0.4	-0.3	1.3	1.2	73.6	81.9
Electricity and water	2.04	2.9	0.2	-0.1	0.1	-0.4	1.6	1.6	77.8	55.6
Commerce	1.36	1.9	0.3	0.8	0.5	0.6	2.2	2.3	160.5	119.9
Tourism	2.50	2.2	0.7	0.0	0.3	0.3	1.5	1.3	60.6	57.4
Transportation and storage	1.16	1.2	0.5	1.4	0.3	0.6	1.1	1.9	92.9	154.4
Communications and computer services	3.58	5.3	2.2	0.6	1.7	-0.2	3.9	5.0	108.0	94.8
Financial services	1.04	0.8	-0.1	0.0	0.0	0.0	1.1	1.0	103.4	119.0
Other business services	1.12	1.4	0.8	1.0	0.6	0.6	1.7	2.0	153.6	146.6
Public and community services	0.52	0.4	0.2	0.2	0.1	0.2	0.8	0.8	153.6	192.5
Private individuals	**0.30**	**0.3**	**0.3**	**0.2**	**0.2**	**0.2**	**1.0**	**0.9**		
Of which: Housing loans	0.02	0.0	0.0	0.0	0.0	0.0	0.5	0.5		
Nonhousing loans	0.95	1.1	0.8	0.6	0.7	0.6	2.0	1.9		
Borrowers' activity abroad	**1.38**	**2.4**	**0.1**	**0.4**	**0.0**	**0.1**	**1.2**	**1.5**	**83.4**	**61.5**
Total	**0.96**	**1.2**	**0.2**	**0.3**	**0.2**	**0.2**	**1.3**	**1.4**	**137.1**	**118.5**

[a] In annual terms.

SOURCE: Based on published financial statements.

Table 1.19
Indices of credit portfolio quality of the five banking groups, 2013–19

(percent)

	Year	Leumi	Hapoalim	Discount	Mizrahi-Tefahot	First International	The five groups
Loan loss provision as a share of total balance-sheet credit to the public[a]	2013	0.11	0.34	0.49	0.21	0.14	0.25
	2014	0.18	0.17	0.13	0.12	0.13	0.16
	2015	0.08	0.18	0.15	0.13	0.02	0.12
	2016	-0.05	0.07	0.33	0.12	0.10	0.09
	2017	0.06	0.07	0.38	0.11	0.15	0.13
	2018	0.18	0.21	0.32	0.16	0.19	0.21
	2019	0.21	0.43	0.38	0.18	0.16	0.29
Net write-offs as a share of total balance-sheet credit to the public	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
	2016	0.03	0.19	0.27	0.09	0.09	0.13
	2017	0.15	0.21	0.39	0.09	0.17	0.19
	2018	0.09	0.19	0.25	0.11	0.16	0.15
	2019	0.23	0.12	0.22	0.11	0.09	0.16
Allowance for credit losses as a share of total balance-sheet credit to the public	2013	1.59	1.54	1.81	0.94	1.19	1.46
	2014	1.55	1.58	1.68	0.90	1.25	1.44
	2015	1.38	1.58	1.59	0.87	1.12	1.36
	2016	1.32	1.50	1.50	0.83	1.08	1.29
	2017	1.18	1.36	1.40	0.81	1.03	1.18
	2018	1.24	1.31	1.36	0.80	1.02	1.18
	2019	1.16	1.58	1.38	0.82	1.05	1.24
Problematic loans as a share of total balance-sheet credit to the public	2013	4.42	6.05	5.73	1.99	3.50	4.62
	2014	3.96	4.64	4.84	1.38	3.45	3.80
	2015	3.14	3.57	3.54	1.38	2.39	2.95
	2016	2.90	2.89	3.55	1.44	2.29	2.67
	2017	2.71	2.37	2.80	1.39	1.78	2.30
	2018	2.45	2.30	2.23	1.52	1.89	2.15
	2019	1.96	3.06	2.56	1.78	1.86	2.33
Impaired loans and non-impaired loans 90 days or more past due as a share of total balance-sheet credit to the public	2013	2.81	3.54	3.71	1.70	1.83	2.89
	2014	2.23	2.80	2.69	1.20	1.50	2.23
	2015	1.83	2.28	2.60	1.14	1.36	1.92
	2016	1.75	1.84	2.37	0.95	1.02	1.66
	2017	1.60	1.31	1.68	1.02	0.92	1.36
	2018	1.34	1.23	1.24	1.23	0.83	1.23
	2019	1.24	1.80	1.25	1.36	1.08	1.41
Allowance for credit losses as a share of impaired loans and non-impaired loans more than 90 days past due	2013	56.44	43.60	48.69	55.37	64.96	50.52
	2014	69.57	56.25	62.43	75.36	83.67	64.61
	2015	75.49	69.19	61.14	76.54	82.57	70.96
	2016	75.02	81.56	63.38	87.74	106.14	77.50
	2017	74.02	103.16	83.21	79.83	112.18	86.75
	2018	92.17	106.49	109.96	65.16	122.25	95.63
	2019	94.20	87.90	110.12	60.23	97.08	88.18
Impaired loans and nonimpaired loans more than 90 days past due, net, as a share of equity	2013	11.92	17.72	18.74	10.43	6.46	14.28
	2014	6.67	10.01	9.49	3.88	2.43	7.58
	2015	4.10	5.74	9.56	3.46	2.37	5.23
	2016	3.67	2.62	8.30	1.51	-0.64	3.39
	2017	3.36	-0.31	2.65	2.62	-1.13	1.60
	2018	0.83	-0.61	-1.17	5.47	-1.88	0.48
	2019	0.57	1.70	-1.21	6.65	0.31	1.48

[a] Until December 2010, net credit to the public was used. From 2011 - gross credit to the public.

[b] In annual terms.

SOURCE: Banking Supervision Department based on published financial statements.

Table 1.20

Credit quality[a] by principal segments, the five banking groups, December 2012–2019

(percent)

	Year	Leumi	Hapoalim	Discount	Mizrahi-Tefahot	First International	The five groups
Commercial credit							
Weight of commercial credit	2012	61.80	62.96	67.95	27.92	55.64	57.14
	2013	58.21	60.97	66.08	25.67	53.31	54.27
	2014	56.63	60.10	65.51	25.28	51.37	53.14
	2015	54.81	59.38	64.57	23.94	49.67	51.76
	2016	55.66	57.88	62.84	23.12	49.24	50.87
	2017	57.70	58.89	61.81	23.55	47.94	51.33
	2018	59.01	56.52	61.94	25.10	47.04	51.27
	2019	60.65	56.86	61.23	24.34	46.81	51.47
Loan loss provisions as a share of total commercial credit	2012	0.76	0.42	0.87	0.57	0.20	0.60
	2013	0.02	0.41	0.69	0.11	0.12	0.29
	2014	0.06	0.09	0.04	0.22	-0.04	0.07
	2015	-0.08	0.17	0.14	0.39	-0.07	0.09
	2016	-0.39	-0.14	0.28	0.24	0.08	-0.09
	2017	-0.01	-0.21	0.26	0.11	0.15	0.00
	2018	0.15	0.07	0.17	0.33	0.25	0.16
	2019	0.26	0.62	0.31	0.44	0.16	0.39
Impaired credit as a share of total commercial credit	2012	4.79	4.49	6.51	4.32	2.54	4.76
	2013	3.91	4.52	4.81	3.22	2.30	4.09
	2014	3.18	3.47	3.36	1.87	1.87	3.11
	2015	2.62	2.76	3.45	1.85	1.86	2.70
	2016	2.37	2.02	3.21	1.46	1.26	2.24
	2017	1.95	1.18	2.19	1.44	1.15	1.64
	2018	1.42	1.25	1.43	1.96	0.92	1.38
	2019	1.28	2.17	1.45	2.25	1.33	1.69
Loan loss allowance as a share of total impaired commercial credit	2012	45.16	39.86	28.43	40.39	58.35	39.71
	2013	52.55	40.71	41.52	46.02	63.54	45.86
	2014	62.06	52.33	52.41	76.60	79.82	57.99
	2015	66.47	69.63	52.26	84.69	73.34	65.79
	2016	63.89	88.97	53.47	107.19	103.09	72.82
	2017	67.63	125.88	68.81	99.68	105.37	86.11
	2018	95.34	122.33	100.20	70.33	133.24	102.47
	2019	100.18	95.43	101.72	66.70	98.55	94.34

Table 1.20 cont'd.

Credit quality[a] by principal segments, the five banking groups, December 2012–2019

(percent)

	Year	Leumi	Hapoalim	Discount	Mizrahi-Tefahot	First International	The five groups
Housing credit							
Weight of housing credit	2012	25.84	19.61	16.43	62.09	23.43	28.11
	2013	28.51	21.09	16.96	64.39	24.93	30.34
	2014	29.58	21.08	16.70	64.63	26.15	30.88
	2015	30.86	21.60	16.87	65.97	27.30	31.90
	2016	29.81	22.36	18.03	66.55	27.81	32.43
	2017	28.75	24.18	19.15	66.02	28.13	33.02
	2018	28.47	28.41	19.71	64.83	28.56	34.02
	2019	29.54	30.14	20.31	65.69	28.80	35.08
Loan loss provisions as a share of total housing credit	2012	-0.02	0.06	0.00	0.01	0.09	0.02
	2013	0.08	0.20	0.15	0.21	0.19	0.17
	2014	0.03	-0.07	0.09	0.01	-0.02	0.00
	2015	0.02	0.01	0.02	0.01	0.01	0.01
	2016	-0.01	-0.01	0.03	0.01	0.01	0.00
	2017	-0.02	-0.02	0.05	0.02	0.00	0.00
	2018	0.04	0.04	0.07	0.03	0.02	0.04
	2019	0.03	0.03	0.07	0.03	0.01	0.03
Impaired credit and credit 90 days or more past due as a share of total housing	2012	1.31	2.06	3.01	1.98	2.06	1.90
	2013	1.13	1.93	2.17	1.20	1.58	1.44
	2014	1.01	1.27	2.06	0.98	1.28	1.15
	2015	0.92	1.04	1.48	0.90	0.91	0.98
	2016	0.91	0.96	1.13	0.74	0.69	0.86
	2017	0.93	0.91	0.98	0.89	0.68	0.89
	2018	1.07	0.78	0.94	0.98	0.76	0.93
	2019	0.98	0.77	0.95	1.09	0.73	0.95
Loan loss allowance as a share of total housing credit 90 days or more past due	2012	57.30	35.00	38.01	51.34	37.95	45.83
	2013	63.36	40.50	58.39	59.76	55.11	54.48
	2014	66.67	53.97	61.76	66.03	56.41	62.07
	2015	68.13	61.83	53.73	64.23	65.38	63.61
	2016	65.79	61.72	57.53	72.10	76.67	66.63
	2017	62.33	66.89	63.12	58.82	73.72	62.66
	2018	55.57	67.09	60.32	51.52	64.32	57.21
	2019	56.27	64.36	58.64	45.66	65.05	54.13

Table 1.20 cont'd.

Credit quality[a] by principal segments, the five banking groups, December 2012–2019

(percent)

	Year	Leumi	Hapoalim	Discount	Mizrahi-Tefahot	First International	The five groups
Other private credit							
Weight of other private credit	2012	12.36	17.43	15.62	9.99	20.93	14.75
	2013	13.28	17.93	16.96	9.94	21.76	15.39
	2014	13.79	18.82	17.79	10.09	22.48	15.98
	2015	14.33	19.01	18.56	10.09	23.03	16.34
	2016	14.53	19.76	19.13	10.32	22.94	16.70
	2017	13.55	16.93	19.04	10.44	23.93	15.66
	2018	12.52	15.07	18.35	10.08	24.40	14.72
	2019	9.81	13.00	18.46	9.98	24.39	13.45
Loan loss provisions as a share of total other private credit	2012	0.31	0.64	0.11	0.48	0.30	0.42
	2013	0.56	0.28	0.06	0.41	0.14	0.32
	2014	1.01	0.65	0.52	0.62	0.69	0.72
	2015	0.81	0.33	0.29	0.34	0.23	0.44
	2016	1.19	0.74	0.76	0.52	0.26	0.78
	2017	0.52	1.20	1.10	0.65	0.32	0.83
	2018	0.65	1.06	1.11	0.54	0.30	0.80
	2019	0.48	0.49	0.92	0.49	0.32	0.57
Impaired credit[b] and credit 90 days or more past due[c] as a share of total other	2012	1.39	2.56	1.09	0.88	0.98	1.67
	2013	1.04	1.83	0.80	0.72	0.80	1.22
	2014	0.79	1.53	0.63	0.63	0.78	1.02
	2015	0.62	1.46	0.52	0.61	0.63	0.91
	2016	0.73	1.54	0.55	0.54	0.69	0.96
	2017	1.34	1.86	0.57	0.49	0.58	1.14
	2018	1.31	1.90	0.72	0.51	0.60	1.16
	2019	1.32	2.23	0.75	0.53	0.79	1.24
Loan loss allowance as a share of total impaired other private credit and private credit 90 days or more past due[c]	2012	85.75	77.39	175.37	119.13	102.13	93.14
	2013	135.21	77.95	202.50	137.00	110.74	109.50
	2014	215.30	112.31	275.91	190.43	172.13	159.25
	2015	267.52	100.64	299.20	184.85	195.28	161.56
	2016	280.07	105.46	290.00	205.21	186.29	169.99
	2017	142.77	105.19	323.93	253.76	223.01	152.75
	2018	165.45	106.11	272.97	250.50	209.68	159.30
	2019	172.63	87.22	263.49	240.00	153.49	146.26

[a] Including credit in respect of borrowers' activity in Israel and abroad.

[b] Including impaired credit to all private individuals in respect of borrowers' activity abroad.

[c] Including impaired credit and credit 90 days or more past due to all private individuals in respect of borrowers' activity abroad.

SOURCE: Banking Supervision Department based on published financial statements.

Table 1.21

Supervisory activity segments[a] - balance-sheet balances and performance indices, the five banking groups, 2019 and 2018

	Household[b]					Business[c]				
	Housing[d]	Credit cards	Other consumer	Total consumer	Total household	Small and micro businesses	Medium businesses	Large businesses	Total business[d]	Total activity in Israel[e]
2019										
(NIS million)										
Outstanding credit to the end of the reporting period	359,602	33,779	109,239	143,018	502,620	192,116	84,664	207,917	484,697	995,421
Balance of deposits to the end of the reporting period	-	18	548,011	548,029	548,029	202,072	87,529	155,238	444,839	1,198,500
Balance of risk assets to the end of the reporting period	211,404	31,085	105,065	136,150	347,554	192,190	102,204	251,324	545,718	999,454
Net profit	1,807	339	-227	112	1,919	2,301	1,151	2,120	5,572	9,713
(percent)										
Outstanding impaired debt and debt more than 90 days past due divided by outstanding credit	1.00	0.16	1.55	1.22	1.07	1.86	1.19	1.59	1.63	1.37
Return on assets (net profit divided by the average balance of assets)	0.52	1.12	-0.21	0.02	0.40	1.24	1.45	1.08	1.21	0.67
Net interest margin (net interest income divided by the average balance of assets and liabilities)	2.36	3.45	2.42	2.47	2.43	4.01	3.02	2.35	3.19	2.09
Loan loss provisions divided by the credit balance to the end of the period	0.03	0.42	0.62	0.57	0.19	0.58	0.17	0.33	0.40	0.28
2018										
(NIS million)										
Outstanding credit to the end of the reporting period	333,566	38,669	111,253	149,922	483,488	186,470	76,046	196,640	459,156	962,512
Balance of deposits to the end of the reporting period	-	94	544,519	544,613	544,613	191,326	80,929	147,086	419,341	1,140,507
Balance of risk assets to the end of the reporting period	196,321	33,873	107,441	141,314	337,635	183,353	93,681	238,326	515,360	973,242
Net profit	1,530	466	-920	-454	1,076	2,214	1,258	2,590	6,062	9,819
(percent)										
Outstanding impaired debt and debt more than 90 days past due divided by outstanding credit	0.96	0.23	1.42	1.11	1.01	1.80	0.85	1.06	1.33	1.19
Return on assets (net profit divided by the average balance of assets)	0.48	1.30	-0.84	-0.10	0.23	1.23	1.75	1.39	1.39	0.70
Net interest margin (net interest income divided by the average balance of assets and liabilities)	2.22	4.21	2.40	2.51	2.42	4.03	2.94	2.37	3.20	2.06
Loan loss provisions divided by the credit balance to the end of the period	0.04	0.66	0.86	0.81	0.28	0.52	-0.32	-0.06	0.13	0.20

[a] Beginning with the financial statements for the first quarter of 2016, the banks are required to prepare disclosures for the supervisory activity segments according to the new rules adapted to the new, uniform and comparable definitions set out by the Banking Supervision Department, which are mainly based on the classification of customers by their volume of activity. There are also additional requirements for separate disclosure for the institutional investors segment and for the financial management segment, as well as for disclosures of balance-sheet balances to the end of the reporting period (credit and deposits) and balances of impaired credit and nonimpaired credit 90 days past due. The implementation of the Directive had no material effect on the banks' financial statements, other

[b] Activity in Israel only.

[c] Micro business - Volume of activity totaling less than NIS 10 million; Small business - Volume of activity totaling between NIS 10 million and NIS 50 million; Medium business - Volume of activity totaling between NIS 50 and NIS 250 million; Large business - Volume of activity totaling over NIS 250 million.

[d] In 2019, housing loans were reclassified from the business segments to the "household" and "private banking" segments.

[e] Including institutional entities, the financial management segment, and the "others" segment.

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

Table 1.22

Exposure to changes in the Consumer Price Index and in the exchange rate, the five banking groups, December 2018 and December 2019

(NIS million)

	Leumi		Hapoalim		Discount		Mizrahi-Tefahot		First International		Total system	
	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019
Unindexed segment												
Total assets (excluding futures and options)	304,321	308,147	322,715	334,049	159,579	181,460	175,711	189,451	104,898	114,579	1,067,224	1,127,686
Total liabilities (excluding futures and options)	250,313	265,039	275,649	284,821	142,887	159,682	161,238	176,304	93,806	102,484	923,893	988,330
Impact of futures and options	-23,071	-15,214	-22,736	-27,929	-10,412	-14,582	-12,994	-11,406	-5,588	-8,136	-74,801	-77,267
Total positon in the segment[a]	30,937	27,894	24,330	21,299	6,280	7,196	1,479	1,741	5,504	3,959	68,530	62,089
Total bank capital[b,c]	**27,982**	**27,777**	**32,201**	**31,998**	**13,854**	**15,068**	**13,964**	**15,329**	**6,350**	**6,777**	**94,351**	**96,949**
Indexed segment												
Total assets (excluding futures and options)	45,082	47,018	49,609	50,197	18,306	19,504	54,646	58,771	11,459	11,300	179,102	186,790
Total liabilities (excluding futures and options)	40,656	41,593	41,422	37,868	10,395	12,396	38,029	40,876	10,510	8,601	141,012	141,334
Impact of futures and options	-4,233	-3,009	553	-523	-3,720	-2,814	-3,700	-4,482	96	81	-11,004	-10,747
Total positon in the segment[a]	193	2,416	8,740	11,806	4,191	4,294	12,917	13,413	1,045	2,780	27,086	34,709
Maximum change in the Consumer Price Index[d] (percent)	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
Loss due to maximum change in the CPI												
Increase in the CPI	-	-	-	-	-	-	-	-	-	-	-	-
Decline in the CPI	1	15	54	72	26	26	80	81	7	17	169	211
Foreign exchange segment[e]												
Total assets (excluding futures and options)	98,668	101,140	79,903	71,617	56,292	54,187	25,866	23,280	14,037	11,912	274,766	262,136
Total liabilities (excluding futures and options)	128,243	121,262	102,955	101,176	67,041	68,005	42,992	38,993	19,728	19,929	360,959	349,365
Impact of futures and options	26,427	17,589	22,183	28,452	14,132	17,396	16,694	15,888	5,492	8,055	84,928	87,380
Total positon in the segment[a]	-3,148	-2,533	-869	-1,107	3,383	3,578	-432	175	-199	38	-1,265	151
Maximum change in the exchange rate[f] (percent)	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
Loss due to maximum change in the exchange rate[g]												
Weaker shekel (depreciation)	124	98	34	43	-	-	17	-	8	-	183	141
Stronger shekel (appreciation)	-	-	-	-	133	138	-	7	-	1	133	146
Total maximum loss to the bank's capital due to indexation base risk	**125**	**112**	**89**	**114**	**159**	**164**	**97**	**88**	**14**	**18**	**352**	**357**
As a share of the bank's total capital (percent)	0.4	0.4	0.3	0.4	1.1	1.1	0.7	0.6	0.2	0.3	0.4	0.4

[a] The total position in the segment is defined as the difference between assets and liabilities in the segment, and includes the impact of futures transactions.

[b] The differnce between assets and liabilities in all segments includes the impact of futures transactions (exclding nonmonetary items) - as per the explanatory note "Asssets and liabiilties by indexation base" in the published financial statements.

[c] The bank's capital is entirely attributed (by definition) to he unindexed segment. Therefore, the nominal exposure to indexation bases taks place in the indexed and foreign exchange segments.

[d] The maximum change in the Consumer Price Index is derived from the monthly changes in inflation expectations over the past 7 years, assuming a normal distribution at a statistical signifcance level of 99 percent.

[e] Including indexation to foreign exchange. In this survey, the calculaiton of the banking corporations' exposure to foreign exchange is based on the positions obtained from the "Assets and liabilities by currency and by redemption period" explanatory note in the financial statements. The positions presented do not take into account the impact of taxation, which the banking corporations may take into account when managing thir exposure.

[f] The maximum change in the nominal exchange rate of the shekel against the dollar is derived from the monthly changes in the exchange rate over the past 7 yers, assuming a normal distribution at a statistical signifcance of 99%.

[g] The change that would take place in the bank's situation as a result of the maximum change in the shekel/dollar exchange rate.

[h] The total maximum loss from the base risks is obtained through simple addition of the maximum losses from the risk in the indexd and foreign exchange segments, assuming that in each segment, the maximum change takes place in the direction that results in the maximum loss to the bank.

SOURCE: Based on Central Bureau of Statistics and published financial statements.

Table 1.23

Exposure to changes in the interest rate, the five banking groups, December 2018 and December 2019

(NIS million)

	Leumi		Hapoalim		Discount		Mizrahi-Tefahot		First International		Total system	
	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019
Unindexed segment												
Net adjusted fair value[a]	26,613	24,667	25,034	22,052	6,582	6,592	732	1,553	5,604	4,639	4,565	59,503
Change in the fair value of the net position in the segment due to a change in the interest rates[b]												
Increase of one perentage point	-42	-2	771	554	261	337	-12,994	-11,406	-5,588	-8,136	-74,801	-77,267
Decrease of one percentage point	-2	-2	-798	-570	-240	-199	1,479	1,741	5,504	3,959	68,530	62,089
As a percentage of the net fair value of the bank's capital												
Increase in the interest rate	-0.3	0.0	2.3	1.7	1.7	2.1	4.3	2.1	0.7	0.8	1.8	1.4
Decrease in the interest rate	0.0	0.0	-2.3	-1.8	-1.6	-1.2	-4.0	5.3	-0.2	0.2	-1.8	-1.7
Indexed segment												
Net adjusted fair value[a]	-6,808	-4,555	7,937	10,131	3,607	4,293	10,836	11,649	1,037	2,941	16,609	24,459
Change in the fair value of the net position in the segment due to a change in the interest rates[b]												
Increase of one perentage point	1,124	1,490	-356	-498	-304	-267	-211	-133	-124	-131	129	461
Decrease of one percentage point	-1,459	-2,001	409	551	338	298	27	1	125	132	-360	-1,019
As a percentage of the net fair value of the bank's capital												
Increase in the interest rate	6.7	8.0	-1.0	-1.5	-2.0	-0.6	-1.9	-1.0	-1.9	-1.7	0.2	0.5
Decrease in the interest rate	-8.7	-10.8	1.2	1.7	2.3	1.8	2.0	0.0	1.9	1.7	-0.4	-1.2
Foreign exchange segment[c]												
Net adjusted fair value[a]	-3,100	-1,526	1,120	382	4,739	5,375	-476	295	-138	84	2,145	4,610
Change in the fair value of the net position in the segment due to a change in the interest rates[b]												
Increase of one perentage point	212	197	211	89	-182	-89	-87	211	-25	-35	129	373
Decrease of one percentage point	-368	-280	-270	-96	88	-74	93	-200	21	26	-436	-624
As a percentage of the net fair value of the bank's capital												
Increase in the interest rate	1.3	1.1	0.6	0.3	-1.2	-0.5	-0.8	1.6	-0.4	-0.5	0.2	0.4
Decrease in the interest rate	-2.2	-1.5	-0.8	-0.3	0.6	-0.5	0.8	-1.5	0.3	0.3	-0.5	-0.7
All segments												
Net adjusted fair value of the bank's capital[d]	16,705	18,586	34,091	32,565	14,928	16,260	11,092	13,497	6,503	7,664	83,319	88,572
Change in the net fair value of the bank's capital due to a change in the interest rates[b]												
Increase of one perentage point	1,294	1,685	626	145	-225	-19	175	359	-106	-102	1,764	2,068
Decrease of one percentage point	-1,829	-2,283	-659	-115	186	25	-119	-915	130	172	-2,291	-3,116
As a percentage of the net fair value of the bank's capital												
Increase in the interest rate	7.7	9.1	1.8	0.4	-1.5	-0.1	1.6	2.7	-1.6	-1.3	2.1	2.3
Decrease in the interest rate	-10.9	-12.3	-1.9	-0.4	1.2	0.2	-1.1	-6.8	2.0	2.2	-2.7	-3.5

[a] The difference between the fair value of assets and the fair value of liabilites, including the impact of futures transactions in each indexation segment and the impact of liabilities fr employee rights and spreading deposits over periods by demand.

[b] Based on published financial statements - report on risks - "The impact of interest rate change scenarios on the net adjusted fair value of the bank and its consolidated companies".

[c] Including the segment indexed to foreign exchange.

[d] The total of the net positions in the three indexation segments.

SOURCE: Based on published financial statements.

CHAPTER 2
THE MAIN CHANGES IN THE BANKING SYSTEM

In recent years, the financial system has been undergoing many significant structural changes as part of advancing the goals set by the Banking Supervision Department—**encouraging the digital transformation of the banking system and advancing competition within the system**. Digitization is intended to improve service to the customer, adapt the banking system to the Fourth Revolution and improve its efficiency (due to the correlation between efficiency and competition), and intensify competition, focusing on the retail segment, in which until just a few years ago the general public had relatively few alternatives. All of this is in order to benefit the public by increasing the number of alternatives, improving services, and lowering prices.

As part of advancing competition, a number of years ago the barriers to competition in the financial system for households and small businesses in a wide variety of aspects were mapped, and tremendous effort was made by the Banking Supervision Department and many other partners, chiefly the Ministry of Finance, to remove those barriers. Some of the initiatives for advancing competition were formulated as part of a number of reforms, the most recent of which was the Committee to Advance Competition, led by Attorney Dror Strum, and thereafter incorporated into legislation. The main barriers to the entry of new actors and to intensifying competition in the retail areas that were identified had to do with information barriers, technological barriers, and regulatory barriers. In addition, structural changes were decided upon in order to enhance competition.

Over the past few years, there has been significant progress in this process. Many measures have been completed, and others are currently being implemented.[143] Among these measures are the separation of two credit card companies from the large banks, which was completed at the beginning of 2020 and which created two independent financial competitors; the establishment of a Central Credit Data System by the Bank of Israel, which began operating in 2019 and lowered the information barrier for nonbank financial entities and new banks (for more information, see Box 2.5 of *Israel's Banking System, Annual Survey* for 2018); the establishment of a computer services center and selection of a concessionaire to operate it, which are intended to lower the technology barrier to establishing new banks and for nonbank financial entities (for more information on this issue see Box 3.4 of this Survey); reducing the regulatory requirements from new banks and providing certainty in the process of establishing them, which led in 2019 to the issuance of a license for a new bank for the first time in 40 years (for more information on this issue see Box 3.4 of this Survey); advancing the Open Banking project, which is in advanced stages and is expected to create a platform for innovation and competition (for more information see Box 2.3 of *Israel's Banking System, Annual Survey* for 2018); and the project for transitioning from bank to bank (for more information see Box 2.1 of *Israel's Banking System, Annual Survey* for 2018).

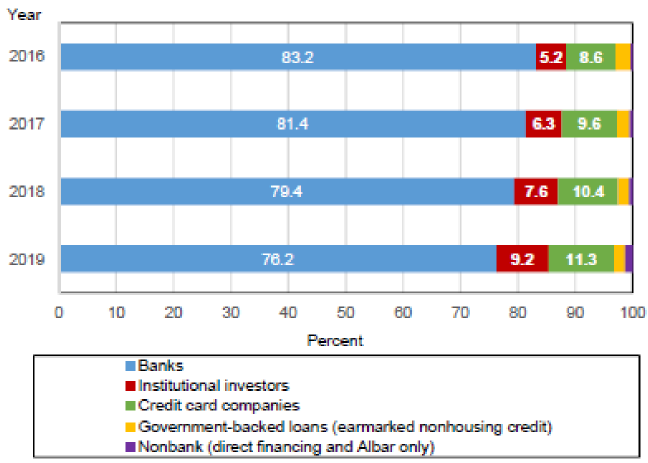
All of these measures have begun to be reflected in enhanced competition over credit to the retail segment, as reflected in the increase in the number of nonbank entities offering credit to the general public that are connected to the Bank of Israel's Central Credit Data System; the interest on the part of new entities in establishing a new bank; the decline in concentration within the banking system and increase in the market share of the three medium-sized banks at the expense of the two large banks; and the change in distribution of sources of consumer credit in the financial system in recent

[143] For more information, see the second report of the Committee to Examine Competition in the Credit Market, April 2020.

years, along with a shrinking segment of credit provided by the banks and an increase in the segment of credit provided by nonbank entities (including the newly independent credit card companies) (see Figure 2.1).

In recent years a decline in banks' market share of consumer credit, and an increase in the share of nonbank entities, can be seen.

Figure 2.1
Distribution of Consumer Credit to the Public, by Credit Sources, 2016–19



SOURCE: Based on published financial statements.

As part of the process of removing barriers in recent years, there were marked changes in the look of the system in 2019.

The separation of the credit card companies from the two large banks was completed at the beginning of the year. As part of this process, Bank Leumi sold its holdings of Leumi Card (now Max) to Warburg Pincus, and Bank Hapoalim issued two-thirds of the shares of Isracard to the public, while distributing the rest to the bank's shareholders as a dividend in kind. As such, the credit card companies began operating as independent companies with the ability to compete with the banks. The Banking Supervision department created an "infant protection" for them to protect the new companies and enable them to establish themselves.

In addition, the regulatory changes implemented in recent years, with an emphasis on the broad process of removing entry barriers for potential new banks and guiding parties that are interested in establishing a bank, bore fruit, and in December 2019, for the first time in 40 years, the Bank of Israel **issued a license for the establishment of a new bank**. For more information on the barrier-removal process that enabled the establishment of the new bank, see Box 3.4 of this Survey.

During the year, **two mergers between medium-sized banks and small banks** were discussed by the Competition Tribunal. The first was between Mercantile Bank (part of the Discount Group) and Municipal Bank Ltd. (formerly Dexia). It was approved in mid-2019 and took effect in the fourth quarter of 2019. The second was between Bank Mizrahi-Tefahot and Union Bank. It was approved toward the end of 2019, and is expected to take effect in accordance with the conditions set by the

Competition Authority concerning credit to the diamond industry.[144] The two mergers were examined and approved by the Banking Supervision Department before being discussed by the Competition Tribunal, and the Department is continuing to guide the banks through the merger process itself. The banking Supervision Department believes that the number of participants in the banking system does not necessarily reflect the extent of competition, and that the consolidation of resources of the merged banks will enable them to utilize the economy of scale inherent in the merger, streamline work processes, and improve controls and corporate governance, while increasing the supply of credit to the economy, thereby enhancing competition in the banking system by boosting the competitive strength of the medium-sized banks at the expense of the two large banks.

In recent years, the banking system has undergone **significant changes in the technological field as well. The Banking Supervision Department set itself the goal of enabling and encouraging the change, while removing regulatory barriers to innovation.** New technologies are being developed and implemented by existing banks, while the production function is being changed (transition from employee- and real estate-intensive banking to technology-intensive banking), while new technology-based financial entities are entering the market, making it necessary for the banks to adapt themselves to the changing financial environment. For instance, **digital banks are emerging around the world** (for more information on the topic see Box 2.1 of this Survey), and a **wide variety of fintech companies** is being created (for more information on the topic, see Box 2.2 of this Survey). In view of this, and in parallel, **the banking system is investing many resources in implementing advanced technologies** (for more information of the scope of these investments, see Box 1.2 of this Survey). The use of these technologies is improving the customer's access and experience, while broadening the variety of services provided through digital channels (see, for instance, Box 2.3 on the issue of facial identification in this Survey), together with lower the cost of banking services.

A survey carried out by the Banking Supervision Department among the general public in early 2019 and in 2020 regarding the public's satisfaction with banking services reflected **a very high level of satisfaction with digital banking services** (a score higher than 90 regarding satisfaction with the bank's website and banking applications) and with payment applications (Bit, Pepper, and Paybox). This is in contrast with much lower levels of satisfaction with service provided at the branches.

The COVID-19 crisis, the lockdown, and the public restrictions that have accompanied them, have illustrated the benefit of the many investments made in recent years in expanding the variety, availability, and quality of digital services. These measures enabled the banking system to deal with issues of business continuity and the provision of essential banking services to the public in view of the Banking Supervision Department's guidelines to reduce the number of branches open to the public to 15 percent of all branches, in order to meet Ministry of Health requirements. During this period, the Israeli banks continued to provide financial services to their customers through direct technological channels, without requiring them to come to the branches.

[144] The two mergers are conditional upon the sale of some of the credit portfolio in the industries in which the merged banks may have significant market power.

Box 2.1
An International Survey of Digital Banks

- Technological developments and changes in consumer preferences are causing banks and supervisory authorities throughout the world to make widespread adjustments in how they operate.
- In response to the outbreak of the corona pandemic in Israel and abroad, economic activity was reduced and movement in the public space was restricted. As part of this, customer reception services at bank branches were significantly reduced. In recent years, the banks have allocated tremendous resources to expand the supply of services provided to customers through digital channels, which enabled the banks to continue providing banking services remotely while maintaining public health during this period.
- The digital bank model—where most or all of their customers' activity takes place through digital channels (mobile and Internet), and mostly even without physical branches—is one of the developments that is expected to influence the banking system in the coming years.
- Digital banks generally have lower operating costs, new target markets (underbanked[145], unbanked[146]), and a more flexible basket of services than traditional banks.
- Initiatives to establish digital banks around the world come mainly from three types of sources: independent banks that have been established by fintech firms, digital banks established by traditional banks, and digital banking services provide by large companies whose main operations are not in the financial sector.
- As of now, there are a number of countries that have already issued banking licenses to digital banks, and there are a number of additional countries that are in the process of issuing such licenses.
- In Israel, a license to establish a digital bank was recently issued. The provision of the license was made possible partly thanks to the barrier removal process on which the Bank of Israel has been diligently working in recent years, together with the Ministry of Finance.

The digital development and technological progress of recent years in particular (IoT[147], RPA[148], API[149], cloud computing, and biometric identification technologies; for more information see Box 2.3 regarding facial recognition), are having an impact on the financial system in general and on the banking system in particular, and are leaving a marked imprint on them at the global level. The technological improvements enable the banks to increase the efficiency of internal processes and to expand the basket of services they offer to customers.

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[145] Underbanked—people or organizations that have insufficient access to financial services and products offered generally by retail banks, and who are therefore **sometimes** denied banking services such as credit cards or loans.

[146] Unbanked—people who have no bank accounts of their own. They may relay on alternative financial services for their financial needs, if such are available.

[147] Internet of Things—technology that enables advanced communications between devices, systems, and services.

[148] Robotic Process Automation—the automation of manual processes with the aim of maximizing output.

[149] Application Programming Interface—open functions and services that can be used to provide connections between interfaces.

At the same time, there have been changes in the consumer culture. Despite the fact that there is no personal acquaintance or physical connection between the "representative" (interface) of the virtual business and the customer, there is now greater openness and trust toward virtual entities that have provided a variety of options for consuming the financial services they need, at a time and location and in a manner that are appropriate for them. Advanced mobile devices and digital banking services provide consumers with "pocket banking"—products that are easy and convenient to use, and readily available. (About 65 percent of the population in Europe, and about 80 percent of the population in the US, used digital banking services in 2018, compared with about 50 percent and 60 percent, respectively, in 2013.[150]) In parallel with these developments, there has been progress in regulating the financial system, while making adjustments to changes in its environment, such as adopting the PSD2 and RTS regulations[151] and implementing open banking throughout Europe. **The global banking system** is influenced by tehse processes, both on the part of traditional banks that are offering an increasing number of digital services and implementing many streamlining processes, and on the part of technology firms (both new fintech firms and technology giants such as Apple and Alibaba), which are offering a variety of banking services.

The characteristics of digital banks

A digital bank is a bank at which most of its customers' activity is done through digital channels (mobile and Internet), and that generally does not have physical branches. It is one of the developments that is expected to have a significant impact on the banking system.

Thanks to advanced core systems and the widespread use of technology relative to traditional banks (based on cloud computing and the automation of a variety of activities within the bank), together with significant savings in real estate and operative staff costs, digital banks enjoy **lower operating costs** than the traditional banks. The efficiency ratio[152] of digital banks in the UK ranges between 40 and 50 percent, compared with 60–70 percent among traditional banks. OneSavings Bank is prominent with an efficiency ratio of 28 percent in 2018.[153] This is just one of the characteristics that make it unique. The low operating costs enable digital banks to offer their customers services at competitive prices compared with traditional banks. In the UK, the cost of service to the customer at a digital bank was found to be 70–90 percent lower than parallel services at traditional banks.[154]

Digital banks will for the most part operate in the retail banking segment. Its target market is not necessarily only young people with technological savvy, but can also include people or organizations that do not have sufficient access to the financial services generally offered by traditional banks (such as freelancers, teens, and small and micro businesses—underbanked), as well as customers in

[150] McKinsey Global Banking Annual Review, 2019.

[151] Payment System Directive 2 and Regulatory Technical Standards.

[152] The efficiency rating is the cost-to-income ratio—total operating expenses as a share of total net interest income and noninterest income. https://fred.stlouisfed.org/series/DDEI07GBA156NWDB

[153] https://www.osb.co.uk/what-we-do/unique-operating-model

[154] https://newsroom.accenture.com/news/uk-digital-only-banks-on-track-to-triple-customers-to-35-million-in-the-next-12-month-finds-new-research-from-accenture-htm

developing economies where there is a high level of access to smartphones combined with a lack of sufficient access to traditional bank services (unbanked).

A digital bank offers a **basket of services** that can range from traditional banking services (payment services, money transfers, current account management, and providing credit), to consulting, savings, insurance, and investment products and services. The digital bank offers products and services that are typically simple (convenient to use), transparent, rapid, and competitively priced compared with traditional banks. The core systems of the traditional banks may, in the short term, prove to be a barrier to expanding the supply of services and cooperative ventures, due to difficulty in integrating new products and services into existing systems. As such, thanks to advanced core systems that make it easier to expand the supply of products and services, both those developed by the bank and those developed through cooperation with fintech firms (for instance Starling Bank and the fintech firm Moneybox[155]), digital banks also have the ability to rapidly expand their supply of services, shortening the time-to-market.

Digital banks have fewer customers than traditional banks, but they invest tremendous efforts in increasing the number of customers. These efforts are reflected in high growth rates. The number of customers of digital banks operating in England increased by about 150 percent over the year, from about 7.7 million in 2018 to about 20 million in 2019.[156] These efforts involve large investments, which are reflected in losses in the first years of the bank's operations, but there is also understanding among customers, capital markets, and regulators that the bank's main goal in its initial years of operation is to accumulate customers and create long-term trust among those customers.

The advantages and disadvantages of a digital bank

The unique characteristics of a digital bank bring with them advantages and disadvantages, which affect both the banks and their customers on different levels. The table below summarizes the main ones.

Table 1
Digital Bank—Advantages and Disadvantages

	Advantages	Disadvantages
Digital bank	- Low operating costs; - More efficient work processes thanks to advanced core systems; - Functionality – Advanced services and modular bank services.	- Has not yet proven itself over time in practice (during a crisis for instance); - Profitability – Has not yet reached sustainable profitability;

[155] Moneybox is a startup company developing a digital product to manage investments and savings. The cooperation between Starling Bank and Moneybox is an example of leveraging Starling's API interface to shorten the investment allocation time in the product's features from weekly to real-time. Https://www.starlingbank.com/news/starling-bank-partners-moneybox-real-time-savings

[156] https://newsroom.accenture.com/news/uk-neobanks-near-20-million-customers-in-2019-but-customer-and-deposit-growth-rates-slow-according-to-research-from-accenture.htm

		- Third-party risk (over-reliance on outsourcing).
Customers	- Reduced costs – the thin cost structure allows digital banks to offer lower fees and attractive interest rates; - Financial inclusivity – Expanding access for population groups with unique characteristics that will benefit from increased digital services; - Improved financial services that are personally tailored to the customer – availability, simplicity, transparency, friendly user experience; - Accessibility – No need to go to the branch, and service can be obtained with greater availability; - Increased ability to monitor the state of the customer's finances (availability); - Increased ability to compare prices, increased bargaining power, and informed consumerism (depending on the implementation of open banking).	- Limited basket of services; - Lack of physical presence – lack of personal response and reduced access for certain population groups in view of the lack of physical presence and digital communication channels; - Customer suspicion of the bank's information security capabilities. Customers are suspicious that their individual financial data may be leaked to other parties; - Increased supply of credit to retail segments may lead to high leverage and increased financial vulnerability of these segments.[157]

The various types of digital bank[158]

The initiatives around the world to set up digital banks can be divided into three main types by source: **standalone banks** that have been set up by private entrepreneurs, **digital banks that have been set up by traditional banks**, and **digital bank services provided by large companies that are mainly active outside the financial sector**, such as Google, Apple, Amazon, and Facebook.

Standalone banks such as Revolut and N26[159]:

Standalone digital banks are classified as fintech firms that leverage their technological and data processing capabilities to create accessible banking services at attractive prices. Their business model is similar in nature to that of many startup companies, in that at the first stage, their main objective

[157] For more information on households' participation in the loan market and their financial vulnerability, see Box 1.2 of the Survey of Israel's Banking System for 2017.

[158] Citi GPS, Global Perspectives & Solutions, March 2019.

[159] For more information, see Appendix 1.

is to accumulate as many customers as possible, and both the managers of these banks and their investors understand that this may come at the expense of profitability in the immediate range.[160]

It should be noted that standalone banks find it difficult to provide the broad basket of products offered by traditional banks, which reduces their ability to directly compete with such large entities. Standalone banks have therefore found a number of ways to set themselves apart from their traditional competitors. These include:

- Focusing and specializing on a smaller variety of products and services at attractive prices[161];
- Advanced core systems that make it possible to provide all basic actions through mobile devices at low cost (and sometimes at no cost at all);
- A "thin" organizational structure that enables cost savings;
- Cooperation with other fintech companies.

Digital banks established by traditional banks (Greenfield) – such as "Pepper" by Bank Leumi, and "Marcus" by Goldman Sachs:

These banks, established by traditional banks, constitute an independent entity within the bank that is separate in the following ways[162]:

- There is no cross-over of customers or products between the digital bank and the "parent" bank;
- Separate technological infrastructure;
- Separate products and services.

The traditional banks have understood that in view of the increasing competitive threat, the change in the customer's profile and needs, and full access to smart devices, they must join and adopt the digital revolution. Investment in a separate entity that is not dependent on the "heavy" system of the parent bank enables relatively efficient and rapid development of the quality and variety of digital products and services provided to customers.

Digital banking products and services provided by companies that are mainly active outside the financial sector, such as Webank by Tencent, and Mybank by Alibaba

The integration of these large corporations[163] into the banking industry is one of the largest threats facing the rest of the banks in the system (traditional and digital as one). These corporations combine a lack of the "heavy" system that exists in traditional banks, the existence of a broad customer base committed to their various platforms, advanced data processing capabilities, the provision of quality service to the customer, and the high profitability derived from the other industries in which the parent companies operate, which enables cross-subsidization of their banking activity until it reaches standalone profitability. This combination poses a significant competitive threat to the existing banking system.

[160] This business model is also characteristic of startup companies that do not operate in the banking industry (such as Uber and WeWork).

[161] For instance, in the UK, the Starling digital bank focuses on foreign exchange accounts, and Revolut focuses on providing credit cards with immediate foreign exchange conversion for foreign purchases.

[162] One example from the domestic banking system is "Pepper" which was launched in 2017 by the Leumi Group.

[163] Led by GAFA (Google, Apple, Facebook, Amazon) in the west and BAT (Baidu, Alibaba, Tencent) in east Asia.

Developments in Israel and abroad

As of now, there are a number of countries that have already issued banking licenses to digital banks, and there are others that are in the process of issuing such licenses. These include Australia, which has issued licenses to two digital banks; the UK, where a number of digital banks have already been operating for a few years; Hong Kong, which has issued licenses to eight digital banks that are expected to begin operations within a year; Singapore, which has issued a license to a digital bank that is expected to begin operations oon; and China, which has issue banking licenses to the technology giants Alibaba and Tencent. On the domestic side, the Bank of Israel has issued a license for the establishment of a digital bank.

The existence of a broad, committed, and trusting customer base is also an incentive for successful companies in various sectors—from retail chains in the UK (such as Tesco Bank by Tesco) to communications companies in India and Africa (M-PESA by Vodafone)—to integrate into the provision of banking products and services by way of their own network of branches and infrastructure. The fact that these companies have established revenue sources from parallel activity sectors enables them to make long-term investments in the establishment and operation of a new branch of activity without depending on immediate revenue from it. In this way, such companies can provide new services at attractive prices with the aim of translating them into sustainable profitability.

As stated, the banking environment has been developing on many levels in recent years. Traditional banks are investing great effort to streamline[164] as a result of increased competition in the banking system, both on the part of similar banks and on the part of new participants such as digital banks, fintech companies, technology giants[165], and large chains.[166] We expect that these trends will continue and will lead to the sophistication of the banking system in the coming years.

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[164] For more information, see the box "Adapting the Banking System to the Changing Financial Environment" – increasing efficiency and technology in the service of increasing efficiency.

[165] Facebook recently announced the establishment of a payment services infrastructure, and Google recently announced the establishment of a current accounts infrastructure in western countries. https://www.wsj.com/articles/next-in-googles-quest-for-consumer-dominancebanking-11573644601?mod=hp_lead_pos2, November 26, 2019

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APPENDIX 1 – EXAMPLES FROM ABROAD

There are a variety of digital banks operating in various countries. These include:

- **Revolut** – The bank was established in the UK in 2015, and became profitable in 2017. The bank operates through a cellular application, with no website. It offers competitive products and services such as international money transfers for free. As of this writing, the bank has more than 2 million users and a market value of £15 billion. Revolut offers services such as opening an account in just a few minutes, money transfers in 24 currencies, standing bank orders, cash withdrawals from ATMs, and **purchasing health insurance**. In addition, users can buy and sell five types of crypto-currencies.
- **Monzo** – The bank was launched in the UK in 2015, and currently has more than 600,000 users. The bank has only a cellular application. As part of the bank's transparency trend, it launched an innovation lab together with its customers in order to develop new products.
- **N26** – The bank was launched in Germany in 2015 as one of the leading participants in the market. It holds a banking license, and has more than 850,000 users. Due to the conservatism of the banking system in the country, the bank's growth rate is lower than its peers in the UK. The bank began expanding to the UK and to the US. In the UK, it has been operating under its original license, which is valid throughout the European Union. In the US, the bank operates in conjunction with Axos Bank, which holds an American banking license.
- **Starling Bank** – The bank was launched in the UK in 2014 with only a cellular application. The bank holds a banking license. It was the first digital bank to offer business accounts, and in recent years, there has been significant growth in the number of accounts managed at the bank. By the end of 2017, it was operating about 19,000 accounts, and by mid-2018 the number had grown to about 59,000 accounts. There are those who believe that a business account makes a significant contribution to the bank's profitability. The bank is connected to ApplePay and to Google Pay, and also offers a digital wallet.
- **Webank** – This was the first digital bank in China, and was established by the Tencent corporation, which also includes the popular WeChat messaging app. The bank offers rapid loans up to $31,000, and its credit model is based on information gathered through the WeChat application.
- **Tinkoff Bank** – This bank was established in Russia in 2006 by Oleg Tinkov. Today it is the largest digital bank in Russia. The bank offers lifestyle banking services that include such things as: sales of movie tickets, consumer recommendations, trend surveys, and so forth.
- **Ally** – This American digital bank was established in 2010. It offers full banking services, including checking accounts, loans, and deposits. It is integrated with the Zelle payments platform, and has no monthly account fees.
- **Tesco Bank (retail chain)**[167] – This bank was established in 1997, originally as a partnership between the Royal Bank of Scotland and Tesco—the largest retail chain in the UK. In 2008, upon receiving an independent banking license, the bank became fully owned by Tesco. It provides a wide variety of financial products and services, including checking accounts, high-liquidity deposits, payment services, foreign exchange services, credit provision (including mortgages), and various insurance products. The bank's financial statements indicate that it has been profitable in recent years.

[167] https://bank.tescoplc.com/about-us/key-facts/

Box 2.2
Fintech and Innovation in the World of Banking

- The Financial Stability Board (FSB) has defined fintech as "technologically enabled financial innovation that could result in new business models, applications, processes or products with an associated material effect on financial markets and institutions and the provision of financial services".
- In parallel with the development of the fintech field, customer expectations are changing and new financial participants are entering the market. These developments create new opportunities in the field of financial products and services, but there are also challenges being created in the traditional banking models, new risks are developing, and existing risks are increasing.
- In Israel, the banks and credit card companies have been preparing in recent years to adapt their business models to increased competition, the entry of new financial players, and the opportunities that are opening up to them due to technological innovation—whether through their own developments, through implementation of fintech solutions, or through collaborations with fintech firms.
- The Banking Supervision Department encourages and promotes innovation in the Israeli banking system, from the view that innovation in the banking system contributes to its stability and efficiency, advances competition in financial products and services, and enables customers to obtain more convenient, smarter, and personally tailored service. As part of this, the Banking Supervision Department has taken many steps to encourage and promote the implementation of innovation. These include giving banks the ability to operate with cloud computing, like fintech firms do; promoting "open banking", which will give fintech firms access to customer accounts (with the customer's permission) in order to provide services to the customer; giving banks the ability to use facial recognition technology, thereby enabling a full digital process when opening an bank account and more; encouraging the banks to innovate, while announcing patience on the part of the Banking Supervision Department if risks are realized; and establishing a call center in the Banking Supervision Department for fintech firms in cases where they have difficulty opening or managing a bank account.
- At the same time, in terms of the regulatory framework, there are still challenges in the activity of fintech firms in Israel. The Banking Supervision Department believes that formulating a regulatory framework for fintech activity in Israel and setting out supervision and control mechanisms for these firms that are in line with the nature and volume of their activity, will provide them with an important anchor in their entry to the field of financial services. In particular, an appropriate regulatory framework should be created for firms that obtain access to customer information and for firms that hold customers' funds, regarding information security and the prohibition against Anti-Money Laundering and Terrorism Financing Prohibition.
- Israel is one of the leading countries in the world in the areas of technology and innovation. However, fintech firms that develop their products in Israel are generally oriented toward larger and more profitable global markets, so that in the interim, the Israeli customer does not benefit from the potential innovation that these companies bring.
- These developments, and the potential they contain, pose new challenges for Israeli regulators, and also make existing challenges more complicated. The Banking Supervision Department is operating along a methodology of "enabling regulation", with the aim of making sure that the regulation and supervisory approaches enable the new opportunities of the world of fintech to be fully implementable, in a responsible manner, with the proper risk management tools.
- Due to the Covid-19 crisis, which has shaken the entire world, customers have an increasing need and expectation that it will be possible to make financial transactions digitally. For the traditional financial institutions, this means dealing with an even greater need for a digital experience on the part of their customers— both private and business. Traditional financial

institutions that rapidly respond to the changing consumer expectations may gain a significant advantage over their counterparts. Collaborations with fintech firms can help the banking system provide a rapid, efficient, and suitable solution.

FINTECH AND INNOVATION AROUND THE WORLD

Over many decades, new technologies have been developed and adapted for use in financial services. However, the variety of technological innovations, the frequency of their use, and the pace of their development have increased significantly in recent years, to the point where the term “fintech”, which the Financial Stability Board (FSB) defined as **“technologically enabled financial innovation that could result in new business models, applications, processes or products with an associated material effect on financial markets and institutions and the provision of financial services”**, has become widely used among regulators, financial entities (traditional and new), investors, academics, and even customers. Contrary to the direct definition of “fintech” as financial technology, the FSB’s broad view of the term includes technologies that are not financial in nature, such as biometrics, the application of which to financial products and services has a significant potential effect.

In parallel with the development of the fintech field, and apparently influenced by it, there have been significant developments in two other areas that affect financial products and services. (1) **Customers’ expectations are changing** dramatically. They expect to receive services that are sophisticated, convenient, rapid, available (at any time and from any place), and personally tailored. (2) **New financial entities** are entering the world of financial products and services. These include nonbank financial institutions, fintech firms, large technology firms (big-tech), and nonfinancial firms that are interested in expanding their areas of operations.

These developments, in fintech, in customer expectations, and in the entry of new players, create new opportunities in the world of financial products and services. Alongside these opportunities, there are also new challenges in the traditional models of banks, as new risks develop and known risks increase. In February 2018, the Basel Committee on Banking Supervision, headquartered at the Bank for International Settlements, published[168] five stylized scenarios describing the potential impact of fintech on banks, the profitability of the traditional banking model, and competition in this field in particular: “The Better Bank”, “The Distributed Bank”, “The New Bank”, “The Relegated Bank”, and “The Disintermediated Bank”.[169]

Now, two years later, the impression is that the market is adopting two of the scenarios. The first is the "Better Bank", which is essentially a traditional bank that implements new technologies, updates its business models, and improves its systems so that it can offer more digital and more innovative services. The second is the "Distributed Bank", which creates a model of fragmentation of the basket of banking services among various financial entities, such that customers that used to consume all of their financial products and services at the bank where they managed their current account, now

[168] Bank for International Settlements (2018), “Sound Practices: Implications of Fintech Developments for Banks and Bank Supervisors”, Basel Committee on Banking Supervision.

[169] For more information, see Box 2.2 of the *Survey of Israel’s Banking System* for 2017.

https://www.boi.org.il/en/NewsAndPublications/RegularPublications/Pages/skira17.aspx consume such products and services from various players, including banks and credit card companies, nonbank financial institutions, fintech firms and big-tech firms.

It should be noted that both the "Better Bank" and the "Distributed Bank" models contain considerable potential for collaborations with fintech firms to improve the service provided to customers. The "Better Bank" will generally collaborate with a fintech firm by purchasing and assimilating the firm itself or the firm's product into the bank's systems, such that the bank remains the main provider of financial products and services to the customer, and it is the bank that is in direct contact with the customer. If the bank manages to be "better" at a level and pace that match the market's development, the risk of a negative impact to revenue and loss of customer activity to new competitors will be relatively low. In contrast, the "Distributed Bank" will generally collaborate with fintech firms through an outsourcing model, in which the fintech firm will not fully compete with the bank. The fintech firm will supply certain financial services, such as innovative payment services, and the bank will still be able to maintain its customers, since the fintech firm will provide only partial service that is based on a banking product provided by the bank. However, there may be some negative impact to the revenues of such a bank, as well as some reduction in customers' direct interaction with the bank.

At the same time, it is clear that this is still just a start. Enabling technology continues to develop and become more sophisticated, and an increasing number of financial institutions are examining and adopting such technologies. The main enabling technologies include application program interfaces (API), artificial intelligence (AI) and machine learning (ML), cloud computing, distributed ledger technology (DLT), biometrics, and more. In parallel with these technologies, **enabling regulations are being published and formulated around the world,** with the aim of removing regulatory barriers and encouraging innovation in the financial world. The main enabling regulations include open banking, regulatory sandbox, innovation hubs, cyber risk management and crime prevention, and more. In view of such enabling regulation and based on the technologies, **a wide variety of fintech-based financial products and services** are becoming available, mainly including cryptoassets, digital banks, digital payments, account and funds management, digital securities advice and management, and more. The following table shows measures taken by a number of leading countries in the field of financial innovation to enable developments in the field of digital financial services.[170]

[170] From: FSI Insights on Policy Implementation, No. 23, January 2020, Table 10, other than the table's reference to the State of Israel.

	Regulatory sandbox[171]	Regulatory innovation hub[172]	Regulatory accelerator[173]	Open banking	Cyber protection of the financial system	Privacy protection
US	✓	✓	-	-	✓	-
UK	✓	✓	-	In law	✓	✓
Germany	-	✓	-	In law	✓	✓
Switzerland	✓	-	-	In law	✓	✓
Hong Kong	✓	✓	✓	Enabling policy	✓	✓
Singapore	✓	✓	✓	Enabling policy	✓	✓
Israel	-	-	-	Enabling policy	✓	✓

FINTECH AND INNOVATION IN ISRAEL

The Banking Supervision Department encourages and promotes innovation in the Israeli banking system, from the view that innovation in the banking system contributes to its stability and efficiency, advances competition in financial products and services, and enables customers to obtain more convenient, smarter, and personally tailored service. As part of the steps taken by the Banking Supervision Department to promote innovation, the Department holds ongoing discourse with fintech firms, investors, consulting companies, and financial regulators in Israel and abroad, in addition to the close discourse held with the banks and credit card companies. The discourse with the fintech firms is held in various frameworks, such as a dedicated forum for implementing the open banking standard in Israel, a survey of the fintech firms in Israel, and one-on-one meetings. In addition, the Bank of Israel is part of the Finnovation community[174]—which brings together the government, the financial regulators, academia, veteran financial firms, and fintech firms. The discourse enables the Banking Supervision Department (1) to learn about opportunities in fintech firms activities for the banking system and its customers; (2) to examine the existing challenges in bringing collaborations between these companies and the banking system to fruition and the challenges that exist for fintech firms in managing bank accounts for their clients' activities; (3) to direct their focus to removing barriers for all market participants and creating

[171] A controlled examination environment that sometimes includes regulatory tolerance or regulatory easings. The examination environment may include restrictions or rules within which fintech firms can operate (for instance, limitations on a firm's volume of clients or volume of activity while it is operating in the controlled environment).

[172] One or more centers established by a regulator, for purposes of innovation, that provide support, consulting, or training for regulated or unsupervised companies in navigating the regulation or in identifying regulatory policy or legal issues and concerns.

[173] A partnership between fintech firms and central banks or regulators for the development of new solutions that may involve support, through financing or approvals, for the future use of the solution in the activity of the central bank or regulator.

[174] The Ministry of Economy and Industry leads the community, with other participants including the Israel Innovation Authority, Digital Israel, the Bank of Israel, the Capital Market, Insurance and Savings Authority, and the Israel Securities Authority.

enabling regulation in developing fields; and (4) to learn how parallel regulators operate around the world to encourage innovation in the fintech field.

The Banking Supervision Department is of the view that formulating a regulatory framework (including supervision and enforcement mechanisms) for fintech firms that is in line with the nature and volume of their activity will provide these firms with an important anchor in their entry to the world of financial services. In particular, an appropriate regulatory framework should be created for firms that obtain access to customer information and for firms that hold customers' funds regarding information security and the Anti-Money Laundering and Terrorism Financing Prohibition. This framework should base customers' trust in these entities, as financial systems are built on trust. The regulators in Israel act, each in their own area and in cooperation with each other, to create an enabling regulatory framework for fintech firms' activity in the Israeli financial system. It should be noted that there are still areas that have not come to fruition, the advancement of which will improve Israeli fintech firms' ability to operate. These include licensing for new financial service providers, regulation of obligations under the Anti-Money Laundering and Terrorism Financing Prohibition that are in line with activity and risk level, Faster Payments infrastructure, regulatory sandbox, a central identification system for the financial system, a financial innovation accelerator and innovation hubs program, and more. The regulators and government entities are acting to remove these barriers.

Within the Banking Supervision Department's areas of responsibility, a number of steps have been taken to remove barriers and encourage the entry of new players into the banking and payments fields. Some of the main steps include:

- **Easing regulation regarding "cloud computing"** to make it significantly easier for the bank or credit card company to work with fintech firms that use cloud-based services;
- **Easing regulation regarding "online banking"** to enable the use of facial recognition technology (for more information on this topic see Box 2.3 of this Survey), thereby enabling a full digital process when opening a bank account or providing power of attorney to portfolio managers. These easings also enable customers to make transactions using the online channels of the bank or the credit card company;
- **Adoption, application, and assimilation of the open banking standard in Israel** to enable fintech companies to gain access to customers accounts, with their permission, in order to provide services to the customer. This also serves as a technological platform for working with fintech companies;
- **Assimilation of the EMV standard in Israel** to allow the advancement of innovation in the field of payments, and to also enable the entry of new players, thereby also promoting competition;
- **Easing regulations for new banks and new merchant acquirers;**
- **Establishing a computerized banking services office** to enable new financial players to obtain computer services from the computer office established by the Ministry of Finance in conjunction with the Banking Supervision Department.
- **Publication of the Supervisor of Banks letter encouraging innovation at banks and merchant acquirers** in a risk-adjusted and controlled process. This letter includes an explicit statement that creating an experimental environment adjusted to the needs of implementing innovation would be an easing consideration in the Banking Supervision Department's examination and compliance processes.
- **Leniencies in the requirements of managing a bank account for nonbank credit providers and P2P credit agency system operators.** This will significantly ease the current operations of financial institutions that have obtained a license to provide credit or to operate a credit agency system vis-à-vis the banking system.

The banks and credit card companies in Israel are increasingly prepared to adjust their business models to a more competitive and more digital environment, and according to assessments and analyses by S&P[175], it is clear that the Israeli banks are prepared for managing the changing environment and for the competition and profitability challenges that it brings with it. Among other things, the banks' readiness for the opportunities open to them in view of technological innovation can also be seen as taking steps to deal with the competitive environment. Bank Hapoalim and Bank Leumi have developed payment applications ("Bit" and "Pay"), while Bank Discount purchased the "Paybox" application. The volume of use of these applications is growing, both for private customers and for business customers, and the variety of services that can be obtained through these applications is expanding. At the same time, the credit card companies are also working to adjust their business models in the payments area.

However, it is not only the payments field that is becoming more sophisticated in Israel. There are an increasing number of new products and services for customers of the banks and credit card companies, whether self-developed by the bank or credit card company or through collaboration with fintech firms. Bank Leumi established "Pepper"—a digital branch that uses AI-based technology to offer personally tailored digital banking services. Bank Leumi also launched "Videa", a subsidiary company that offers customers personally tailored digital management of their securities portfolios. Bank Hapoalim invested in an investment fund for fintech firms in order to give them growing exposure to fintech solutions. Bank Hapoalim also created cooperative ventures with academia and with large technology firms to examine the development of a blockchain-based platform. Bank Discount created a collaboration, based on Open API, with iCount, a fintech firm that provides digital solutions for managing small and medium business accounts. These are just the main examples. All of the banks and credit card companies in Israel are working to advance additional innovation initiatives that have not yet come to fruition, in order to ensure that they will remain relevant players in the field of financial products and services, even at the fast pace of changing customer needs and preferences, increasing availability of technological solutions, and the potential entry of new players, particularly fintech and big-tech firms.

In Israel, there are more than 500 development centers of fintech firms. These firms bring with them opportunities for innovation and development of advanced financial services, both for the banking system and for its customers. This is not surprising, since Israel, which is known as "the Start-up Nation", is one of the leading countries in the areas of technology and innovation. According to the annual report of StartupBlink[176], which ranks the startup ecosystems of 100 countries, Israel has maintained its position in the leading four countries (together with the US, the UK, and Canada) for the second straight year. However, fintech firms that develop their products in Israel are generally oriented toward larger and more profitable global markets, so that in the interim, the Israeli customer does not benefit from the potential innovation that these companies bring. At the same time, and as described above, the banks and credit card companies frequently examine opportunities for cooperation that are relevant for their business models and that can support their operational needs. As such, it is certainly possible that the maximization of the Israeli innovation potential will reach the Israeli customer through collaboration between the banks and credit card companies with the fintech firms.

[175] SOURCE: FSI Insights on Policy Implementation, No. 23, January 2020, Table 10.

[176] Startup Ecosystem Rankings, 2019.

In conclusion, in view of the developments described herein and the potential they contain, Israeli regulators are faced with new challenges and the greater sophistication of existing ones. The "enabling regulation" methodology that is being adopted by Israeli regulators in general and by the Banking Supervision Department in particular, as described above, supports the advancement of innovation and competition in the financial system. However, it also requires that the regulators adapt to the pace of developing technology. This is with the aim of ensuring that the regulation and supervisory approaches enable the new opportunities presented by the fintech world to be fully implementable, yet responsibly so, in order to deal with complementary issues that arise from the increase in technological activity in the world of financial products and services. Such issues include fairness toward the customer, information and cybersecurity, privacy protection, determining responsibility among all financial players, and financial-digital education, all to enable conditions to support the rapid development of the financial industry. At the same time, and despite the many efforts being invested by the Banking Supervision Department, further steps are necessary at the national level in order to encourage fintech activity in Israel, including a central identification system for the financial system, a financial innovation accelerator, and innovation hubs.

BOX 2.3
IDENTIFICATION AND AUTHENTICATION TECHNOLOGY FOR OPENING AN ONLINE ACCOUNT

- Advancing technological innovation through digital channels in order to encourage competition and improve service to the customer has been one of the main objectives of the Banking Supervision Department in recent years.[177] As part of this, in order to enable a customer to open an online bank account, digitally, rapidly, and efficiently, the Banking Supervision Department enabled the banking system in March 2018 to use new technology for remote face-to-face identification and authentication.
- A number of banking corporations currently allow customers to open online accounts through a digital, rapid, and efficient process on the bank's website or mobile application. The Banking Supervision Department is encouraging other banking corporations, particularly now in view of the coronavirus pandemic, to adopt the use of this type of technology and other advanced technologies to make it possible to expand the banking services provided digitally without the customers having to go to the banks' branches.
- During the coronavirus crisis, this change should enable customers to continue with their financial routines as much as possible without needing to physically go to the branch.
- This change should make it easier for customers to switch banking corporations, and it provides the infrastructure for establishing digital banks.
- Alongside the advantages of technology, it also poses new risks that the banking corporations must constantly monitor.

1. GENERAL

Advancing technological innovation through digital channels in order to encourage competition and improve service to the customer is one of the main objectives of the Banking Supervision Department. One of the ways of achieving this objective is by removing regulatory barriers, in conjunction with the increasing trend of transitioning the banking market in Israel and abroad to digital.

Due to the spread of the coronavirus pandemic, the banks were forced to close a significant portion of their branches, and a large number of customers avoided going to those branches that remained open. As such, and in order to enable customers to continue with their financial routines as much as possible without having to personally go to the branch, the need to enable full digital banking activity, including opening an online account without needing to go to the branch or talk to a teller, has become even more pronounced.

The Banking Supervision Department's amendment to the E-banking Directive (Directive 367) back in March 2018 makes it possible for this objective to be attained, by removing an additional barrier to opening an online account using new technology for remote face-to-face identification and authentication, using only an ID in the process of opening an online account. This is an additional option to the existing process, which includes the use of videoconferencing, two identifying documents, and a bank transfer.

The use of the new technology is conditioned on the issuance of a permit by the Banking Supervision Department to each banking corporation wishing to use it. The terms of the permit were set out, inter

[177] For more information on the Banking Supervision Department's objectives, see Box 3.3 of this Survey.

alia, after an examination by a special joint team to examine the unique legal aspects of using such technology.

The use of remote identification and authentication technology for executing banking transactions is at various stages of regulation, testing, or implementation in different countries. Banking in Israel is among the most advanced in the world in this innovative area, combining a number of technologies in the process to enable a customer to remotely open an account with a banking corporation.

2. THE PROCESS OF OPENING AN ONLINE ACCOUNT AND THE USE OF TECHNOLOGY

In order to open a bank account online, a user must enter the banking corporation's account opening application (by mobile device or computer), based on the options offered by the banking corporation, and following the application's instructions.

The remote face-to-face identification and authentication technology executes the following actions according to the Banking Supervision Department's principle instructions:

- Examines whether the identification certificate is original, partly by examining the font type, location of the fields, and integrity of the stamp.
- Authenticates that the identification certificate actually belongs to the right person, by comparing the facial features of the applicant in the picture on the identification certificate with a photograph of his or her face at the time the account is opened.
- Authenticates the applicant's details as read from the identification certificate against the Population Registry.
- Ascertains that the applicant is a "living person" and not a result of any technological manipulation (such as presentation of a picture or use of a robot with the application).

A combination of these examinations, which are carried out sequentially, should provide a high level of certainty that a person interested in opening an account is actually the person whose identity is recorded by the banking corporation as the owner of the account. However, since the process of opening an online account through identification and authentication technology is innovative and has legal implications, the entire issue is under increased scrutiny, and each account opening is accompanied by human controls, until the model's reliability is proven beyond any doubt and it is stabilized as a sustainable model.

3. THE RISKS IN THE NEW TECHNOLOGY USED TO OPEN AN ONLINE ACCOUNT

New technologies contain risks. Accordingly, the Banking Supervision Department is guiding the banking corporations in carrying out dedicated risk management and defining and implementing proper controls as part of the implementation of these technologies.

One of the new risks is the absence of human intelligence in the process of opening an account. As opposed to technology, a teller generally knows how to discern an attempt to open an account by someone who is under duress or who is not fit to open an account, and to prevent such a situation. The banking corporations have been asked to implement various controls in this regard—both computerized and human.

The transfer of a large amount of information regarding a person through digital means is an additional risk that is enhanced in this process, and such means must be protected as much as possible in order to prevent an adverse impact on a customer's privacy and the use of information for criminal objectives, among other things. The banking corporations have also been asked to assess and manage the risk in this area, and to implement appropriate means of monitoring and control.

The reliance on technology itself, as with all technology, involves a statistical margin of error, which carries the potential for the realization of risks. Thus, there may be a situation in which an online account is opened for customers after those customers have presented documents that are not theirs. The banking corporations have been asked, in relation to this risk as well, to set out minimum error thresholds that the technology must meet, among other things, and to build a monitoring and control system that includes various controls, including human observation and control over the process, including the documents provided to the banking corporation as part of the process.

In contrast, the process of opening an account at the branch, with a teller, is also not without risk of fraud, as has happened more than once, due to the reliance on the awareness and memory of the human factor. As such, even in this process, the banking corporations are required to carry out risk management and to set out controls and ways to minimize those risks.

Therefore, whichever way the bank implements in opening an account, whether at the branch or remotely, the banking corporation will need to adjust its risk management to the means it uses and will need to use monitoring and control means accordingly.

4. THE ADVANTAGES OF USING REMOTE FACE-TO-FACE IDENTIFICATION AND AUTHENTICATION TECHNOLOGY

The use of remote face-to-face identification and authentication technology:

- Gives the customer access to the process of opening an account from any place at any time. There is no need for the customer to go personally to a branch. There is no need for a discussion with a teller. Customers manage the process of opening an account on their own, without depending on any human factor.
- Increases the efficiency of the customer identification and account opening processes. The time it takes to open an account with technological identification is markedly shorter than if identification is through a teller.
- Should increase the reliability of the customer identification process, and improve the potential abundance of evidence if necessary. The technology is based on objective, unbiased, identity management parameters, and the examination data are maintained in the banking corporation's systems.

5. THE STATE OF APPROVAL FOR BANKING CORPORATIONS TO USE THE TECHNOLOGY

The Banking Supervision Department approved the use of the above mentioned technology in principle through the E-banking directive. Now, following banking corporations' requests, the Banking Supervision Department examines the specific uses and applications of such technology in each request. Within this framework, some of the banking corporations have begun developing new processes for opening online accounts with the new technologies, and have submitted requests for approval to the Banking Supervision Department. The Banking Supervision Department conducts a comprehensive examination with these banking corporations, at the end of which the approval is issued. In April 2019, for the first time, a number of banking corporations received a permit to use remote face-to-face identification and authentication technology, which includes requirements for controls and learning lessons process, and subsequently began actual implementation.

Currently, a number of banking corporations allow accounts to be opened online in a digital, rapid, and efficient process. The Banking Supervision Department is encouraging other banking corporations, particularly now, in view of the spread of the coronavirus pandemic, to adopt the use of such technology and other advanced technologies that will make it possible to expand the banking services provided digitally to customers without the customers having to go to the bank branches.

CHAPTER 3
SUMMARY OF THE BANKING SUPERVISION DEPARTMENT'S ACTIVITIES IN 2019

In 2019, the Banking Supervision Department continued to promote competition, innovation, and efficiency in the banking system, along with maintaining its stability. The COVID-19 crisis that erupted in early 2020 shifted the Department's focus mainly to managing the crisis, with the aims of safe-guarding the public's deposits and the banks' stability; encouraging the banks to support the economy in order to prevent a credit crunch and mitigate the impact of the crisis on the economy; and enable the continuation of essential banking services to the public. (Details of the Department's actions during the crisis are presented in Box 3.1 of this Survey.)

THE BANKING SUPERVISION DEPARTMENT'S VISION AND STRATEGIC GOALS

The Banking Supervision Department acts in the public good based on its authorities as anchored in the law. In 2015, the Banking Supervision Department examined its strategic goals, and formulated its vision for the coming years—to be a professional and proactive supervisory body for the good of the public and the economy. As part of this vision, three central objectives were set out: maintaining the stability of the banks in order to ensure the public's deposits; promoting fairness in relations between the bank and its customers; and advancing competition in the area of households and small businesses. Additionally, the Banking Supervision Department works to ensure that the banking system supports economic activity. These functions are interwoven, and are essential in maintaining the public's trust in the banking system and in enabling economic growth. Likewise, two supporting objectives were set out: promoting technological innovation, and encouraging the banks to become more efficient.

Five years after these objectives were set, the financial system in Israel has advanced significantly into a more innovative and competitive world. Infrastructure projects to advance competition and innovation were implemented and completed, and there are additional significant projects in advanced stages toward implementation. Chief among these are open banking, transitioning from bank to bank online, and the establishment of a banking computer center. In addition, two credit card companies were separated from the large banks, and became independent financial entities competing in the areas of retail credit and payments. Licenses were issued to new acquirers, and for the first time in more than 40 years, a license was issued for a new bank—a digital bank. At the same time, the Bank of Israel completed the establishment of a credit data sharing system, which lowered an especially critical information barrier to advancing competition.

In addition to encouraging competition, the Banking Supervision Department removed many other barriers and encouraged a digital transformation of the banking system, both in its interaction with customers and in its internal operations. This change has been reflected in, among other things, a significant increase in the share of banking activities that customers do remotely rather than going to the branch. Complementary to the digital transition and the change in the "banking production function", the Banking Supervision Department encouraged large streamlining processes through special efficiency directives. This led to a significant improvement in the banks' efficiency ratios, and a decline in wage expenses and expenses on real estate (branches and head offices). In addition, the many changes that the financial system is undergoing are posing new challenges for the banking system and the Banking Supervision Department, in terms of the banks' business models and in terms of risk management, in view of the increasing technological/operational risks and cyber risk. The

Banking Supervision Department is prepared, and has required the banks to prepare to deal with these risks.

1. Main actions to strengthen stability and protect depositors' money at the banks

With the aim of continuing to strengthen stability, the Banking Supervision Department acted in the following areas:

- **Assessment of the banks' risk profiles**: Throughout 2019, the Banking Supervision Department carried out a long series of assessment and monitoring activities with the banking corporations. These included holding meetings with management and internal gatekeepers, examining annual work plans, reviewing main internal documents, analyzing public financial statements, and more. In addition, the Department worked with the five banking groups and two independent banks on a comprehensive and structured risk profile assessment called the Supervisory Review and Evaluation Process (SREP). As part of this process, the Department assessed the built-in risk and the quality of risk management in the bank's operations and the quality of the main corporate governance functions, and examined the banks' capital adequacy. The updated risk assessment took into account changes in the banks' operating environment, strategy, operations model, and financial state since the previous SREP. For more information on the supervisory methodology for assessing risks at the banks, see Box 3.2 of *Israel's Banking System, Annual Survey* for 2018.
- **Strengthening technology risk management**: As part of the risk assessment process in recent years, and in view of the rapid transition to digital services in the banking system, the Banking Supervision Department has identified cyber risk and technological risks as significant risks for which there must be a response. The Department acted as far as possible within this to reduce these risks through a variety of means, and to improve the quality of management of these risks, with the view that the risk can be expected to come to realization, and that the banks must be prepared to minimize the damage to the public and to the banks when such realization occurs.
  - The Banking Supervision Department conducted off-site examination activity in the area of information technology, with the aim of providing an on-going assessment of the banking system's functioning in the areas of technology and technological risk management. This activity involved developing a methodology, writing specific technology risk cards to assess technological risk, an initial round of work with the banking system on their strategic plans, and the start of continuing work on developing those plans.
  - The Banking Supervision Department carried out on-site examinations in the fields of information technology and cybersecurity. These examinations included tests of the quality of risk management according to a structured examination specification.
  - **A memorandum of understandings (MOU) was signed with the National Cyber Directorate**, in order to set out the relationships and types of responsibility between the two bodies, and to create an additional layer of protection at the national level for both the banking sector and the Israeli public. Cooperation with the National Cyber Directorate significantly strengthens the quality of cyber risk management at the banking system level, and will enable anonymous and secure information sharing among the banks and between them and the National Cyber Directorate, which is expected to minimize the risks and the implications of their realization at the system level, and to assist in case of a cyber attack of leakage of information. For instance, this cooperation helped to contain and deal with an information leak that took place in one of the payment applications (paybox) in January 2020.

- **There were two cyber drills with the banking system:**
  - In January 2019, a drill was held regarding trading rooms, with the participation of business echelons, risk management experts, and cyber experts from the banking system. The scenario of the drill dealt with a cyber attack on business activity in the trading rooms, and was intended to test the decision-making processes during a cyber attack on a business process as well as cyber risk management in the trading rooms, including supply chain risks and internal threats, strengthen internal interfaces, identify gaps in handling the threat, and provide insights for continued work.
  - In September 2019, there was an additional drill, in which the banking system was included, for the fourth time, in an international financial drill by the American FS-ISAC organization, and a concluding discussion was held regarding sectoral insights raised by the drill. The scenario focused on an attack on the organization through the supply chain, which led to an attack on a hardware component in the organization's infrastructure and significant business damage. It included the participation of a variety of personnel in the banking corporations.
- A self-evaluation tool on cyber defense readiness was distributed to the banking system. The content of the tool was derived from Proper Conduct of Banking Business Directive 361 "Cyber Protection Management", and provides another tool in addition to those that the banking system already has, enabling them to examine cyber protection at the bank as well as how the bank meets the requirements of the directive. It will also enable the Banking Supervision Department to obtain a situational picture of the entire banking system.

- **Stress test on the banking system:** The Banking Supervision Department also conducted a uniform stress test on the banking system in 2019, in accordance with the international standard. The tremendous importance of prior preparations for serious scenarios was brought into sharper relief in the corona pandemic crisis. The banks were prepared in advance for the crisis, and as such, are playing key roles in helping the economy get through the crisis with less damage. In 2019, the Banking Supervision Department's uniform stress test was, for the first time, based on a cyber scenario (and not a financial scenario). The stress test in this format is the first of its kind in Israel, and as far as is known, it is the first of its kind among financial supervisors around the world. The test's basis is a scenario featuring a serious cyber incident that leads to technological and financial impacts on the bank. The aim of this stress test was to examine the risk points in the event of a serious cyber incident, as well as its direct and indirect impacts on banking activity. The test also served to improve the banking corporation's knowledge and understanding, as well as that of the Banking Supervision Department, in relation to this type of incident, its implications, and the assistance necessary in preparing the system for a large-scale cyber incident that may take place.
- **Establishment of the model risk management unit:** With advancements in technology and the transition to digital banking, the use of advanced underwriting and risk management models is increasing. As such, the Banking Supervision Department established a model examination unit, which examines the existing regulation around the world and works to adapt it to the banking system in Israel. The unit will also carry out examinations in accordance with the accepted international methodologies.
- **Risk survey of banking system officials:** A risk survey was conducted for the first time in 2018. Eighty senior officials in the banking system responded. The survey was intended to identify and assess the intensity of various risks with which the banking system must deal and the development of new risks, in order to provide additional information beyond the Banking

Supervision Department's risk assessments. Another survey was conducted in 2020 in order to examine the risk perception of the banking system officials over time and to relate to new issues that have come up during the past year. The findings of this survey are presented in Chapter 1 of this Survey.

- **Fitness check for senior officials in the banking system:** Under the powers vested in it by the law, the Banking Supervision Department continued to conduct fitness checks for senior officials in the banking system.
- **Strengthening business continuity:** The Banking Supervision Department continued to advance the preparedness of both the Department and the banking system for emergency situations. Among other things, the Department initiated and organized professional conferences for business continuity supervisors in the banking system, participated in the national turning point drill, and conducted a drill with the banking system on reporting an emergency to the Banking Supervision Department. As part of its role as the designated financial-banking authority and its membership in the Emergency-Economy Committee, the Department took part in the staff work and national dialogue to develop the know-how and emergency service levels, and also presented the National Emergency Authority with the Banking Supervision Department's work plan for 2020.
- **Survey of the effectiveness of the internal audit function at the banks, as part of ensuring proper corporate governance:** In the second half of 2019, the Banking Supervision Department conducted a broad and comprehensive survey of the effectiveness of the internal audit function in the banking corporations. Among other things, the survey examined the standing and independence of the internal audit function, its work interfaces, its work methodologies, and the data infrastructure systems used in its work. The findings of the survey, including tangible demands and recommended improvements, were presented to the audit committees of the banking corporation's boards of directors, and were sent in writing for implementation.
- **Conducting examinations and surveys of the banking system:** The Banking Supervision Department examined the quality of the controls, risk management, and corporate governance of the banks in practice, through examinations and surveys in various risk fields, including: an examination of risky business borrowers from the real estate, communications, energy, manufacturing, and other fields; examinations of those at high risk regarding the prohibition of money laundering and financing of terrorism, including an examination of the internal risk assessment process that the banks perform in this area; examinations of the initiated marketing of consumer credit, management of fraud and embezzlement risk, and technological risk management; and more. Examinations carried out by the Banking Supervision Department raise concrete requirements and recommendations for improvement in areas where weakness in the banking corporations' behavior have been identified. The Banking Supervision Department is monitoring the implementation of the requirements from the examination reports, and ensuring their implementation through various ways, including targeted examinations.
- **Strengthening conduct risk management in the trading rooms:** The Banking Supervision Department conducted a comprehensive survey of conduct at Israeli banks against selected principles set out on the FX Global Code, which serves as a new global standard in this field, in order to ensure the proper conduct of traders in trading rooms, in terms of fairness toward the customers, transparency, and efficiency. Due to the survey, the banks were required to carried out a comprehensive survey of gaps in 2020, against the principles of the Code, and to make decisions regarding the closure of such gaps. The Department also conducted examinations in the trading rooms of a number of banks. In the examination reports, some of the banks were required to set out detailed rules of conduct for traders, and to improve their monitoring of the traders' communication channels.

- **Advancing a new international standard on credit loss allowances:** The Banking Supervision Department continued to advance banking corporation preparations for the implementation of new rules regarding the calculation of expected credit loss allowances (CECL). It instructed the banking corporations to prepare for the adoption of the new rules set out in this matter from January 1, 2022, and is monitoring their preparedness, as well as insights from abroad relating to the implementation of this standard. The implementation of the new rules is expected to improve the banking corporations' resilience to financial crises, and to improve the quality of reporting on their financial state, partly by strengthen the link between actual credit risks and risk management and their reflection in the financial statements.
- **Guiding the completion of the separation of the credit card companies from the banks as part of the reform to increase competition:** In March 2020, Bank Hapoalim distributed the remaining 30 percent of Isracard shares that it held following the April 2019 share offering as a dividend in kind. Upon completion of the sale of the shares, the separation of the credit card companies from the banks was completed as required by the Increasing Competition and Reducing Concentration in the Banking System Law resulting from the Shtrum Report. The Banking Supervision Department guided the separation process, as part of which the necessary regulatory adjustments were made to enable the separation, support the separated companies, and provide them with infant protection. Banking regulations were also adjusted for significant merchant acquirers that do not hold public deposits, inter alia by adjusting capital and liquidity requirements.
- **Guidance of merger transactions:**
    - **The merger of Bank Mizrahi-Tefahot and Union Bank:** The Banking Supervision Department is guiding the merger, and throughout 2019 was in regular contact with the Competition Authority and with the parties to the merger from the moment the deal was signed. The Competition Tribunal ruled in November 2019 that it accepted the appeal filed against the decision of the Competition Authority that opposed the merger, subject to certain guidelines that are currently being discussed between the parties and the Competition Authority. The Banking Supervision Department is prepared for the merger, and is guiding various aspects of the process, with all of its complexity, and is making sure that the banks are properly prepared in order to reduce any negative impact to their customers to the absolute minimum.
    - **The merger of Municipal Bank and Mercantile Discount Bank:** The Banking Supervision Department guided the merger process between the banks. The fact that Municipal Bank did not engage in retail activity made it much easier to carry out the merger.
- **Strengthening international contacts with parallel supervisory authorities abroad:** The Banking Supervision Department signed a memorandum of understandings (MOU) for supervisory cooperation with the New York State Department of Financial Services (NYDFS).
- **Advancing the principles for setting the terms of employment of the Chairman of the Board of Directors at a bank without a controlling owner:** In view of the increase in the number of banking corporations without a controlling owners, and the lack of clarity regarding the terms of employment of the Chairman of the Board of Directors at such banking corporations, the Banking Supervision Department published a letter with guidelines for such banking corporations to determine the terms of employment for the Chairman in accordance with the principles included in the letter.
- **Tightening the restrictions on credit concentration to borrowers that are active in the capital market:** In view of the unique credit risk characteristics inherent in the customers'

derivatives activity, the indebtedness of a borrower active in speculative activity who is not a supervised borrower was restricted.

- **Flexibility in the provision of credit to national infrastructure project by way of the construction and real estate industry restriction:** In view of the significant expected increase in the number of national infrastructure construction projects carried out as public-private partnerships (PPP), the Banking Supervision Department allowed the banks to provide credit to the construction and real estate industry totaling 22 percent of the total credit portfolio, compared with 20 percent before the easement.
- **Publication of a draft directive to regulate broker-dealer activities:** With the aim of increasing the uniformity of supervision and regulation of entities dealing with broker-dealer activity, protecting investors, and increasing investors' trust in these entities, and in order to close regulatory gaps, the various regulators (Ministry of Justice, Israel Securities Authority, and the Banking Supervision Department) cooperated to advance uniform principles to regulate the broker-dealer field.
- **Strengthening compliance risk management:** The Banking Supervision Department published clarifications and explanations of the Proper Conduct of Banking Business directives regarding the prohibition against money laundering, including regarding customer identification and verification procedures and "know the customer" processes.

2. Main actions to strengthen fairness, public trust, and protection of the banking customer

The Banking Supervision Department promoted the following initiatives in order to further enhance fairness in relations between the banking corporations and their customers and to strengthen the customer's position:

- **The formulation of a comprehensive outline that was adopted by the banking system, to defer loan payments as a form of assistance to bank customers in dealing with the ramifications of the corona crisis:** A few days after the magnitude of the pandemic and its ramifications started becoming clear, and with the aim of helping households and businesses deal with the drastic change that was forced upon them, the banking system began enabling the deferral of loan payments. The Banking Supervision Department encouraged this, partly through clarifications and accounting leniencies. From the start of the crisis until the end of April, the banks deferred loans to about 450,000 customers in all activity segments, totaling about NIS 5.2 billion—both unprecedented levels. In an additional measure, at the beginning of May, a uniform outline for deferring loan payments was formulated and adopted by all the banks, in order to continue helping bank customers get through the crisis, manage risks in an informed and responsible manner, and create certainty for the broad public regarding the possibility of deferring payments. The outline makes it possible for the public to defer mortgage payments by 6 months, defer consumer loan payments by 3 months, and defer payments for small businesses. The outline presents minimal measures. Banks that choose to adopt additional measures in order to help their customers may do so. The outline was formulated with the agreement of the banking system, while studying the measures taken in other countries.
- **Guidance of the formulation of and preparation for the implementation of the fair credit law:** The law was expanded to include all credit providers, and a permitted interest rate upper bound was set. The law also sets out rules regarding how a loan contract is arranged, as well as disclosure requirements.
- **Guidance of the formulation of and preparation for the implementation of the Payment Services Law:** The law, which is based on the European Directive for Payment Services, was

advanced due to the growth of electronic means of payment, the reduction of the use of cash, and the entry of new players. The law sets out a uniform standard governing the relationships between payment service providers and their customers, which is intended to protect consumers and businesses in the world of advanced payments. The law sets out consumer protections that will apply to all payment service providers and all payment accounts and means of payment, including protections that have thus far been applied to payment cards (credit cards and debit cards) only, such as responsibility when a card is misused or receipt fails.

- In 2019, there were three legislative amendments in the area of mortgages, that are intended to help customers:
  - **Provision of loans to people with life-shortening disabilities** (amendment to the Equal Rights for the Disabled Law);
  - **Deferral of the monthly payment date for housing loans in special circumstances** (amendment to the Banking (Service to the Customer) Law);
  - **Deferred of the repayment dates on housing loans due to death** (amendment to the Banking (Service to the Customer) Law);
  - Revision to Proper Conduct of Banking Business Directive 451:
    - Regulating how the property assessment is done—the customer will be referred to a property assessor together with an approval in principle, and can move between banks for three months in order to obtain competing offers;
    - Presentation of updated mortgage information on the bank's website;
    - Issuing a dedicated confirmation for the insurance company of the bank's agreement to reduce the insurance amount or cancel the lien.
- **Providing a response to complaints and requests for clarification from the public on banking and consumer matters:** In 2019, the Public Enquiries call center responded to thousands of phone enquiries, and dealt with about 7,400 public complaints and enquiries divided as follows:
  - **Direct handling**—The unit handled about 1,750 complaints and about 2,550 requests for clarification on banking matters;
  - **Exhaustion of proceedings**—About 3,100 complaints and requests for assistance beyond the letter of the law were transferred for a direct response by the ombudsmen at the banking corporations.

  As part of the handling of public complaints, the Banking Supervision Department set out remedies for customers in appropriate cases, and also instructed that broad consumer deficiencies identified from the information collected by the Public Enquiries Unit be corrected, including refunds to relevant customer groups. In 2019, roughly NIS 1.67 million was refunded to customers in individual cases, and more than NIS 5 million was refunded as part of broad handling and refunds to customer groups that were relevant to the deficiency that was found. During the corona crisis, the Banking Supervision Department has focused on rapidly responding to all enquiries involving the public's difficulties during this period, as outlined in Box 3.1 of this Survey.
- **Supervision and control of Ombudsmen's work in all banking corporations,** concerning the handling of, and response to, customers' enquiries. As part of the supervision and control process, the Banking Supervision Department examined the work processes of the Ombudsmen's offices, and then sent letters containing itemized requirements for improving those work processes.
- **Increasing enforcement in consumer areas:** In order to ensure the fairness of the supervised entities toward their customers and compliance with regulatory directives, the Banking Supervision Department defined a dedicated resource to carry out enforcement examinations.

During 2019, the Banking Supervision Department imposed three financial sanctions totaling about NIS 2.6 million on various banking corporations regarding consumer matters.

- **Providing a response for restricted customers in the banking system:** The Banking Supervision Department manages and operates a database, on a daily level, which, as of the end of 2019, includes 263,912 customers on whom restrictions have been imposed. Of those, 30,490 were under "banking" restrictions (due to checks without cover), and about 233,000 customers were under "special" restrictions (requested by nonbank entities, including the Enforcement and Collections Agency, the Official Receiver, the Fines Center, and the Rabbinic Courts), which led to the restriction of about half-a-million bank accounts during the year. The Banking Supervision Department also provides on-going response to public enquiries regarding these matters, through a dedicated website it set up for this purpose.
    - A guide to the public was published in order to increase awareness of the risks involved in check restrictions;
    - The Banking Supervision Department has examined the implementation of Directive 426 regarding **the provision of a professional human telephone response**. The findings of the examination, which showed some gaps in some of the supervised entities, were reported to the Knesset Economics Committee. The Banking Supervision Department clarified the requirements in the directive and imposed a series of itemized requirements on various entities to correct deficiencies after having deviated from the directive. The Department will continue monitoring the supervised entities' fulfillment of the requirements of the directive.
- **Publication of a draft directive detailing what is expected of the banks in consumer areas related to the marketing of credit to households.** The draft, which was written in conjunction with the Capital Market, Insurance, and Savings Authority, is intended to set uniform standards regarding consumer aspects of the provision of credit to private individuals. The cooperation with the Capital Market, Insurance, and Savings Authority was for the good of the public, and was intended to ensure that there is no regulatory arbitrage between various players in the consumer aspects of fairness in the marketing of credit. The directive sets out minimal standards and behavioral norms that are expected in the banking system's marketing activity vis-à-vis households. Among other things, these include limiting the volume of retail credit to the customer's financial capability and avoiding the provision of credit that may be an excessive burden on the household; being meticulous about proper marketing procedures vis-à-vis customers; being meticulous about the provision of relevant and complete disclosure to the customer and ensuring that compensation mechanisms do not encourage unfair behavior.
- **Promoting lower fees for merchants:** Following joint activity with the Ministry of Social Equality in 2018 to empower senior citizens in digital banking, such activity continued in 2019 in conjunction with the Association of Local Authority Directors General, in order to reach a wider audience. The objective of the activity was to help senior citizens get used to digital banking, and to provide them with personal and structured guidance in acquainting themselves with basic digital banking services. Following lectures that were provided by representatives of the banks, personal training sessions were offered at the bank branches. Alongside this activity, **a series of focused consumer guides** on banking consumer matters (taking out credit, "Money Mountain", debit cards, and more) was launched, entitled **"Worth Knowing"**. The objective of these guides, which are also available on the Bank of Israel website and are communicated to the public through various media outlets, is to help the public in its decision making as part of managing bank accounts, and making basic terms that are important in the conduct of household economics more accessible and understandable.
- **Simplifying credit agreements by setting a uniform format for loan contracts and working to implement it** in the system as part of Directive 449. The template that was set

was adopted by the Capital Market, Insurance, and Savings Authority in order to set uniform consumer criteria in the system with the objective of easing and simplifying the reading of credit agreements for the customer.

- **Supervising the process of closing bank branches:** The Banking Supervision Department continued its examination of banking corporation requests to close branches, subject to the Department's directives on the matter and subject to the law. The process of closing branches in recent years has come about due to changes in customer preferences regarding their consumption of banking services (transition to direct channels), and due to the banks' need to streamline (in order to remain competitive and to invest more in innovation). The Banking Supervision Department examines each request to close a branch in order to make sure that a proper response is provided to customer needs. As such, the Department examines the availability of alternative banking services in proximity to the branch, the branch's mix of customers, the nature of customer activity at the branch, and so forth. The Department decides, based on the circumstances of each case, whether to approve the closure of the branch or not, and sets various conditions as necessary in order to ensure the quality of service provided to customers. During the corona crisis, the Department made further easements in order to enable customers who had not yet registered for online banking to join the service, in order to make it easier for them to obtain essential banking services without having to incur the health risks associated with going to the branches.
- **Assistance in protecting special population groups:**
    - **Protecting the elderly:** The directive on "Merchant Acquirers and Settling Credit Card Transactions" was amended with the aim of protecting customers, particularly the elderly, who are victimized by fraud, deception, and unfair influence on the part of merchants acting without regard to consumer protection laws. The amendment sets out that a merchant acquirer's refusal to provide settlement services to a merchant when there is material concern of defrauding customers, deceiving customers, exercising undue influence on them, or refusing to take a particular action on their behalf, will be considered a reasonable refusal. The Banking Supervision Department is also acting to find various solutions to deal with the phenomenon, such as having merchant acquirers or card issuers report such merchants to the Fair Trade Authority, publishing a list of merchants with whom settlement should be ceased, and so forth.
    - **Assistance for battered women:** The Banking Supervision Department continued to develop the Banking Availability Covenant, together with the Association of Banks, in order to help battered women in shelters and half-way houses. The Covenant was first implemented in 2016. Its implementation is leading to personal and individual assistance by representatives of the banks and credit card companies for anyone entering a women's shelter, in order to make it easier for such women to become financial independent after separating from an abusive spouse. In 2019, the Department expanded the Covenant to women who are victims of violence and are in the community or at centers for victims of domestic violence, in conjunction with the Ministry of Welfare and various nonprofit organizations.

3. Main actions to advance competition and efficiency at the banks

Further to the many steps taken by the Banking Supervision Department in recent years with the objective of advancing competition within the banking system and beyond it and leading the system in adapting to the fourth technological revolution, the implementation of significant structural measures was competed, and there was significant progress in a number of additional projects that are expected to lead to a change in the competition map in the banking and financial systems in the coming years.

- **Implementation of the reform to increase competition:** The Banking Supervision Department, in conjunction with the Ministry of Finance and other parties, worked to implement the "Increased Competition Law". This was done first and foremost by advancing all the projects outlined below that were defined as part of the Shtrum Committee reform, as well as by guiding the work of the committee monitoring the reform's implementation. In 2019, the Department completed most of the tasks derived from the Shtrum report on advancing competition, including setting out guidelines for presenting information on the banks' websites concerning the customer's use of nonbank cards. A main task that is currently underway is preparation for "Open Banking", as detailed below.
- **Completion of the separation of the credit card companies from the banks:** Following regulatory adjustments made in previous years in order to enable the separation of the credit card companies from the banks, the balance of Isracard shares held by Bank Hapoalim was distributed as a dividend in kind at the start of 2020. With that, the process of separating two credit card companies from Bank Leumi and Bank Hapoalim was completed, with the companies becoming independent financial entities: Max (formerly Leumi Card) and Isracard. With their transition to independent companies, they were given broad settlement licenses that define the activities permitted to them.
- **Issuance of a license to a new digital bank:** A license was issued to the first digital bank on December 30, 2019, and permits to control a bank were signed, after the regulatory and operational foundations were laid in previous years to allow and encourage the establishment of new banks. The Banking Supervision Department is continuing to guide entrepreneurs who are interested in establishing new banks in Israel. For more information, see Box 3.4 of this Survey.
- **Publication of risk-based regulation and the promotion of competition:** A Proper Conduct of Banking Business directive was published, setting out the regulation imposed on new retail banks, in order to make it easier to establish new banks with a risk-based approach, operate transparently, and provide certainty regarding the rules they are expected to follow.
- **Strengthening competition within the banking system by easing capital requirements to medium-sized banks:** In order to encourage competition within the banking system and to enable medium-sized banks to grow, leniencies in capital ratios were given to banks whose total assets are less than 24 percent of the assets of the total banking system, rather than the current 20 percent. The change was made following dialogue between the Banking Supervision Department and the Competition Authority due to the expected merger of Bank Mizrahi-Tefahot and Union Bank.
- **Removal of the computerization barrier for new banks and small banks:** The Banking Supervision Department is involved in the process led by the Ministry of Finance to establish a joint computer center that will serve a number of banks and financial players, with the understanding that the issue of computer infrastructure poses a significant barrier to the entry of new small participants in the banking market. TCS, which is the Israeli representative of the Indian TATA company, won the tender, and at the beginning of 2020 it signed a service provision agreement with the founders of the digital bank.
- **Publication of surveys on customer satisfaction with banking services:** At the beginning of 2019, the Banking Supervision Department for the first time carried out a survey that examined customer satisfaction. The objective of the survey was to increase competition between the banks over the quality of the service provided to their retail customers. The Banking Supervision Department monitored the actions taken by the

banks to improve service, including as a result of the publication of the survey. At the end of the year, another survey was conducted in this regard in order to examine whether there was improved service at the banks. The findings of the second survey were presented to interested parties at the banks and were released to the general public. In 2020, as part of the desire to improve service to the small business sector as well, the Banking Supervision Department conducted an additional satisfaction survey concerning small businesses. The findings of this survey were analyzed and presented to the relevant parties at the banks, and also released to the public. Similar to the small business satisfaction survey, the Banking Supervision Department will be carrying out follow-up surveys to examine changes in business sector satisfaction.

- **Continuing to lead the "Switching Banks at a Click" project:** The objective of this project is to enable customers to move easily from one bank to another at no cost, online, and securely, within seven business days. Thanks to the increased competitive threat and the customer's increased bargaining power, the solution, once implemented, will enable an improvement in the terms of the customer's relationship with the bank to which his financial activity will be transferred or at the bank where his account is managed. The final text of the Governor's Rules and a Proper Conduct of Banking Business directive were published at the end of 2019. The publication of these items constitutes the implementation of the legislation and the advancement of the regulatory infrastructure necessary for online movement between banks. The planned date for completion of the project is 2021. In view of the legislative, operational, and technological complexity of the project, and out of a desire to launch the system with most services and financial activity being moved in one shot rather than in stages, the Bank of Israel and the Ministry of Finance decided to ask the Knesset Economics Committee for a half-year extension in implementing the project.
- **Advancing the "Open Banking" project:** The Banking Supervision Department has continued to lead the Open Banking project, which is a technological and regulatory project the objective of which is to increase the customer's power and enhance competition, improve service, and inject innovation into financial services. The project provides third parties with access to the customer's account, with the customer's consent, in order to obtain information or conduct activity. The standard that will be implemented in Israel has been set out in Proper Conduct of Banking Business Directive 368—Implementation of the Open Banking Standard in Israel—which was published in February 2020. However, complementary legislation is required in order to open access for third parties that are not banks or credit card companies. The legislation on open banking is being led by the Ministry of Finance and the Ministry of Justice, in conjunction with the Banking Supervision Department and other regulators. In addition, the Banking Supervision Department is working in conjunction with the Ministry of Finance and other regulators on the definitions of a law that is expected to expand the project to the entire financial system (Open Finance).

4. Main actions to advance innovation and the digital revolution in the banks and in the payments field

The Banking Supervision Department worked to encourage and promote innovation and technology in banking, in order to support the attainment of its central goals, partly by adjusting its directives, removing barriers, and incentivizing the banks to implement innovation. The results of the actions by the banks and the Banking Supervision Department in this area can be seen in the continued transition of the public to remote consumption of banking services and the use of payment applications rather than going to bank branches.

These in turn have become the foundation for continued provision of banking services to the public during the corona crisis, during which time people were restricted from leaving their homes.

- **The Banking Supervision Department has continued to encourage the promotion of innovation in the banking system:** During 2019, the Department published a letter to the banking system, with the aim of clarifying and outlining the supervisory principles in this area, while encouraging experimental environments and the formulation of a lenient supervisory approach in the examination and enforcement processes in the event that risks are realized, with the understanding that innovation involves the taking of risks.
- **Regulating merchants' use of banking payment applications:** The Bank of Israel published a position paper on the matter. The objective of the outline for banking application activity is to create "infant protection" for credit card companies and nonbank entities to support increased competition in the medium term in the area of payments and credit to small businesses. The outline also ensures the continued implementation of innovation in the area of payments to benefit customers and businesses, with the understanding that this innovation has value for customers, and that this is the future of the payments field.
- **Support of fintech companies:** With the aim of encouraging innovation in the financial system, and with the view that fintech companies are an important element of this process, the Banking Supervision Department established a call center to help those companies who are encountering difficulties in the process of opening or managing a bank account. In addition, a survey of fintech companies in Israel was carried out in order to understand their difficulties in working with the banks. The results of the survey were analyzed, and the main conclusions were sent to the banks. The Department is working to implement them. Moreover, the Banking Supervision Department maintains close contact with fintech companies through the financial innovation community, which enables direct dialogue with people in the fintech field in Israel and abroad, as well as open dialogue as part of "round table" discussions. The financial innovation community is led by the Ministry of Economy, and includes other financial regulators: the Capital Market, Insurance, and Savings Authority, the Israel Securities Authority, and the Banking Supervision Department.
- **Continued advancement of the digital guarantees project**, in conjunction with the Accountant General's Division of the Ministry of Finance, which will enable the digital submission of guarantees in government tenders. The specification stage of the project has been completed, and the project development stage has begun. The date planned for putting the project on air is the second quarter of 2021.
- **Promotion of the implementation of advanced and innovative technology in the payments field:** The Banking Supervision has in recent years been active in promoting the implementation of the EMV standard in the payment card settlement market. This is an information security standard that enables the implementation of innovation in payments. The final and binding text of the outline was published in January 2020, and will quickly lead to the massive transfer of merchants to EMV standard payments as early as 2020. Merchants will need to be prepared to make transactions through the smart chip on the payment card, in conjunction with a PIN number, or to make contactless transactions. This outline was set out with the understanding that the standard is essential for the advancement of innovation and competition in the payments field. Among other things, it will enable contactless payments through cellphones, strengthen competition in the issuing and settlement areas by removing a barrier to the entry of new players from abroad, and lower the risks of counterfeiting and fraud.

Box 3.1
The Banking Supervision Department's Activity during the Corona Crisis

- Following the outbreak of the corona pandemic, and due to its ramifications on the global and domestic economy in general and on households and businesses in particular, the Banking Supervision Department worked rapidly in a variety of ways (a) to protect the public's money at the banks, by maintaining the stability of the banking system, preventing the development of a credit crunch, and reducing the crisis's impact on the economy; and (b) to help the banking system's customers in terms of credit and business continuity, as will be detailed below.
- The steps led by the Department included, inter alia, **removing significant regulatory barriers** in order to encourage and enable the flow of credit to households and businesses and defer credit repayments; **regulating the way in which the banking system continued providing essential banking services to the general public through core branches and remote services; facilitating the broader use of direct channels for banking transactions**, with the aim of enabling customers to use banking applications, bank websites, ATMs, and call centers, and obviating the need to go the branch during the crisis; **providing solutions adapted to various population groups with unique characteristics** that required special leniencies; **providing response to the public through the Department's Public Enquiries Unit**, public information campaigns, and more. All of the regulatory changes made by the Banking Supervision Department during the crisis were brought together under a temporary order that was revised and published with each change that was made.
- Throughout the crisis period, **the Banking Supervision Department held on-going situational assessments** regarding developments in the field in Israel and compared with the rest of the world, in order to examine the effectiveness of the steps taken. **The Department maintained close and direct contact with the heads of the banking system** in order to issue guidelines and receive reports on developments, and to work constantly on advancing and creating further solutions to make it easier for customers.
- The data show that **the Banking Supervision Department's steps were generally effective in achieving their objectives** (see Box 1.5 in this Survey) **and that in particular, there was a significant increase in the volume of credit in the economy to both businesses and households. Credit repayments were deferred** to an unprecedented extent in general, and particularly to any retail customer that requested it, provided he had met his obligations prior to the crisis. **The provision of essential banking services continued on an on-going basis throughout the crisis**, despite the restrictions on public mobility and the closure of most branches. All of this was accomplished while maintaining the public's deposits and the public's confidence in the stability of the banking system. However, the crisis did have a significant negative impact on many households and businesses, and **the banking system's support, which has mostly to do with cash flow, could not replace budgetary support provided by the government.**

<u>Details of the Banking Supervision Department's actions in the area of credit:</u>

Lowering the minimum capital requirement by one percentage point, with the aim of preventing a credit crunch

Demand for credit increased sharply immediately upon the outbreak of the corona crisis, and in view of the negative impact to the financial state of businesses and of households, the level of risk in the provision of credit increased in tandem. With the outbreak of the crisis, the Governor and the

Supervisor of Banks called on the banks' CEOs to use their surplus capital to increase credit[178], and in order to ensure the banks' ability to continue offering credit and to prevent a credit crunch in the economy, the Banking Supervision Department lowered the minimum capital requirement by one percentage point later in April, so that the minimum Tier 1 capital ratio[179] would be 9 percent at the large banks, and 8 percent at the medium-sized and small banks (compared with 10 percent and 9 percent respectively prior to that).[180] This decision was made possible in view of the stringent capital requirements put in place by the Banking Supervision Department prior to the start of the crisis, both in relation Basel directives and in relation to the stability and strength of the banking corporations. The decision is consistent with decisions to lower capital ratios made by parallel supervisory authorities around the world. The Banking Supervision Department took this measure following an in-depth analysis of the state of each of the banks.

The objective of lowering the capital requirements was to encourage the banks to use capital sources that were released as a result in order to increase the supply of credit to households and the business sector. Even after this leniency, the banks are still required to underwrite credit responsibly and to strictly manage risks, with an emphasis on the provision of credit to customers who had properly met their credit repayments prior to the crisis.

Halting the distribution of dividends and the buyback of shares, with the aim of increasing sources of capital for the provision of credit

In order to enable further growth in credit to the economy, the Banking Supervision Department instructed the banks' boards of directors to reassess their dividend and share buyback policies during the crisis, in view of the great uncertainty, the material change in economic conditions, and the sharp decline in macroeconomic forecasts in particular. This policy frees up additional sources for the banks to provide credit and absorb losses if necessary. As a result, all five of the large banks declared a halt to the distribution of dividends at this time.

Leniency for customers in deferring credit repayments, in view of the sharp decline in their income

The Banking Supervision Department sent accounting guidelines to the banks and credit card companies that enable and encourage them to defer credit repayments, with the aim of assisting households and business in overcoming temporary difficulties resulting from the effects of the corona pandemic.

These guidelines clarified that deferring credit repayments for a customer, or short-term changes made (for instance for 6 months) in the terms of a loan that has so far been repaid properly, such as waiving late-payment interest or extending the repayment period, do not need to automatically cause such loans to be classified as problematic in a reorganization. This measure will enable the banks to continue lending and to assist borrowers at this time, with a long-term view. The measure proved to

[178] For more information, see Bank of Israel press release: "The Bank of Israel Governor and the Supervisor of Banks Held a Special Discussion with the Heads of the Banks regarding the Corona Crisis" (March 2020).
[179] Minus the additional capital buffer in respect of housing credit.

[180] For more information, see Bank of Israel press release: "The Banking Supervision Department Announces a Reduction in the Banks' Capital Requirements, and Instructs them to Examine the Distribution of Dividends in Order to Increase the Supply of Credit in the Economy" (March 2020).

be very efficient, and until the end of April, the banks deferred payments for about 450,000 customers, mainly households and small businesses, thereby making it easier for them during the crisis. It is important to emphasize that the bank continues to collect interest on loans in respect of deferred payments, according to the original terms of the agreement.

Moderating the increase in the interest rate on credit for customers

During the crisis, and particularly at the end of March, there were increasing indications of an increase in interest rates, particularly regarding mortgages. The increase in the interest rate was derived from an increase in the risk-free interest rate in the economy, an increase in the banks' financing margins in the capital market beyond the risk-free interest rate, and an increase in borrower risk (unemployment risk and bankruptcy risk for businesses). Despite these economic circumstances, the Banking Supervision Department sent a letter to the banks' CEOs (published on April 2, 2020), calling on them to reconsider their loan pricing policies in order to help customers during the crisis, even at the cost of negatively impacting the bank's profit margins.

Lowering the additional capital requirement of one percentage point in respect of housing loans and all-purpose loans backed by a dwelling, with the aim of making it easier for borrowers and encouraging the banks to lower the interest rate on mortgages

The Banking Supervision Department has, over the years, adopted a stringent supervisory policy regarding mortgages, which included a requirement to allocate more capital than called for by the international standard, particularly in respect of housing loans, and created an additional capital buffer. This policy, which included a series of additional measures in the area of housing credit, was intended to deal with the risk to the banking system that had developed at that time in view of the rapid increase in housing prices. In view of the corona crisis, and due to the need to make it easier for borrowers, it was decided not to apply the additional capital requirement in respect of these loans.[181]

Leniency in restrictions on housing loans for workers placed on unpaid leave, with the aim of enabling them to take out a mortgage

The payment-to-income (PTI) ratio on housing loans is limited to no more than 50 percent of the income of both borrowing spouses. Due to the corona crisis, many workers were placed on unpaid leave, and their income was reduced accordingly. This restriction may therefore act as a barrier for them in obtaining a mortgage, and in certain cases, in meeting the obligations that exist when purchasing a dwelling.

With the aim of making it easier for those people taking out mortgages or all-purpose credit (backed by a residential dwelling) who were put on unpaid leave, the Banking Supervision Department published a temporary order setting out that the banks are permitted to provide home purchasers with a mortgage based on their income before they were put on unpaid leave provided that a number of conditions are met: The exception to the PTI restriction is due to a decline in the borrower's income as a result of being put on unpaid leave or being shifted to part-time work because of the corona crisis; in the bank's assessment, the borrower is expected to return to his position once the corona

[181] For more information, see Bank of Israel, press release: "Leniencies in the Provision of Housing Loans in View of the Corona Crisis", April 21, 2020.

crisis is over; and the borrower's PTI ration after being put on unpaid leave does not exceed 70 percent.

Leniency in the restrictions on all-purpose loans to households backed by a dwelling, with the aim of enabling customers in need of credit to take it out at relatively low interest rates

As part of the series of measures to increase the supply of credit to households, the Banking Supervision Department enabled the banks to provide all-purpose loans backed by a dwelling, meaning the expansion of an existing mortgage for a purpose other than the purchase of a dwelling, at an LTV rate of up to 70 percent (prior to the leniency, the limitation was an LTV rate of 50 percent).

The provision of a loan pursuant to this leniency is subject to a borrower's declaration that exceeding the LTV rate of 50 percent is not for the purpose of purchasing an additional dwelling (investment home).[182]

Increasing credit facilities in current accounts, with the aim of reducing the return of checks to customers

The Banking Supervision Department allowed banks to unilaterally increase credit facilities for customers, following a risk analysis, and in accordance with the bank's discretion, under the same conditions as the existing facility, in order to enable continued activity in the bank account for customers encountering cash flow difficulties or those who may have checks returned due to insufficient funds. (For more information regarding credit provided during the crisis, see Box 1.5 of this Survey.)

Assistance to borrowers from the construction and real estate industry, with the aim of preventing difficulties due to reduced ability to raise capital from sources in the capital market

With the aim of supporting the continued activity of the real estate industry, and to help contractors meet their increased financing needs, in view of the shortage of workers and delays in construction, the Banking Supervision Department allowed an increase in credit to the construction and real estate industry, such that total credit (minus national infrastructure projects) could increase from a rate of up to 20 percent to a rate of up to 22 percent of the bank's entire credit portfolio. (The total limit including infrastructure would be 24 percent). This leniency enables the banking system to increase credit to the industry by a total of about NIS 15 billion.[183]

<u>Assistance to special population groups:</u>

Suspension of bank account restrictions due to checks without cover, with the aim of reducing the number of restricted customers

As a result of the extreme change in economic conditions due to the corona pandemic, and in view of the fact that the imposition of restrictions due to returned checks is a sanction with long-term consequences that disrupts the customer's business, harms his long-term reputation and his economic behavior capabilities, the Banking Supervision Department instructed the banks to suspend customer and account restrictions due to checks that are returned due to lack of cover. This was in order to prevent a negative impact to customers whose income was significantly reduced and who may

[182] For more information, see Bank of Israel, press release: "The Banking System: Regulatory Leniencies and Services to the Public in View of the Spread of the Coronavirus", March 15, 2020.
[183] Ibid.

therefore have become restricted customers. It is emphasized that maintaining a high payment ethic and meeting obligations toward third parties is very important, even during the crisis. In addition, at this stage, these instructions do not cancel the restrictions, but only suspend them. Checks are not counted toward the total for imposing a restriction as a result of this instruction may lead to a restriction later on, once the suspension period as ended.

It is also important to know that in accordance with the Checks Without Cover Law, even if a check is cancelled, the balance in the account will be checked on the date on which they check was expected to be deposited, and the check will be considered a check without cover in a case of insufficient balance in the account, with all that that entails.[184]

Assistance to customers in withdrawing National Insurance benefit payments

Following Ministry of Health guidelines regarding a reduction in activity in the public space, and out of a desire to enable continuity in the provision of banking services to the general public, the Banking Supervision Department permitted a reduction in customer reception by the banks to designated branches only, where urgent and essential services would be provided.

Alongside this, with the aim of helping customers who receive benefits and do not have a payment card, but who customarily withdraw their benefits through teller services at the branch, an outline was formulated through which the banks will send such customers a debit card that will enable them to withdraw the benefit from any cash withdrawal machine without needing to go to the branch. The customers will be able to use the debit card to make remote transactions as well (by phone or a website), should it be necessary.[185]

Issuing debit cards to special population groups (those in bankruptcy, or those restricted under special circumstances), with the aim of enabling them to make financial transactions without going to the branch

As part of the basket of solutions to help protect customers' health and enable remote transactions as much as possible, the Banking Supervision Department instructed the banks to contact their customers (not just those receiving benefits) and offer them a debit card through which they can withdraw cash from automatic machines and make purchases both at merchants and by remote means (Internet or phone), similar to a credit card. They can also join online banking options.[186]

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[184] For more information, see Bank of Israel, press releases: "Due to the Corona Situation, Account Restrictions due to Checks Without Cover will be Suspended as of March 4" (March 23, 2020); and "Sanctions and the Economic Cost of Nonpayment of Checks—Clarifications Regarding the Supervisor's Guidelines Related to Suspending Account Restrictions in Respect of Checks Without Cover" (April 7, 2020).

[185] For more information, see Bank of Israel, press release: "The Bank of Israel Announces Assistance to Customers in Withdrawing National Insurance Benefits", March 22, 2020.

[186] For more information see Bank of Israel, press release: "In View of the Coronavirus Crisis, the Banking Supervision Department Announces Leniencies in Adding Customers to Remote Execution of Transactions and in Issuing Debit Cards to Customers", March 30, 2020.

With the aim of enabling the banks to issue debit cards to customers from special population groups, who do not have cards and who generally make transactions in their accounts through a teller at the branch, the Banking Supervision Department removed various barriers:

- The banks were instructed to enable the issuance of debit cards to customers in bankruptcy, and also to subscribe them to a service that enables transactions in the bank account through the bank's website, application, and so forth, without needing approval of the trustee for each individual request. This instruction was based on the position of the Official Receiver, who gave it sweeping authorization. It makes the process of subscribing bankrupt individuals to these services much easier, should they desire it.
- The Banking Supervision Department initiated an amendment to the Enforcement and Collections Law as part of the temporary regulations, to enable the banks to issue debit cards during the crisis to customers who are restricted under special circumstances, who are not permitted to be issued a debit card pursuant to the currently existing law, and who have a credit facility in the account.

Assistance to senior citizens in withdrawing cash, due to the closure and restrictions imposed in order to protect their health

The Banking Supervision Department instructed the banks to take various initiatives to help senior citizens in high-risk groups, who are required to minimize leaving their homes and be stringent regarding Ministry of Health guidelines, to withdraw cash. In conjunction with the IDF Home Front Command, some of the banks operated mobile branches that came to seniors' residences and helped senior citizens withdraw cash. Some even increased the number of mobile branches they own in order to reach a greater number of seniors' residences and various housing clusters. Some also offered cash delivery services to the customers' homes.

Preference in telephone responses to senior citizens

With the aim of making it easier for senior citizens who were required to remain at home pursuant to Ministry of Health guidelines, due to the fact that they are at increased risk of exposure to the corona virus, the Banking Supervision Department instructed the banks to enable customers from the age of 70 (and not just from the age of 75 as it had been previously) to receive preference in receiving a response at call centers.

The call centers, which are staffed by the banks, enable senior citizens to make most banking transactions, and obviate the need of going to the branch.

Continuity of banking service through the banks' websites, applications, and call centers:

Strengthening contact with the bank through direct channels, with the aim of enabling customers to obtain full service without going to the branch

In accordance with Ministry of Health guidelines that prohibited gatherings, and with the aim of reducing crowds at bank branches in order to maintain the health of customers and bank employees, the Banking Supervision Department instructed the banks to increase usage rates of direct channels as an alternative to frontal service at the branches.

In routine times, subscribing to a remote or online banking service can only be done at the customer's initiative. In accordance with the leniencies issued for the crisis period, the banks were permitted to send customers notices in order to guide them in subscribing to services to obtain banking information and make transactions remotely through direct channels (website, application, call center), even if the customer had not signed the agreement required for this purpose. The subscription was made without needing to go to the branch, by signing the agreement through a variety of direct channels.

Increasing the amount of a check that can be deposited through the banking application with the aim of reducing the need to go to the branch

In order to enable customers to deposit checks without having to go to the branch, it was decided to raise the amount limitation for depositing a single check through the banking application from NIS 20,000 to NIS 50,000.[187]

Cancellation of standing bank orders, with the aim of reducing the need to go to the branch

The Banking Supervision Department removed a regulatory barrier for the crisis period, enabling customers to give an instruction to the bank to cancel standing bank orders and authorized debits through a phone call, and not just by written notice.

Other assistance by the Bank of Israel:

Program to increase the supply of credit to small and micro businesses

The Bank of Israel supplied the banking system with 3-year fixed-interest loans at a rate of 0.1 percent, with the aim of increasing the supply of bank credit to small and micro businesses to help them get through the corona crisis and return to full operations as soon as possible.

The provision of these loans, which are conditioned on providing credit to small and micro businesses based on defined criteria, provides an incentive for the banks to issue credit to these businesses, thereby increasing the pass-through from the general interest rate to the interest paid by small and micro businesses, and improves the efficiency of monetary policy.

The program will be operated until the end of May 2020, and will total NIS 5 billion. The program will create inexpensive sources for the banks to issue credit to small and micro businesses, despite the increased costs of financing caused by the increase in yields on the banks' bonds, against the background of the increase in risk in the economy during this period.

Assistance by the Banking Supervision Department's Public Enquiries Unit to customers during the crisis

The Banking Supervision Department's role during routine periods, as the party authorized to deal with public enquiries, became even more important with the outbreak of the crisis, in view of the need to respond to many enquiries on urgent matters, and to immediately assist customers who have encountered difficulties in their activity vis-à-vis the banking system.

The Public Enquiries Unit's work focused on three different levels:

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[187] For more information, see Bank of Israel, press release "The Bank of Israel Increases the Amount Limitation for the Deposit of a Single Check via Mobile Device from NIS 20,000 to NIS 50,000", March 24, 2020.

1. **Customer complaints and requests:** From March 15, 2020 until April 30, 2020, roughly 1,200 telephone enquiries regarding the corona crisis were handled by the unit’s call center. In addition, roughly 1,350 written enquiries were dealt with, mostly regarding the corona crisis.
2. **Ombudsmen at the banking corporations:** The Banking Supervision Department made sure that the banking corporations were prepared to handle complaints during the crisis, and issued instructions concerning the crisis.
3. **Sharing information on broad issues that arose during examinations, in order to correct them:** The Banking Supervision Department uses information from the public for purposes of regulation, setting policy, and publishing information to the public.

The following is a list of the main issues that arose while looking into public enquiries during the corona crisis. This information helped the Banking Supervision Department in formulating policy and information measures, as stated above:

- Credit: Refusal to provide credit, deferral of payments, costs involved in the provision of credit.
- Difficulties in withdrawing National Insurance benefits.
- Inability to go to the bank branches in order to withdraw cash and conduct transactions.
- Receipt of various payment cards such as debit cards and cash withdrawal cards.
- Subscribing to online digital banking services.
- The process of obtaining a housing loan and meeting the times set in the approval in principle.
- Receiving loans with state guarantees for small businesses.
- Quality and extension of service in view of the heavy workload, at both bank branches and telephone call centers.
- Receipt of other banking services, such as: opening new accounts, check discounting, securities consultations, opening trust accounts, and more.

Box 3.2
Measures Taken by Supervisory Authorities Abroad to Deal with the Corona Crisis

- **Due to the corona crisis, the authorities supervising the banking systems around the world took a variety of measures to assist the public and to support economic activity.**
- **The measures taken by the various supervisory authorities were intended to encourage the financial system to provide credit and to make it easier for customers who were negatively impacted by the crisis. Among other things, these measures included leniencies in capital requirements, leniencies in liquidity requirements, accounting clarifications intended to make it easier to defer payments, limitations on compensation and dividend distributions, encouraging assistance to customers negatively impacted by the crisis, reducing the regulatory and supervisory burden normally imposed on financial entities, and encouraging the use of monetary tools offered by the central banks.**
- **In Israel, the Banking Supervision Department adopted similar measures to those adopted abroad in most areas.**

Background

The outbreak of the corona pandemic and the measures taken to prevent its spread had a strong impact on the economy, and caused heavy damage to many households and businesses. The shakeup and instability in the global markets led governments, central banks, and regulators in a variety of fields, including financial supervision authorities, to take unprecedented measures in order to assist customers and drive economic activity. These measures included:

1. <u>Government assistance packages</u>: These included, for instance, grants to population groups harmed by the crisis; the establishment of funds to provide government-backed credit to businesses that were encountering liquidity distress in view of the crisis; providing government guarantees to various sectors; providing leniencies in social security and unemployment arrangements; easing and deferring tax payments; and more.
2. <u>Central banks' use of monetary tools</u>: These included, for instance, lowering interest rates; intervention in the markets (through the foreign exchange market, the bond markets, and more); encouraging synthetic securitization; providing low-cost sources of liquidity to the financial system; and more.
3. <u>Regulatory and supervisory measures for the financial system</u>: These were intended to encourage the financial system to provide credit to customers negatively impacted by the crisis.

This Box details the regulatory and supervisory steps taken by leading financial supervisory authorities around the world toward the banking system. In general, in the initial months of the crisis, the Banking Supervision Department in Israel took similar steps to those taken abroad, in the vast majority of areas. For a broad survey of the measures taken by the Department, see Box 3.2 of this Survey.

Measures taken by financial supervisory authorities around the world

The measures taken by the various supervisory authorities dealt with a variety of issues:

1. <u>Leniencies in capital requirements</u>: The supervisory authorities are encouraging the banks to utilize existing capital buffers in order to provide credit to borrowers who suffered a negative impact from the corona crisis and in order to help spur economic activity.

The supervisory authorities are enabling various leniencies in minimum capital requirements or in how they are calculated, in order to enable the release of capital for these objectives. The leniencies in the various countries range from 0.25 percentage points (in Germany for instance) to 2.5 percentage points (in Sweden for instance). Some of the leniencies are intended to channel the uses of released capital for specific objectives, such as the rapid supply of credit for loans issued through the state's assistance programs, asset purchases as part of a program to increase liquidity in the money market, and more.

The Banking Supervision Department took a similar step and lowered the minimum capital requirement by one percentage point in March, with the aim of preventing a credit crunch and reducing the crisis's negative impact on the economy.

2. Leniencies in liquidity requirements: The supervisory authorities are encouraging the banks to utilize their existing liquidity buffers, and some are even enabling various leniencies in minimum liquidity requirements. The leniencies are intended to enable the use of liquid assets in order to provide short-term loans.
3. Financial reporting and leniency on deferred payments for customers: Supervisory authorities around the world published clarifications regarding the accounting treatment of deferred credit payments by borrowers who are negatively impacted by the corona crisis. They enabled delays in the date of quarterly financial reporting.

   In Israel, the Banking Supervision Department took a similar step in order to make it easier for customers and enable the banks to defer payments for households and businesses, and clarified to the banks that pursuant to its directives, they did not need to classify debt in the reorganization of problematic debt if short-term changes in payments were made in good faith due to the corona crisis (for instance, deferral by 6 months), for borrowers who were not in arrears before receiving any leniency. The Banking Supervision Department also enabled the banks in Israel to defer the date of publication of financial statements for the first quarter of 2020 to June 30, 2020.
4. Measures concerning compensation and the withdrawal of dividends: Some supervisory authorities instructed the banks to avoid dividend distributions, share buybacks, or granting bonuses during the crisis, in order to direct the capital to providing credit to customers. The supervisory authorities in the US enabled the continuation of dividend distribution in a more gradual manner, which also enabled the banks to continue providing credit.

   In Israel, the Banking Supervision department took a parallel step by instructing the governing councils of the banks to re-examine their dividend and share buyback policies during the crisis. As a result, all five large banks announced a halt in the distribution of dividends at this time.
5. Assistance to customers impacted by the corona crisis: Various supervisory authorities clarified their expectations of the banks to act fairly and with sensitivity toward their customers in view of the situation. Most supervisory authorities sought to make it easier and assist customers through a variety of measures, some of which were formulated in conjunction with the financial entities. These measures included deferring and spreading out payments for a limited time (mainly for households and home purchasers); various pricing leniencies through waiving fees and interest (including waiving fines for breaking deposits); increasing credit facilities to provide liquidity for customers; and ensuring that borrowers' credit ratings would not be harmed as a result of the remedies provided. The Banking Supervision Department took similar measures, as described in Table 1.
6. Availability of banking services and business continuity: The supervisory authorities issued various instructions to ensure the continuation of banking services to the public in a variety of ways (particularly through digital means) under appropriate controls.

   In Israel as well, instructions were issued to ensure the continuity of banking service by digital means and telephone service centers. These included leniencies in subscribing to digital services, expanding the banking services offered through digital means and telephone service centers, increasing the amounts that can be digitally deposited by check, and more.

7. Reducing the regulatory and supervisory burden during the crisis: The supervisory authorities adjusted their supervisory approaches during the crisis and set out various leniencies and deferrals of on-going regulatory and supervisory work, as relevant. These leniencies included the deferral of implementation of various regulatory measures, deferral of the implementation of some supervisory examinations or surveys, deferral of the publication of financial statements and reports to the authorities, deferral of the performance of stress tests, and more. The aim of these measures is to free up the banks' limited resources for dealing with the crisis and assisting the economy.
   In Israel, the Banking Supervision Department lowered the regulatory and supervisor burden while adjusting the supervisory work plan and deferring the date for submitting certain reports to the Department.
8. Regulatory clarifications regarding the prohibition against money laundering: The Financial Action Task Force (FATF—which aims to develop and promote policy for the struggle against money laundering and the financing of terrorism) clarified the need for increased awareness of irregular financial activity during the crisis with the potential risk of money laundering and terrorism financing. It also clarified that risk management in accordance with a risk-based approach enables flexible risk management for the implementation of AML-CFT directives (such as digital identification and know-your-customer processes). Some of the regulators clarified that during the crisis, subject to a risk-based approach, they would accept delays in fulfilling certain regulatory requirements) such as submitting reports on compliance and customer identification and verification). Similar clarifications and leniencies were put in place in Israel.
9. Encouragement of the use of monetary tools offered by the central banks: The central banks used various monetary tools to provide sources of liquidity to the banking system, which enabled the banks to provide credit rapidly and at fair prices. The supervisory authorities encouraged the banks to use these programs in order to provide credit to customers impacted by the corona crisis. The Bank of Israel also used monetary policy tools, and encouraged the banks to use them, such as monetary loans for the provision of credit to small businesses.
10. Other issues: Various leniencies in the underwriting and investment processes in order to help the banks during the crisis, on issues such as: extending the required date for receiving an updated valuation for real estate transactions, leniencies in trading room controls, and so forth.
11. A list of the measures taken compared to selected countries:

	US	**Europe**	**UK**	**Other**	**Israel**
Capital leniencies					
Expectations that surplus capital will be used to provide credit	**March 17, 2020** – Announcement by the supervisory authorities that they are encouraging the banks to utilize capital and liquidity buffers to provide credit to borrowers harmed by the corona crisis, in order to strengthen the economy	**April 3, 2020** – The ECB declares that all capital buffers can be used in order to meet credit demands and support the real economy.	**April 20, 2020** – The PRA announced that the banks could lower their capital ratios to the supervisory capital requirements, in order to provide support to businesses and households.	**March 20, 2020** – The Basel Committee (BCBS) supports the utilization of capital buffers in order to provide credit and absorb losses as a result of the corona crisis.	**March 9, 2020** – In view of the strength of the banking system, the Governor and the Supervisor of Banks called on the heads of the banks to find a balance between responsible credit policy and the financing needs of the economy, and to make use of capital buffers to provide credit. **March 29** – Supervisory letter including an expectation that the

					capital leniencies implemented by the Banking Supervision Department would be used to increase credit to households and the business sector, with an emphasis on providing credit to customers who, prior to the crisis, had met their credit repayments properly. **April 2** – Letter to the heads of the banks, containing an expectations that they would continue providing credit to borrowers from all sectors of the economy during this period, with an emphasis on small and medium businesses and households, and would avoid excessive rigidity in the underwriting terms.
Leniencies in capital requirements	**April 1** – Change in the complementary leverage ratio rules by excepting government bonds and deposits with the government from the ratio calculation. **March 27** – Due to the CARES ACT legislation[188], reducing the leverage ratio for community banks from 9 to 8 percent and a gradual return until 2022.	**April 3** – The ECB enables the banks to go below the Tier 2 capital requirements, the capital maintenance buffer, and the anticyclical buffer. **April 16** – The ECB announced a 6-month temporary easing of capital requirements in respect of market risks due to the volatility in the markets since the outbreak of the coronavirus.	**March 11** – The PRA enables a reduction of the anticyclical buffer from 1 percent prior to the crisis to 0 percent. In addition, the requirement to increase the buffer to 2 percent by the end of 2020 is cancelled. **March 30** – The PRA announced a temporary adjustment in how the capital requirement in respect of market risk is calculated, in order to deal with the volatility in the markets.	**March 13** – Canada – The OSFI lowered the capital requirement in respect of local buffers from a capital-weighted 2.25 percent to 1 percent.	**March 29** – The supervisory capital requirement was reduced by one percentage point (from 10 to 9 percent for the large banks and from 9 to 8 percent for the medium and small banks), and the overall capital ratio was lowered by one percentage point. **April 21** – With the aim of making it easier for customers in the area of housing loans, and lowering the interest rate on those loans, there was a further reduction of 1 percent in capital requirements in respect of housing loans provided during the corona crisis.

188 Coronavirus Aid, Relief, and Economic Security Act. The legislation was passed by Congress, and regulates the government assistance package aimed at helping the American economy deal with the economic ramifications of the coronavirus pandemic.

			April 9 – The PRA announces its decision not to change the capital requirements set out in December 19 for systemic risk, which were issued individually to certain companies—a deferral until at least December 2021 (implementation in January 2023) after examining the ramifications of the corona pandemic.		
Various leniencies regarding how the capital ratios and risk assets are calculated	**March 19** – Neutralization of the capital effect of assets purchased as part of the Fed's program to support MMLF funds. **March 27** – Enables the early adoption of new methodologies for measuring risk in respect of credit exposure to a main counterparty, enabling reduced capital requirements. **April 9** – Reduced risk weighting (of 0 percent) for loans provided by banks to small businesses as part of the Paycheck Protection Program (PPP) operated by the government and the Small Business Association (SBA).	**March 20** – The ECB enables the nonclassification of credit where the borrower exercises a state guarantee as failed credit, and not increasing risk assets in respect thereof.	**March 20** – The PRA announced the advancement of adoption of the internal models method in relation to counterparty credit risk.	**March 30** – Canada – The OSFI set out that some loans backed by government guarantees will be considered as government exposure and will receive a lower risk weighting for calculating capital. **April 3** – The Basel Committee (BCBS) clarified that banks are not required to attribute higher risk weightings in respect of payment deferrals due to the corona pandemic or in respect of government-guaranteed loans.	
Other effects on capital	**March 23** – Channeling the capital buffer of the TLAC requirements to provide credit to households and businesses.	**March 12** – The EBA announced a deferral of the date for performing the stress test planned for 2021 in the European Union. As such, there will be no additional capital requirement at this	**March 13** – The PRA announced the cancellation of implementation of guidelines regarding stress scenarios in 2020. This step has implications for	**April 3** – The Basel Committee (BCBS) encourages the use of a spreading mechanism for the capital ratio of loan loss allowances pursuant to IFRS 9 or the CECL rules.	

	March 31 – Spreading out the effect of the transition to implementing the CECL rules for calculating the loan loss allowance on capital over five years in order to calculate the supervisory capital ratio.	stage in respect of the scenarios. **March 20** – The EBA encourages the use of a spreading mechanism for calculating the supervisory capital ratio of loan loss allowances pursuant to IFRS 9.	expected capital requirements. **March 26** – The PRA encourages the use of a spreading mechanism for the supervisory capital ratio of loan loss allowances pursuant to IFRS 9.		
Leniencies in liquidity requirements					
Leniencies in liquidity restrictions – LCR	**March 17** – The supervisory authorities encourage the banks to use their liquidity buffers during the crisis.	**March 12** – The ECB enables the banks to go significantly below the liquidity coverage ratio (LCR) of 100 percent.	**March 11** – The Bank of England clarifies the expectation of reducing liquidity buffers as necessary in order to support the economy. **April 20** – The PRA expects the banks to continue supporting their customers, even at the price of lowering their liquidity coverage ratios (LCR) significantly below 100 percent.	**March 20** – The Basel Committee (BCBS) supports the use of liquidity buffers and encourages the use of the stock of liquid assets.	
Financial reporting – including credit losses and payment deferrals					
Clarifications regarding the classification and reporting of debts in reorganization and credit loss allowances.	**March 22** – The supervisory authorities announce that they are encouraging banks to assist their customers by changing the terms of credit, and clarify that the banks in general are not required to classify debts as impaired when allowing a short-term deferral of payments for borrowers that were good before the pandemic. **March 27** – The passage of the CARES Act (see footnote above) makes it possible to	**March 20, April 1** – The ECB emphasized that the flexibility inherent in the existing rules regarding reorganization should be utilized. In addition, it is possible not to classify impaired debts due to the exercise of government guarantees or due to the general payment deferral program in the country. In addition, it emphasized that in determining loan loss allowances pursuant to IFRS 9 the weight of long-term forecasts should be increased.	**March 20, March 26** – The PRA expects that broad payment deferral programs will not cause the automatic classification of borrowers as failed borrowers and will not require the holding of greater capital requirements. In addition, in calculating loan loss allowances pursuant to IFRS 9, greater weight should be given to the long-term average.		**April 21** – Guideline to examine available information and to increase amounts including in the credit loss allowance, in order to make sure that they conservatively and cautiously cover the revised estimates of expected credit losses, including the effect of the corona pandemic. **April 21** – Clarification that the Banking Supervision Department encourages banks to assist customers by deferring payments and changing the terms of credit, and that banks in general are not required to classify debts as impaired when allowing a short-term deferral of

	defer the date of implementing the new rules on loan loss allowances (CECL) by a year.	**March 25, April 2** – The EBA clarified that short-term payment deferrals for borrowers as part of a broad and systemic program will not lead to classification of the debts as impaired. **March 25** – The European Securities Authority (ESMA) clarified that in setting provisions, greater weight should be given to long-term averages, and that IFRS 9 enables flexibility, such that short-term deferral of payments for borrowers as part of a broad and systemic program will not lead to problematic classification of debts.			payments (for instance 6 months) to borrowers who were good before the effects of the pandemic.
Deferral of financial statement publication dates	**March 25** – The SEC enabled a deferral of 45 days in the publication of reports to the public by public companies that had difficulties in reporting on time. **March 31** – The supervisory authorities enabled a 30-day deferral in the publication of first quarter financial statements for banks and small bank holding companies.	**March 27** – The ESMA recommended that its members allow a deferral in the submission of financial reports by public companies. **March 31** – The EBA recommended deferring Basel Tier 3 reporting.	**March 26** – The FCA, FRC, and PRA announced in a joint declaration that they are enabling a two-month deferral of the financial statement publication date. **April 2** – The PRA announced a deferral of reporting to the public pursuant to Basel Tier 3.		**April 21** – Reports to the public for the first quarter of 2020 may be published until June 30, in accordance with the 30-deferral allowed by the Israel Securities Authority.
Points of emphasis regarding full disclosure to the public	**March 25** – The SEC published points of emphasis regarding broad disclosure to the public in order to clarify the corona pandemic's effect on the state of the	**March 20** – The ECB emphasized the importance of proper reporting in accordance with the rules in order to reflect a precise picture of the risks	**March 26** – The FRC asked companies to make sure that their reports contain full disclosure that would reflect the risks and developments.		**April 21** – Guidelines on required disclosure to the public in a way that would reflect the main effects of the corona pandemic in the reports to the public.

	reporting corporation.	to the banking system. **March 25** – The ESMA asked to make sure that the reports would contain full disclosure that would reflect the risks and developments.			
Measures concerning compensation and withdrawal of dividends					
Changes in the dividend distribution rules	**March 17** – The supervisory authorities changed the definition of "qualified income" that serves as a criteria for dividend distribution. The change reflects a leniency that will enable the banks to more gradually distribute dividends in a way that will enable the provision of credit.	**March 27** – The ECB instructed the banks to **avoid** paying dividends until October 2020. It will not be possible to consider a change in this instruction before October 2020. **March 31** – The ECB again expanded its call to avoid dividend distributions or share buybacks, and to adjust their compensation policies for the crisis period.	**March 31** – The PRA asked the large banks to suspend dividends and share buybacks until the end of 2020, and to cancel payments not made on account of the dividend declared in 2019. In addition, it expects the banks not to pay cash bonuses to members of management. **April 20** – The PRA clarified that the expectation is that capital leniencies would not lead the banks to decide on a dividend distribution.		**March 29** – Instruction to re-examine dividend and share buyback policies at this time, and to consider halting them, in view of the material change in economic conditions. All five of the large banks acceded to the call, and announced a halt to dividends.
Assistance to customers who are negatively affected by the corona crisis					
Formulation of a package of measures and clarified expectations	**March 13** – The supervisory authorities in the US published a joint announcement encouraging the financial institutions to take measures in order to assist customers during the crisis.	**March 25** – The EBA instructed the banks to act in accordance with customer interests.	**March 26** – The FCA emphasized the duty to deal fairly with customers, to act with sensitivity, and to consider the state of customers who may be harmed by the crisis. **April 9** – The FCA published a package of measures that the banks are expected to take with the aim of assisting customers.		**April 2** – A letter to bank chairmen and CEOs, calling on the banking system to help the economy get through the crisis by increasing credit and pricing loans fairly.
Payment deferrals	Expectation to defer payments on loans and to spread out payments with	Instruction to take temporary measures in order to enable the payment of	Expectation to offer a freeze in housing loan and consumer loan payments for	**February 14** – Singapore – the MAS announced the possibility of	**March 15** – Notice to the public regarding leniencies, including mention of the fact that in

	the aim of assisting borrowers who are encountering short-term distress. **March 18** – Possibility for those with federally-backed mortgages who were harmed by the corona pandemic to defer payments by 180 days with the possibility of a further 180-day extension.	consumer and housing loans.	up to 3 months for customers negatively impacted by the crisis. Deferral of payments in respect of vehicle purchase loans, and taking measures to prevent the seizure of the vehicle from the customer.	deferring mortgage payments until December 31, 2020 (interest and/or principle), with interest accruing only on the principle, for those who have not been in arrears more than 90 days until April, without needing to prove a negative impact due to the pandemic. Payment deferrals for small businesses until the end of December, with payments bearing interest. **April 3** – Hong Kong – The HKMA formulated a package of measures including an automatic offer to delay repayment of loans, with customers needing only to respond whether they accept the offer.	view of a request by the Governor and the Supervisor of Banks, the banks have started offering various services to the public due to the situation. These include leniencies through the deferral of current payments on mortgages for a few months, and a designated plan for businesses. **April 21** – Encouraging the banks and making it easier to defer payments (for households and businesses) by clarifying the accounting rules and defining supervisory expectations. In addition, receiving weekly reports to the Banking Supervision Department regarding customer deferred payments (households and businesses). **May 7** – The Banking Supervision Department published an outline adopted by the entire banking system, enabling the deferral of payments for households – consumer and housing credit – and for small businesses.
Leniencies in pricing (fees and interest)	Expectation to waive fees or payments collected in respect of withdrawals from ATMs, overdrawing credit facilities, late payments, and breaking deposits.		Prohibition against worsening terms of payment in respect of credit facilities compared with the situation that existed prior to the publication of the guidelines. Exemption from interest on overdrafts of 500 pounds for a period of 3 months. Those without credit facilities are permitted to request and receive the benefit.	**February 14** – Singapore – The MAS recommended reducing the interest rate on credit facilities and the reorganization of all credit facilities on credit cards, including revolving credit, for facilities with interest rates that do not exceed 8 percent.	**April 2** – Clarification of supervisory expectations that credit pricing at this time will take into account a long-term holistic view that considers the needs of the economy and of customers, even if this leads to a negative impact on short-term profit margins. In addition, the Banking Supervision Department required weekly reporting from the banks regarding the interest rate in order to monitor the changes.

Increasing credit facilities for customers	Expectation to increase the daily withdrawal facility at ATMs. Expectation to increase facilities on credit cards for customers with the ability to repay.				**March 19** – The Banking Supervision Department issued a temporary order allowing a unilateral increase in credit facilities (under the same conditions that existed prior to the crisis), with amounts greater than usual during routine, and at the bank's discretion, in order to prevent the customer from exceeding the facility.
No negative impact to credit data rating	Report to the credit rating agencies on meeting payments for those who fulfilled the deferral conditions set out for them due to the crisis.	The measures taken will not have an automatic negative effect on customers' credit ratings.	Make sure that the credit data of customers utilizing the leniencies will not be negatively affected as a result.	**February 14** – Singapore – The various regulations proposed by the MAS will not be negatively reflected in the customer's credit rating.	**March 17** – Instruction from the Supervisor of the Credit Data System to make sure that the leniencies that lenders intend to provide for customers will be reported in a way that will prevent an unnecessary negative impact to ratings. This includes an instruction to utilize the "force majeure" label for negative changes that have occurred due to the crisis.
Provision of credit even at higher risk	Expectation that credit will be provided or debt reorganized with the aim of assisting customers encountering temporary difficulties due to the crisis. **March 26** – Declaration by the supervisory authorities encouraging the banks to offer consumer borrowers and small businesses (with low or medium income) short-term small dollar loans without collateral that will enable them to deal with the distress		Debt restructuring should be offered to customers who were not helped by the other leniencies. The debt restricting should include a waiver on interest (it was emphasized that these arrangements may have a negative impact on customers' credit data and access to new credit).	**March 24** – The OECD noted that banks and entities are required to consider suspending or deferring debt collection proceedings, including liens or confiscation of assets, that are being conducted against customers experiencing financial difficulties due to the corona crisis. **April 3** – Hong Kong – The HKMA instructed that flexibility be shown to small businesses in utilizing lines of credit.	**April 27** – Leniencies in how income is calculated for mortgage borrowers whose income was negatively impacted due to being placed on unpaid leave.

	created as a result of the corona crisis.				
Other measures	Expectation that checks will be redeemed for cash for customers (including random customers from other countries). **March 18** – Leniencies for federally-backed mortgage borrowers who have been negatively impacted by the corona virus: deferral of mortgage payments by 180 days; deferral of collection and asset confiscation proceedings for a period of 60 days.	Consider, from legal risk and reputation risk standpoints, not pressuring customers for collection of additional amounts or selling additional products by way of dealing with them.	The cancellation of credit cards was prohibited, unless in a case of misuse by an unauthorized person.		**March 19** – An all-purpose loan backed by a residential dwelling may be provided at an LTV of up to 70 percent (instead of 50 percent), with the aim of responding to households' credit needs at lower prices. **March 23** – Suspension of bank account restrictions in respect of refused checks following the declaration of the corona virus as a danger to the public, with the aim of assisting customers experiencing temporary cash flow difficulties during the crisis. **March 23–30** – Assistance to special population groups—possibility to withdraw cash and receive benefit payments through debit cards, assistance to senior citizens in withdrawing cash and receiving priority at call centers.
Instructions regarding business continuity and service availability at banks					
Availability of banking services	**March 13** – The supervisory authorities did not instruct the banks to reduce activity or to close branches, but noted that they must consult with them before taking such measures.	**April 22** – The EBA issued instructions to make sure that business continuity plans are updated and coordinated, and that they include the long-term implications of the crisis. In addition, it called to adjust information technology systems to manage computer security risks.	**February 1** – The PRA emphasized to the financial institutions that business plans and business continuity plans would be examined and monitored in view of the situation. Flags would be raised as soon as possible. **March 26** – The FCA instructed banks that are switching to working remotely or from home to verify that there are means of control that will make it	**March 24** – The OECD set out that the banks must ensure the continuity of banking service provision to the public, including by providing access to available branches and providing service by phone, Internet, and mobile, as well as taking into account the limitations and access needs of customers, and that they must clearly communicate the variety of information channels.	**March 19, March 22, April 7** – Leniencies to the public with the aim of enabling banking activity without going to branches (for instance through remote signing of documents, leniencies in phone service, increasing the amounts for check discounting and check deposits). **March 19** – Leniencies regarding holding Board of Directors meetings online. **March 16, April 1, April 22** – Instruction to consider encouraging customers to transition to receiving services

			possible to comply with terms of service and regulatory instructions (such as recording conversations, or documentation via other means if that is not possible, keeping documents, storing ongoing reports).		digitally and to avoid going to the branch as much as possible in view of the concern of infection and the closure of some branches).
Reducing the regulatory and supervisory burden during the crisis					
Reducing the regulator and supervisory burden	**March 26** – Adjusting the supervisory approach in view of the ramifications of the corona crisis on the risk environment, which was mainly reflected in the following: focus on monitoring and assistance in understanding the challenges and risks of the current environment; reducing in-depth inspection and examination activity (mainly at small banks); Supervision of capital programs and how capital is managed in the current environment; deferral of scheduled noncritical supervisory activity. **March 31** – Six-month deferral of implementation of the new control framework that sets out the applicability of regulation to holding companies that control banks.	**March 25** – The EBA announced a delay in on-going regulatory and supervisory activity including: extending the dates for on-going consultative documents by two months; delaying public and discussions and holding them remotely (for instance by phone); and extending the date for carrying out the quantitative impact survey (QIS) based on December 2019 data. **March 31** – The EBA published leniencies in the dates for submitting various reports, including the QIS based on June 2020 data. **April 3** – The ECB allowed a 6-month delay in on-going supervisory processes, including audits, model examinations, supervisory review (SREP), and monitoring the implementation of audit requirements and decisions regarding model	**March 17** – The FCA delayed the date of response to public consultation documents to October 1, 2020. **March 20** – The PRA announced that it would show understanding concerning the deferral of implementation of Basel III. In addition, the Bank of England and the PRA announced their intentions to defer noncritical regulatory and supervisory tasks. **April 2** – The PRA announced that it will adopt deferrals in the timetables published by the Basel Committee and the implementation of Basel III. **April 9** – The PRA announced a delay in the date of submitting various reports to the supervisory authority.		**March 29** – Extension of the response by the Supervisor of the Credit Data System concerning reports on public enquiries. As well, during the crisis, individual deferrals were given regarding self-assessment questionnaires on the use of information through the system. **March 31** – Freeze and delay in the date of submitted reports to the Banking Supervision Department. **April 23** – Freeze in the date of conducting the QIS and delay in the dates of implementing new Proper Conduct of Banking Business directives. **April 27** – Extension of the date for submitting safety surveys pursuant to information technology directives.

	April 2 – The supervisory authorities will delay by one month the final date for making comments to the Volker Rules amendments that prohibit banks from investing in hedge funds or private equity funds.	validations (unless the bank considers those decisions to be helpful to it).			
Regulatory clarifications regarding the prohibition of money laundering					
Clarification of the implementation of money laundering and terrorism financing prohibition directives	**April 7** – It was clarified that during the assessment of the banks' compliance programs and determining supervisory steps, the extenuating circumstances created by the crisis would be taken into account, including measures taken by the banks during the crisis to protect and assist their workers, customers, and others. During the crisis, delays in fulfilling certain regulatory requirements (in submitting reports on compliance, and customer identification and verification) would be accepted with understanding.	**March 31** - The ECB issued a warning about an increase in money laundering and terrorism financing risks during the crisis, partly in view of typological developments and new techniques in the field. It clarified that the banks must continue identifying and reporting on irregular activity.		**April 1** – The FATF clarified the need to increase awareness of irregular financial activity during the crisis with the potential risk of money laundering and terrorism financing. It also clarified that risk management in accordance with a risk-based approach enables flexible risk management in order to implement AML-CFT directives (such as carrying out an identification and know-your-customer process digitally).	**March 26, April 5** – Clarifications regarding delays in reporting irregular activity, declaration of beneficiaries, and face-to-face identification.
Assistance in the use of monetary tools offered by the central banks or the government					
	March 16 – Declaration by the supervisory authorities encouraging the banks to use the monetary tools provided by the Fed to assist the economy. In particular: utilization of the discount window through short-term loans provided by		**April 20** – The PRA encouraged the banks to consider the use of the entire variety of tools to manage their liquidity risk, including: An incentive program for loans to small and medium businesses (TFSME), and repo transactions to provide additional		

	the Fed in order to efficiently manage liquidity risks; utilization of intraday credit to support the functioning of the payment and settlement systems' and reducing the required reserve ratio.		liquidity for periods of 1–3 months.		
Other issues					
Various issues	**April 14** – The supervisory authorities enabled a delay in the requirement to receive valuations for real estate-backed transactions (other than financing transactions for construction or sales projects). The banks must use compensatory controls to assess the value.	**March 20** – The ESMA recognizes the fact that, considering the extenuating circumstances, recording conversations may not be practical. The banks are expected to find alternative solutions, and the leniency will only be temporary.			**March 19** – Leniency in the limitation on industry concentration for the real estate industry (from 20 percent to 22 percent excluding infrastructure, and up to 24 percent including infrastructure), so that it would be possible to continue financing of the industry based on its needs.

Box 3.3
Working Principles and Tools of the Banking Supervision Department

- In this box, as part of its dialogue with the public and its efforts to increase transparency, the Banking Supervision Department details its objectives and operating principles.
- The Banking Supervision Department has a number of primary objectives set out in the law: protecting depositors' money, ensuring the proper functioning of the banking system, and protecting the banking consumer. Alongside these, the Banking Supervision Department has set the primary objective of encouraging competition in banking services, and two auxiliary objectives—promotion of technological innovation, and encouraging greater efficiency in the banking system—the aim of which is to assist in achieving the primary objectives.
- The Banking Supervision Department operates based on systematic working principles, using a variety of tools to achieve its objectives, in line with working methods of leading financial supervision authorities around the world and international standards.

Background

The Banking Supervision Department's powers, from which its functions and objectives are derived, are set out in a long series of legislative items, primarily the Banking Ordinance, 1941, the Banking (Licensing) Law, 5741–1981, and the Banking (Service to the Customer) Law, 5741–1981. Alongside this, the Banking Supervision Department operates based on the principles of the Basel Committee for Banking Supervision (BCBS), and common international rules, and in line with the working methods of leading financial supervisory authorities around the world.

The Banking Supervision Department acts to empower dialogue with the public and to strengthen transparency in relation to its activities. As part of this outlook, the Department has seen fit to expand upon its objectives, and the working principles and tools it uses to achieve those objectives, within this survey.

The Banking Supervision Department's objectives

The Banking Supervision Department has three primary objectives:

- **Protecting depositors' money, and ensuring the proper functioning of the banking system and the orderly provision of banking services to the public and the economy.** This objective is met by setting out and enforcing standards and practices with the aim of maintaining the stability of regulated entities and promoting their prudent conduct.
- **Protecting banking service consumers** is another of the Department's objectives.
- **Encouraging competition in banking services** in order to support protection of the banking consumer is the Department's third objective.

In addition to these primary objectives, from time to time the Banking Supervision Department sets supportive objectives, the aim of which is to help achieve the fixed objectives. For instance, in recent years, the Department has set the objectives of promoting efficiency and innovation in the banking system.

The working principles and tools for achieving the Banking Supervision Department's objectives

- **Promotion of cautious behavior by the bank**s
  A banking corporation, by its nature, takes risks in the course of its business. For instance, when providing credit to businesses or households, the bank is exposed to the risk that a borrower will not meet his obligations toward the bank pursuant to the agreement. The responsibility for the

stability of the banking corporation, its risk management, and its compliance to laws and directives, lies first and foremost with its board of directors and senior management. The Banking Supervision Department's function is to promote the prudent conduct of the banking corporations, and reduce and limit excessive risk-taking, to the extent possible , via a framework of regulatory tools that include banking legislation, proper conduct of banking business directives, directives on reporting to the public and to the Banking Supervision Department, the provision of licenses and permits, the imposition of financial sanctions, setting capital requirements, performing independent risk assessments, carrying out examinations and requiring that deficiencies be repaired, conducting uniform supervisory stress tests, and more.

In this way, the Banking Supervision Department acts to minimize the likelihood of failure (insolvency) of banking corporations and reduce the potential adverse impact on the public and the financial system should such a failure occur. However, it should be emphasized that the Department does not have the ability to completely prevent the realization of risks and material loss events. Moreover, an attempt to prevent failures at any cost, especially losses or operational interruptions that do not threaten the stability of the banking corporation, would impose an undue regulatory burden, make it difficult for the financial system to support economic activity, and even harm the level of competition and growth in the economy.

- **Risk-based supervision**
  The Banking Supervision Department operates according to a risk-based supervision approach, which is partly derived from its limited resources relative to the size of the banking system. The intensity of the supervision (the scope, depth, and frequency of the Department's activities) vis-à-vis each of the banking corporations is adjusted to the risk assessment and materiality of the banking corporation to the Israeli economy. The risk assessment of the corporation examines its main risks, focusing on those that are inherent to its business activity, the quality of risk management processes, and the adequacy of corporate governance.

- **Principle-based regulation**
  The Banking Supervision department generally sets out regulatory expectations at the principle level, without precisely detailing how those principles are to be implemented. This concept is in line with the approach of the BCBS, which sets out the international standards in the area. The banking corporation's board of directors and management are responsible for applying judgment in the cautious and adequate implementation of those principles. As part of the examination and assessment processes, the reasonability of the judgement employed is examined, and specific supervisory requirements are raised.

  Alongside this, the Banking Supervision Department imposes quantitative limitations and establishes minimum thresholds with which the banking corporations are required to comply without judgment, particularly in areas that may have a significant impact on their stability. Notable examples are the Department's requirements regarding capital adequacy, liquidity limitations on the indebtedness of single borrower and groups of borrowers, per-industry credit concentration limitations, limitations on credit to related parties, and restrictions on the provision of housing loans.

- **Proportionality**
  The Banking Supervision Department works to adjust the regulatory requirement framework to the characteristics of the supervised corporation's activities, including the scope and complexity of the activity, without waiving basic requirements in the areas of stability, fairness toward the customer, and reporting to the public. Accordingly, the Department will implement a simpler

regulatory framework for entities whose failure would be less material to the economy, such as new banks or institutions that do not accept deposits from the public, such as credit card companies.

- **Continuing and Dynamic Supervision**
  The Banking Supervision department has placed an emphasis on continuing supervision through on-going monitoring of the banking corporation's risks, and assessment of the functioning of the corporation's risk management mechanisms. The prioritization of supervisory processes is dynamic, in accordance with changes in the risk assessment and in the business environment.

- **Forward-looking perspective**
  Alongside the analysis of the current risks, the Banking Supervision Department acts with a forward-looking perspective in order to be prepared for risks that may develop in the future as well. This forward-looking vision is based partly on an assessment of risk trends and macroeconomic forecasts, analysis of the banking corporations' business strategy and work plans, assessment of their organizational culture, and examination of the effect of stress scenarios on their capital, profitability, and stability. It should be noted that the risks that will actually materialize may differ from those in the forward-looking assessment, because of a large range of factors including macroeconomic, geopolitical, technological, or legislative and regulatory changes.

- **Early intervention**
  The Banking Supervision Department intervenes as early as possible where it identifies a need for corrective action on material matters. The supervisory intervention may take place in the area of stability (for instance, halting business activity, restricting the distribution of dividends, requiring additional capital, terminating the service of an officer), or in the consumer protection area, where a broad adverse impact on the bank's customers is identified (such as ceasing business activity or imposing restrictions on the provision of services or products that are negatively impacting the banking consumer).

- **Protection of the banking customer**
  The Banking Supervision Department views protecting the banking consumer and strengthening the public's trust in the banking system as strategic goals. The Department has a designated division for handling bank-customer issues. As part of its functions, the division advances regulatory and legislative actions in the field of bank-customer relations, provides a response to public enquiries, including remedies where complaints were examined and found to be justified, and conducts a variety of audits and examinations, imposing sanctions in respect of breaches that have been identified. It also takes steps to promote the public's financial awareness, promotes making banking information available to the consumer, acts to improve disclosure to the public, and works on the issue of the fees charged by the banks.

- **Encouragement of competition**
  The Banking Supervision Department attributes great importance to encouraging competition in banking services and products. As part of this approach, the Department promotes structural reforms and infrastructure changes in the financial system that are intended to advance competition. Some of the reforms and changes are being implemented in conjunction with other public authorities.

When making decisions intended to support the goal of promoting stability, such as writing directives or granting licenses and permits, the Department also considers the effect of these decisions on competition.

- **Nonintervention in the banking corporations' regular decision-making**
The banking corporations' boards of directors and management are entrusted with making business decisions. The Banking Supervision Department does not approve in advance, and does not retroactively ratify the banking corporations' businesses decisions unless it is required pursuant to the provisions of the law. Thus, the Department is not involved, for instance, in approvals of credit applications, even those of large borrowers. However, as part of various supervisory actions, such as assessment or examination activities, certain business decisions are sampled and examined in retrospect, and if they are discovered to have been problematic, the banking corporation will be required to improve its management and control processes to prevent a future recurrence of similar cases.

- **Ensuring the banking corporations' proper reporting to the public**
The Banking Supervision Department views the provision of reliable and effective reports to the public as an essential element in maintaining the public's trust in the banking system. Accordingly, the Department guides the banking corporations in adopting high international standards for reporting to the public, in order to clearly reflect their activities and the extent of their financial soundness. The Department also acts with the banking corporations and the external auditors to ensure the proper implementation of those guidelines.

- **Transparency and dialogue with the public**
Dialogue with the public is an integral part of the Banking Supervision Department's approach. This dialogue includes discussions with public representatives and civil society organizations, holding conferences and explanatory events, obtaining public comments on draft directives, response to public enquiries and complaints, publication of surveys and analyses of the banking system's activity and the activity of the Banking Supervision Department, and more. This dialogue assists in identifying issues that require supervisory intervention.

  The Department routinely discloses broad information on its objectives, its activity in various fields, and the state of the banking system to the public. This information is provided to the public via the media and the Bank of Israel's website.

  Information sharing and dialogue with the public regarding the Banking Supervision Department's activities are done within the limits of the law and take into account considerations of the public good, in order to avoid any negative impact to achieving the Department's objectives.

Box 3.4

Regulatory Steps that Led to the Issuance of a New Bank License and the Establishment of a Computer Services Center

- In recent years, the Banking Supervision Department has worked to advance competition in the banking system, by participating in the leading of structural reforms and removing entry barriers to the market.
- For the first time in more than 40 years, a license was issued in 2019 for a new bank, after many barriers to the establishment of new banks were removed. Obtaining a license is a complex process that requires the investment of many resources on the part of the entrepreneurs.
- As part of the policy, an orderly process for obtaining a limited bank license was set out, which enables limited activity, including the providing of credit and accepting of deposits, prior to the completion of operational, administrative, and regulatory preparations. This process helps to create regulatory certainty for applicants who are considering establishing a new bank. After obtaining a limited license, the bank must complete its preparations within three years, in accordance with milestones and timetables set out in the Banking Supervision Department's approval. The limitations set out in the limited license will be cancelled when the bank completes its preparations as required, and obtains authorization from the Governor.
- The main barriers identified and dealt with in recent years were high capital requirements, information barriers, the need for deployment of branches, technological barriers (computer systems), and regulatory uncertainty.
- The effort to remove the computer systems barrier—where the necessary cost for establishment and ongoing operation of a computer system was high—is a significant reform that is being implemented through the establishment of a computer services center. This center will be able to serve a number of banks and nonbank entities together. A grant was provided from state funds in order to establish it.
- To increase regulatory certainty for those wishing to establish a bank, a draft outline for establishing a new bank in Israel was published in 2016. This draft details the process of removing barriers to the establishment of new banks. In June 2018, the final supervisory policy for establishing a bank in Israel was published.
- A designated team set up in the Banking Supervision Department to support this process closely guides any applicant interested in establishing a bank, and engages in ongoing dialogue with the aim of creating a high level of regulatory certainty, among other things.
- The regulatory adjustments created by the Banking Supervision Department for new banks include adjustments to proper conduct of banking business directives and directives on reporting to the Banking Supervision Department. Proper Conduct of Banking Business Directive number 480 was published, and provides a risk-based approach that takes into account the size and complexity of the new banks.
- The Ministry of Finance led the establishment of a computer services center and the allocation of a monetary grant for that purpose, and the Bank of Israel consulted and guided this activity through all its stages until a supplier was chosen to establish the center in March 2019. The supplier that was chosen is TCS, which is owned by the global TATA corporation.
- On September 24, 2019, the Governor and the Supervisor of Banks announced that the Banking Supervision Department had completed the examination process, and the Governor was prepared to issue a limited bank license for the First Digital Bank (in Set Up) and a permit for control of the new bank. The infrastructure that was prepared is intended to support the possibility of establishing additional new banks in the coming years, and a number of additional groups that are examining the possibility of establishing new banks are in contact with the Banking Supervision Department.

- The spread of the coronavirus emphasizes the importance of the contribution to customers from access to as wide a range as possible of banking services provided through digital means, including the establishment of a new completely digital bank.

The following is a list of the barriers that were removed in order to encourage the establishment of new banks:

Barrier	Before the change	After the change
Capital requirements	The founder must invest initial capital of no less than NIS 400 million.	After consulting with the IMF and leading regulators abroad, it was decided to lower the initial capital requirement to NIS 50 million. When the bank's credit risk assets reach NIS 600 million, the bank will be required to meet a core capital adequacy ratio of 8 percent, and an overall capital ratio of 11.5 percent (compared with 9 percent and 12.5 percent respectively).
Information barrier	Credit providers and the general public did not have comprehensive and accessible information on the customer's liabilities and credit repayment behavior.	In 2019, the Credit Data System at the Bank of Israel began operating. The system enables the sharing of information, and allows financial institutions where the customer does not manage current activity to make credit decisions with a stronger basis, thereby increasing competition in the retail credit market and expanded access to credit. The Bank of Israel also defined an API Open Banking standard, which will enable and encourage the development of new services and products in the areas of payments and analysis of the customer's banking information, which should increase competition in financial services. This is expected to lead to lower prices and offers of innovative products and services to the customers.
Technological barrier	The cost of establishing the required technological infrastructure for a bank, as well as current expenses including the operational costs required by a large professional team (some of which operates 24 hours a day) was prohibitive for a new bank, and constituted a main barrier to establishing a new bank.	The Bank of Israel is guiding and assisting in the establishment of a banking computer services center. A computer services supplier has been chosen and will be entitled to a NIS 200 million grant subject to meeting the terms of the concession. The computer services center will enable small and new banks to benefit from the center's "advantage of scale", thereby reducing the gap between them and the large banks.
Digitization and removal of the need for branches	A broad network of branches was necessary due to the requirement that customers go to the branches to make banking transactions.	The Banking Supervision Department adjusted the directives in the online banking field, enabling banks to offer most banking services without branches—via call centers, the Internet, digital applications, and ATMs. The removal of this barrier enables the establishment of a full digital bank and makes it easier for new or small banks that do not have a broad network of branches.
Regulatory certainty	The founder is required to prepare fully for the establishment of a new bank, including capital	The Banking Supervision Department changed the license issuing process for a new bank in order to provide regulatory certainty

	injections, the establishment of technology systems and the hiring of employees, before obtaining a bank license. This is a complex process that requires the investment of many resources.	to the founders. An orderly process was set out for obtaining a limited license with activity restricted to providing credit and receiving deposits before completing the preparations for establishing the bank. After receiving a limited license, the bank must complete its preparations within three years, in accordance with milestones set out in the Department's approval. In addition, a designated team provides close guidance and direction for the founders from the moment they approach the Banking Supervision Department.
Regulatory burden	Banking Supervision Directives applied uniformly to the banking system, without distinguishing between existing banks and new banks with noncomplex activity, the risks to which they are exposed, and the systemic risk they create.	The Banking Supervision Department is working to ease the regulation required for a new bank in a number of areas, on the basis of a risk-based approach. The Department issued a Proper Conduct of Banking Business directive on Adjustments for a New Bank.

Background

A new bank has not been established in Israel since the 1970s, largely because the process of establishing a new bank is very complex and requires tremendous resources. In addition, international banks have not wanted to enter the Israeli retail market since the profitability level of the banking system is no different than it is abroad. Moreover, small banks have been merged into the five large banks. On December 30, 2019, a new bank license was announced for “The First Digital Bank in Israel (in Set Up) Ltd.”

The Banking Supervision Department has acted in recent years to advance competition in the banking system, mainly in the household and small business segments, partly by participating in leading structural reforms and removing entry barriers to the market, which are intended to increase the competitive threat on existing players and their competitive behavior, as well as to increase the number of competitors in the financial and banking market.

The Banking Supervision Department is aware of the difficulty inherent in the establishment of a new bank, and as such, it decided to arrange, shorten, and simplify the process, lower entry barriers to the banking system, and create regulatory certainty early in the process for applicants wishing to establish a bank.

The main barriers identified and dealt with in recent years were high capital requirements, information barriers, the need for deployment of branches, technological barriers (computer systems), and regulatory uncertainty.

Technological developments and innovation in the financial world, together with leniencies in the Banking Supervision Department's various directives in the past two years, also enable the establishment of new and innovative banks that will use digital means to obviate the need for a broad network of branches.

The process of establishing a new bank

To increase regulatory certainty for the founder, a draft outline for establishing a new bank in Israel was published in 2016. The draft details the process of removing barriers to the establishment of new banks in Israel. Following that, in June 2018, an orderly and detailed supervisory policy for establishing a bank in Israel was published. This policy is partly based on similar documents by regulators in England and Australia. The policy set out an orderly process for obtaining a limited bank license, which enables limited activity, including the providing of credit and accepting of deposits, prior to the completion of operational, administrative, and regulatory preparations. The limited license will be issued once the Banking Supervision Department completes its examinations of the honesty, integrity, and financial strength of the controlling owners, and its examination of the business plan and the feasibility of establishing the bank. This process helps to create regulatory certainty for entrepreneurs who are considering establishing a new bank. After obtaining a limited license, the bank must complete its preparations within three years, in accordance with milestones and timetables set out in the Banking Supervision Department's approval. These include the raising of capital, staffing of the Board of Directors and senior management positions, risk management, and closing regulatory gaps vis-à-vis directives that apply to the new banking corporation. The limitations set out in the limited license will be cancelled when the bank completes its preparations as required, and after obtaining certification from the Governor.

A designated team set up in the Banking Supervision Department to support this process closely guides any entrepreneur interested in establishing a bank, and engages in ongoing dialogue with the founders. The team examines and challenges the business plan presented by the applicant, including the identification and mapping of risks inherent in it and the performance of stress tests, and examines the computer systems and infrastructure, as well as the regulatory requirements of the bank, its controlling shareholders, and its executives and directors.

The team continues to guide the applicant throughout the preparations period, even after receipt of the limited license, and examines the bank's progress in implementing and meeting the milestones that have been set.

Regulatory adjustments for new banks

The regulatory adjustments for new banks include adjustments to proper conduct of banking business directives and directives on reporting to the Banking Supervision Department, and will be determined according to the volume and complexity of the activity expected at various stages, the risks inherent in the activity of the new bank, and the quality of its controls, so that supervision will be risk-based.

In 2020, the Banking Supervision Department published a new directive with the aim of adjusting regulation for a new bank along a risk-based approach. This is defined as a bank with noncomplex activity that is chiefly vis-à-vis private individuals and small businesses, and whose total assets do not exceed 1 percent of the total assets of the banking system or NIS 16 billion (whichever is lower), and whose total public deposits do not exceed 0.5 percent of total public deposits in the banking system or NIS 6 billion (whichever is lower).

As part of the regulatory adjustments, a new bank that is expected to conduct noncomplex activity will be entitled to significant leniencies in capital and in the first years of its operations will be required to have initial capital of just NIS 50 million. Later on, when its credit risk assets reach NIS 600 million, the bank will be required to meet a Tier 1 capital adequacy ratio of 8 percent and an overall capital ratio of 11.5 percent. Alternatively, a new bank with total credit risk assets of more than NIS 600 million and less than NIS 5 billion will be permitted to hold Tier 1 capital of no less than 10 percent against weighted risk assets. The bank will also be required to have a leverage ratio of just 4 percent. For more information regarding the capital requirements for banks already operating in the Israeli banking system, see Box 1.4 of this Survey.

In addition, leniencies were also issued regarding the scope and composition of the Board of Directors and the possibility of consolidating functions or of outsourcing certain main functions. Leniencies were also issued allowing for the use of cloud computing services for core activities and/or systems, subject to the Banking Supervision Department's approval.

The following are the main adjustments to directives that will apply to a new bank:

Type of requirement	How it applies to existing banks	How it will apply to a new bank
Capital adequacy ratio[189] Tier 1 capital ratio Overall capital ratio	Minimum ratio of 9 percent Minimum ratio of 12.5 percent	**When total credit risk assets are above NIS 600 million:** Minimum ratio of 8 percent Minimum ratio of 11.5 percent **Notwithstanding the above, when total credit risk assets are above NIS 600 million and lower than NIS 5 billion,** permitted to hold 10 percent Tier 1 capital; **When total credit risk assets are equal to or lower than NIS 600 million:** Capital that is not less than NIS 50 million.
Leverage ratio	Minimum ratio of 5 percent.	Minimum ratio of 4 percent.
Liquidity ratio	Liquidity coverage ratio of not less than 100 percent.	Simple liquidity ratio* * Simplicity in how it is calculated.
Work of Board of Directors	Minimum number of members of the Board: 7 Minimum number of directors with "banking experience": 1/3 of the directors. Minimum number of directors with "accounting and finance expertise": 1/5 of the directors A controlling shareholder or his relative may not serve as Chairman of the Board or as Chairman of a Board committee. Required Board committees: Audit committee, Compensation committee, Risk management committee, Technology, information, and innovation committee	Minimum number of members of the Board: 5 Minimum number of directors with "banking experience": 1 or 2 depending on the size of the Board. Minimum number of directors with "accounting and finance expertise": 1 or 2 depending on the size of the Board. A controlling shareholder or his relative may serve as Chairman of the Board or as Chairman of a Board committee for three years from the date of receipt of the permanent license. Required Board committees: Audit committee.
Cloud computing	Cloud computing services cannot be used for core operations and/or systems.	Cloud computing services may be used for core operations and/or systems, subject to approval of the Banking Supervision Department.

[189] The capital ratio requirements are for a normal business situation.

Publication of financial statements	Quarterly reporting.	Semi-annual reporting.

Banking computer services center

As stated, the cost of establishing the technological infrastructure and commercial information system required for a bank's day-to-day operations, which also requires a large professional staff (some of which must be on call 24 hours a day), together with high ongoing expenses, are difficult for an individual new bank to bear on its own, and constitute a main barrier to the establishment of a new bank.

This barrier is higher in Israel than in other countries due to the universal nature of the Israeli banking system, in which the customer enjoys a broad basket of financial services under one roof (a one-stop-shop including current accounts; Israeli and foreign currency; deposits; credit; capital market; financial and pension consulting; private, commercial, or business banking; and more—it is common in Israel that all this exists in one bank).[190]

In view of this, the Strum Committee recommended "the establishment of a service center for computer systems for the provision of financial (and) banking services". This recommendation was reflected in the legislation of the Increasing Competition and Reducing Concentration in the Israeli Banking Market Law[191]: "The Ministry of Finance shall publish, in consultation with the Bank of Israel, a tender for the establishment of technological infrastructure for the provision and operation of computer services to financial institutions. The terms of the tender shall ensure the economic feasibility of establishing the infrastructure." As a result, the Ministry of Finance published rules for a monetary grant to establish a Financial Banking Computer Services Center (hereinafter "the computer services center" or "the center"). Within this framework, a computer services supplier was chosen, and will be entitled to a grant of up to NIS 200 million, subject to meeting the terms of the concession.

The computer services center will enable small and new banks to benefit from its advantage of scale and thereby reduce the gap between them and the large banks, both in terms of providing a rich and competitive basket of services and in terms of economic overhead and the operational efficiency ratio derived from it. Without the center, each new bank would be forced to reach agreement independently with a supplier of core solutions and operational services, and to bear the full cost of establishment and on-going operations on its own.

The computer services center includes all infrastructure, systems, applications, interfaces, conditions, and services required for the full operation of a bank in accordance with the relevant regulations. The center's architecture is based on multitenancy[192] and a gradual growth model that enables it to serve as many clients (financial institutions connected to the center) as necessary. The center is based on

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[190] The data analyzed in Box 2.1 of *Israel's Banking System – Annual Survey* for 2018 show that 60 percent of banking system customers consume all their banking products at one bank.

[191] The Increasing Competition and Reducing Concentration in the Israeli Banking Market Law (Legislative Amendments), 5777–2017.

[192] An architecture comprised of modules that can be selected for various banking needs.

modules and components, and each of the center's clients can adapt the competitive components to its unique needs, whether through adjustment of parameters, as part of the core solution and channels provided within it, or, if necessary, through self-development and standard interface mechanisms (API) that will be required as benchmark conditions from the service center supplier. At the client's wish, the computer services center will also provide SOC, NOC, monitoring systems, analytics, and other reports and services that are not necessarily defined as core systems. The center will also provide interfaces with settlement systems such as Masav, Shva, and Zahav, and vis-à-vis other banks and organizations. The bank that is a client of the center is responsible for reaching business agreements with each of the interfacing institutions.

The computer services center will provide only physical, infrastructure, software, and development and operations staff resources, and the databases, business information, and any trade secrets between its various clients will be fully separated ("Chinese Wall"). The main competition between the center's clients (beyond the commercial level, fees, and interest rates) will focus on digital channels, customer relations and business analysis systems, user interface, and the flexibility of the application for bringing new financial products and services to the market (time to market).

The selected service center is able to serve a wide range of financial institutions and credit providers, in addition to small or new commercial banks, such as existing banks, credit unions, entities dealing with the provision of credit, credit card companies, and more.

The computer services center is committed to operate for at least 10 years, with an extension option (through guarantees provided during the tender process), including the service level price to financial institutions that may want to connect in the future.

The computer services center is in the process of being established. The supplier chosen to establish the computer services center is TCS, owned by the global TATA company. The computer services center has two clients: the First Digital Bank (in Set Up), and the Ofek credit union.

The First Digital Bank (in Set Up)

All of these processes led to the announcement, on September 24, 2019, by the Governor and the Supervisor of Banks, that the Banking Supervision Department had completed its inspection process, and that the Governor was prepared to issue a limited bank license to the First Digital Bank (in Set Up) and a permit for control of it.

According to the business plan presented by the founders to the Banking Supervision Department, they intend to establish a digital bank, with no branches, and to focus on the providing of banking services to households, including the providing of credit, receiving deposits, management of current accounts, and provision of securities purchase and sale services.

There is a trend of establishing new digital banks abroad as well. For more information, see Box 2.1 of this Survey.

The preparations for establishing the First Digital Bank (in Set Up) are complex, and including the completion of computer and operational preparations, which include the establishment of the computer services center, connection to the payment and settlement systems, opening an account at the Bank of Israel, obtaining access to liquidity tools, connecting to the banking system, and implementing the milestones set out in the limited license, such as filling management and employee positions, product development, formulation of policies and procedures, and development of risk management tools.

The activity surrounding the establishment of a new bank is defined as a strategic goal of the Bank of Israel, and is accordingly provided with many inputs throughout the Bank of Israel's various departments (the Banking Supervision Department, the Accounting, Payment, and Settlement Systems Department, the Markets Department, and the Legal Division) in order to advance the matter. Preparations are also necessary vis-à-vis the banking system, the various clearing houses, and other institutions.

In parallel, other applicants have made enquiries and are in various stages of the process of submitting requests to establish new banks. These are being guided by the Banking Supervision Department. The infrastructure that has been built is intended to support the possibility of establishing additional new banks in the coming years.

The Bank of Israel believes that the entry of new participants in the banking system will increase competition, and thereby have a positive impact on the banking system's customers, both in terms of the quality of services provided, and in terms of lowering their prices.

APPENDIX A
DIRECTIVES PUBLISHED BY THE BANKING SUPERVISION DEPARTMENT IN 2019[193]

February 28	**Amendment to Proper Conduct of Banking Business Directive 332 "Share Buyback by Banking Corporations"** The directive was revised with the aim of cancelling the prohibition on banking corporation share buybacks subject to meeting certain conditions, as common in many supervisory authorities around the world. Among the conditions required for a share buyback are: - Meeting conditions for distribution in accordance with the Companies Law, and meeting the conditions of Proper Conduct of Banking Business Directive 331 "Distribution of Dividends by Banking Corporations"; - Limiting the volume of the buyback to 3 percent of the banking corporation's issued and paid up share capital; - The buyback will be according to the safe harbor protection mechanism published by the Israel Securities Authority, which will ensure the banking corporation legal protection against claims of using insider information; - Approval of the buyback program by the banking corporation's Board of Directors; - Approval of the buyback program by the Banking Supervision Department.
March 11	**Amendment to Proper Conduct of Banking Business Directive 449 "Simplification of Customer Agreements"** Directive 449 deals with the simplification of the credit provision agreement. The need to simplify this agreement is consistent with Section 3(d) of the Nonbank Loan Arrangement Law (Amendment number 5), 5777–2017, which sets out, among other things, the details that a lender must include in the loan contract. In view of the delay in the applicability of this amendment, the applicability of the directive was also delayed until the amendment took effect on August 25, 2019.
April 3	**Banking Order (Service to the Customer) (Supervision of Deposit of Post-Dated Check) (Temporary Order), 5779–2019** The Order sets out the maximum fee for depositing an endorsed post-dated check for holding, for individuals and small businesses, at NIS 2 per check. The Order was promulgated in view of the Reducing the Use of Cash Law, which sets out that a bank shall not pay out a check for which one or more of the restrictions enumerated in the law exists. The restrictions took effect on September 1, 2019, and did not apply to checks deposited for holding prior to that date. Due to the concern that an endorsed check issued before the restrictions came into force, for which one or more of the restrictions listed in the law applied, would be deposited for payment after the law came into effect and would not be honored, this fee was reduced in order to encourage such

[193] The full and binding text of regulatory actions appears on the Bank of Israel's website.

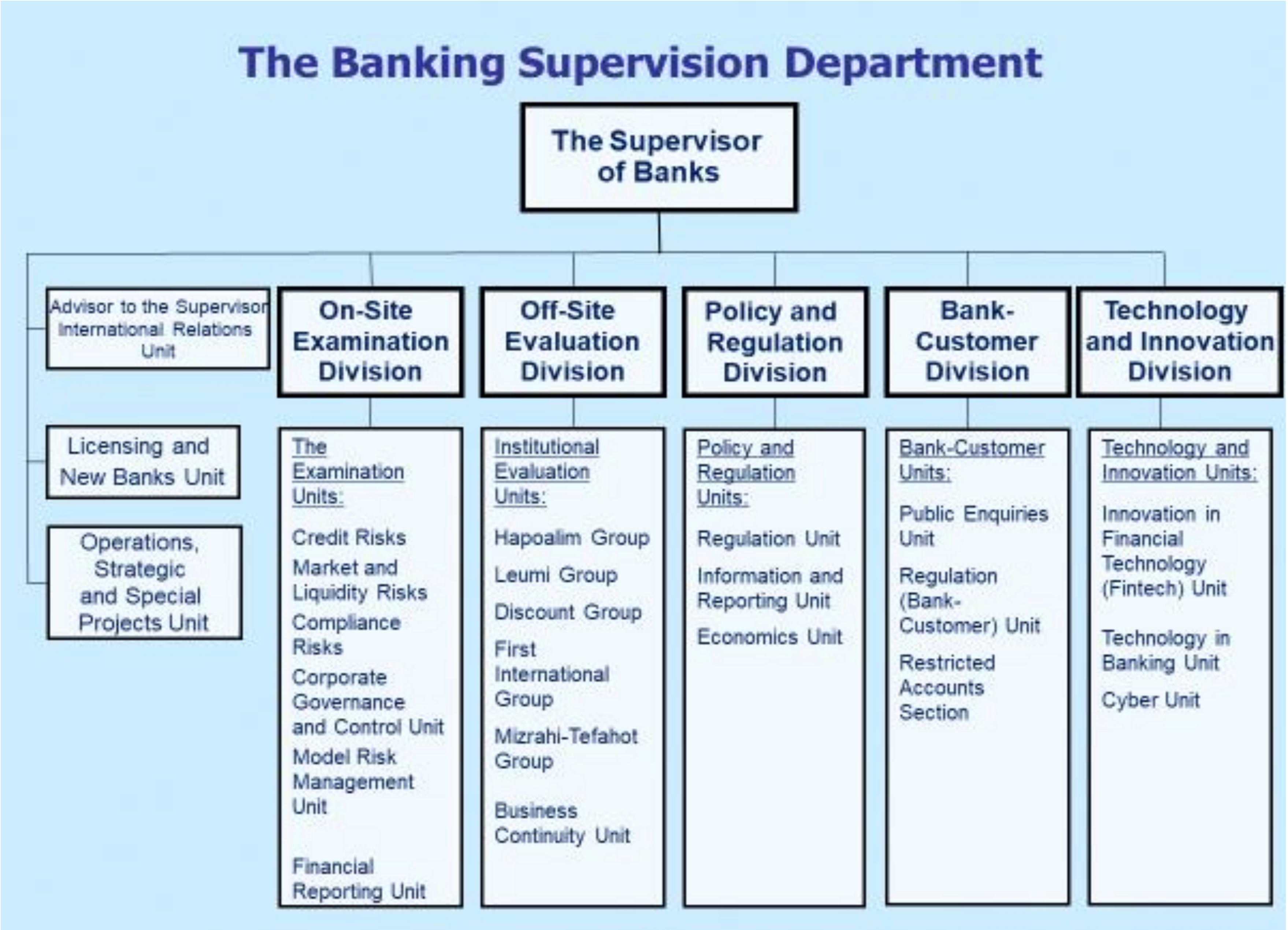
	customers to deposit these checks for holding by the bank before the restrictions became applicable. The Order took effect on April 15, 2019, and ended on June 30, 2019.
May 1	**Banking Rules (Service to the Customer) (Fees) (Amendment), 5779–2019** A number of amendments were made to the fee rules. The main ones are as follows: The banking corporations are required to scan all accounts of their small business or authorized business customers, identify those for whom it is worth joining the basic fee track or the expanded fee track, and transfer those customers, at the bank's initiative, to the track that is most worthwhile for them, while notifying the customer that he has been added to the track and that he can cancel this addition; Presenting information on the cost of withdrawing cash from ATMs, in accordance with the type of machine and type of card, will be enabled not only on the ATMs entry screen, but also via a symbol on the ATM; The ways in which a customer can obtain fee schedule were expanded so that in addition to the banking corporation's branches and website homepage, the customer can obtain them through additional communication channels offered by the banking corporation; The ways of notifying a customer about being added to the tracks service or cancelling such an addition were adjusted, and will now be available through communication channels offered by the banking corporation, according to the customer's preference; The "Ensured bank guarantee for a specific monetary deposit" was defined as a separate service and the fee for it will be lower than the "Bank guarantee" service. The rules took effect gradually.
May 7	**Amendment to Proper Conduct of Banking Business Directive 367, "Online Banking"** The amendment cancelled the obligation to use at least one verification method to make transfers, payments, and other actions to beneficiaries, up to the first amount ceiling set out by the banking corporation through the various online banking channels, while allowing the banking corporation to determine other means of identification and verification, in accordance with its risk procedure. This amendment helps expand the basket of potential services that can be offered through digital means without needing to go to the branch. The amendment also expands the definition of "online banking services" in the directive, and includes fax. This means that all of the guidelines in the directive apply to the variety of banking services offered by fax. Including fax in the directive created regulatory equality between this channel and the other online banking channels that are allowed within the directive.
May 20	**Control over the issuance of guarantees by the banking corporation**

	The directive was revised to enable the issuance of guarantees by digital media and to remove barriers to technological innovation. The amendment sets out that, among other things, there will be an emphasis in the issuance process on the risks of fraud through the copying of files, printing guarantees more than once, and the possibility that unauthorized parties may change a guarantee. In addition, the directive was upgraded in relation to the issuance of guarantees in general.
June 12	**Amendment to Proper Conduct of Banking Business Directive 202 "Measurement and Capital Adequacy – Regulatory Capital"** In order to ease the process of issuing capital instruments and to emphasize that the banking corporations are responsible for making sure that the instruments meet criteria, it was decided to cancel the requirement to obtain advance approval from the Banking Supervision Department for the issuance. Instead, the banking corporations are required to announce the issuance to the Banking Supervision Department immediately following the issuance and in accordance with the format set out.
June 12	**Proper Conduct of Banking Business Directive 426 "Provision of a Professional Human Telephone Response"** The aim of the directive is to anchor principles that will ensure a proper and professional telephone response service for customers, taking note of the nature of activity in the banking system, in accordance with Amendment number 29 of the Banking (Service to the Customer) Law, 5741–1981. The directive also sets out the obligation to give precedence in line to customers who are senior citizens, to provide a professional human response through the telephone call center, and defines requirements for monitoring and control of response patterns to customers at the call center. The directive came into effect when the law came into force, on July 25, 2019.
June 20	**Amendment to Proper Conduct of Banking Business Directive 208, "Measurement and Capital Adequacy – Market Risk"** The directive was revised as part of supervisory efficiency measures and in order to reduce the number of approvals the banking corporations are required to obtain as part of implementing the directives. The amendment sets out that a banking corporation may recognize a structural position as long as all of the conditions listed in the directive are met. Among the conditions, the banking corporation must report to the Banking Supervision Department in advance of its intention to recognize a structural position, confirm that it meets the conditions of the directive in this regard, and that the handling is agreed upon with the banking corporation's accountant-auditors, and that there is control over meeting the conditions after initial recognition of the structural position.
August 1	**Principles for setting out the terms of service of the Chairman of the Board of Directors in a bank with no controlling core**

	The letter clarifies that a bank with no controlling core must set out the terms of service of the Chairman of the Board of Directors in accordance with the principles that are listed. The Banking Supervision department will not intervene in the terms of service that are set out, provided that they are set out for a period of up to the end of 2020, during which the Department will examine the definitions of the position and the new terms of service of the Chairmen of the Boards of Directors of banks with no controlling ore, and the need to amend the directive.
August 29	**Circular defining how merchant acquirers are to report to the public** In view of the development of merchant acquirer activity, supervisory regulation of them, and a revision to Proper Conduct of Banking Business Directive 472 regarding "Merchant Acquirers and Acquiring Payment Card Transactions", the need arose to define how merchant acquirers report to the public in accordance with Reporting to the Public directives. The main amendments are: • The definitions of "merchant acquirer", "non-material merchant acquirer", and "credit card company" were revised; • In all Reporting to the Public directives that apply to credit card companies, the words "credit card company" were replaced with "merchant acquirer"; • A separate chapter defining the reporting to the public of non-material merchant acquirers was added.
October 27	**Revision to Proper Conduct of Banking Business Directive 311 "Credit Risk Management"** The amendments to the directive will enable banking corporations to expand financing solutions to the retail segment, provide financing flexibility in the terms of credit to small businesses, and expand their financing activity for factoring transactions. The main amendments are: - Setting out conditions under which the provision of credit on a "personal credit authority" basis will be allowed; - Expanding the existing exemption from financial reporting on debtors in an international discounting transaction, in respect of debtors in a discounting transaction of local debtors, all subject to other compensatory conditions, including credit insurance; - Leniencies in requirements regarding the dates of receiving the borrower's financial statements. **Revision to Proper Conduct of Banking Business Directive 313 "Limitations on the Indebtedness of a Borrower and a Group of Borrowers"** The directive was revised in view of the unique nature of the credit risk that is inherent in customers' activity in derivatives and in securities, and the weakness of banks in Israel and abroad in managing the risk inherent in such activity. The main amendments are:

	- Definitions were added for “Borrower Dealing in Speculative Activity” and “Supervised Borrower”; - The banking corporation’s indebtedness to a borrower dealing in speculative activity who is not a supervised borrower, minus the amounts listed in the directive, shall not exceed 10 percent of the banking corporation’s capital.
December 2	**Revision to Proper Conduct of Banking Business Directive 203 “Measurement and Capital Adequacy – Standard Approach”** The directive was revised in view of bank enquiries and the Basel Committee notice to the Banking Supervision Department, and sets out that ESM and EFSF entities were added to the list of entities qualified for zero weights regarding capital adequacy.
December 16	**Proper Conduct of Banking Business Directive number 448 “Online Transfer of a Customer’s Financial Activity Between Banks”, and Banking Rules (Service to the Customer) (Transfer of a Customer’s Financial Activity Between Banks), 5780–2019.** The project regarding online transfer between banks is a main layer of the process of implementing Amendment number 27 of the Banking Law (Service to the Customer), 5741–1981. As part of the amendment, Section 5b1 was added to the law. The Section sets out that the banks are required to allow customers wishing to transfer their financial activity from one bank (the original bank) to another (the receiving bank) to do so online, in a convenient, reliable, secure manner, and at no cost. In order to implement the amendment, the directive and rules were set out. The directive and rules take effect at the time Section 5b1 of the Law takes effect.
December 23	**Amendment to Proper Conduct of Banking Business Directive 306, “Supervision of Overseas Branches”** The Banking Supervision department is working to strengthen the banking corporations’ supervision of their overseas branches and activity related to abroad. The amendment to the directive is necessary in order to provide response to questions that have arisen regarding the nature of the external audits required by the directive. It was determined that the external audits will cover the risk focuses at the branches at an adequate frequency, including a round of audits and controls of the risk focus. It was also determined that the audits will include a sample inspection of individual files, and not just an examination of policy and procedures. **Amendment to Proper Conduct of Banking Business Directive 308, “Compliance and the Compliance Function in a Banking Corporation”** The main amendments: • The requirement was clarified that as part of the update concerning developments in the compliance field, significant changes in the regulatory environment outside of Israel must also be examined.

	• It was clarified that the compliance function's work plan shall also be based on revisions to compliance directives and enforcement policies abroad and their possible implications.
December 29	**Amendment to Proper Conduct of Banking Business Directive 367, "Online Banking"** The amendment is intended to clarify that the special guidelines issued regarding the identification and verification of a person wishing to open a settlement account online also apply to a person wishing to open a discounting account online.
Directives since the start of 2020	
January 12	**Amendment to Proper Conduct of Banking Business Directive 315, "Industry Indebtedness Limitation"** As a result of the significant expected increase of national infrastructure projects and their importance to economic growth, and in order to enable the expansion of the supply of credit for these projects, the restriction in the construction and real estate industry was eased to enable the banking system to finance a greater volume of national infrastructure projects. The revision enables a banking corporation to choose the track on which it provides credit to the construction and real estate industry up to 24 percent, on condition that the addition beyond 20 percent is intended to finance national infrastructure projects that are included within the "Civil Engineering Works" industry.
February 4	**Draft Amendment to Proper Conduct of Banking Business Directive 432, "Transferring Activity and Closing a Customer's Account"** With the aim of making it easier for customers to move a securities portfolio to another financial institution, and with the desire to simplify the process while using the new technological means available to the banking corporations, the amendment sets out that the banking corporation shall enable the customer to submit a request to transfer the securities portfolio without requiring him to come to the bank branch.
March 18	**Proper Conduct of Banking Business Directive 250, "Adjustments to Proper Conduct of Banking Business Directives for Dealing with the Coronavirus (Temporary Provision)"** In view of the development of the COVID-19 pandemic and its ramifications, a temporary order was published that includes various adjustments required to assist households, businesses, and the economy as a whole deal with the resulting challenges. The temporary order was updated a number of times during the period.


The Banking Supervision Department
The Supervisor of Banks
Advisor to the Supervisor International Relations Unit
Licensing and New Banks Unit
Operations, Strategic and Special Projects Unit
On-Site Examination Division
The Examination Units:
Credit Risks
Market and Liquidity Risks
Compliance Risks
Corporate Governance and Control Unit
Model Risk Management Unit
Financial Reporting Unit
Off-Site Evaluation Division
Institutional Evaluation Units:
Hapoalim Group
Leumi Group
Discount Group
First International Group
Mizrahi-Tefahot Group
Business Continuity Unit
Policy and Regulation Division
Policy and Regulation Units:
Regulation Unit
Information and Reporting Unit
Economics Unit
Bank-Customer Division
Bank-Customer Units:
Public Enquiries Unit
Regulation (Bank-Customer) Unit
Restricted Accounts Section
Technology and Innovation Division
Technology and Innovation Units:
Innovation in Financial Technology (Fintech) Unit
Technology in Banking Unit
Cyber Unit