Bank of Israel
Banking Supervision Department
The Economics Unit

ISRAEL'S BANKING SYSTEM

ANNUAL SURVEY 2021

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Letter from the Supervisor of Banks, Banking Supervision Department Survey for 2021

The Banking Supervision Department has continued to fulfill its vision of being a proactive, professional and leading supervisory body in 2021, in order to benefit the public and the economy. The Banking Supervision Department's vision takes into account, among other things, the crucial role of the banking system in the State's socioeconomic landscape. In order to realize this vision in practice and with the goal of achieving the Banking Supervision Department's main goals, the Banking Supervision Department's staff are taking a broad range of measures and actions, as described in detail in the Annual Survey of Israel's Banking System. This survey is intended to inform the public of the main activities in which the Banking Supervision Department is involved in each year, its current policy, and its guiding principles for the coming years. It also describes the way in which the Banking Supervision Department views and analyzes the activities, developments, risks and opportunities facing the Israeli banking system.

The Israeli banking system, like those in other countries, has been undergoing a revolution in recent years, which is rapidly and dynamically changing banking activity and the competitive environment. The activities that until only recently were in the traditional domain of banks are now also being offered by technology companies and other entities that are providing a variety of banking services. The goods and services have become easier to receive from multiple sources, and are being offered by means of a wide range of online platforms and channels and through the use of advanced and innovative technologies. Innovation and competition—and the accelerating pace of their development—are creating new types of value for customers and are placing them in a much stronger competitive position. The aforementioned constitutes a serious challenge to the existing banking business model, but they also constitute an opportunity for strategic partnerships, a diversification of revenue sources, and the upgrading of the existing operating model.

This revolution—with an emphasis of focus on the customer—also involves major challenges to the ability to use and leverage information, while maintaining privacy and information security. At the same time, it appears that the characteristics of service in the developing world of technology, digitization and innovation—even as it provides up-to-date and efficient solutions to the needs of many populations—also exposes the difficulty experienced by certain populations in utilizing them. Thus, technology and digitization constitute a challenge to meeting the needs of customers that find it difficult to adopt them.

The challenges of technology and digitization, alongside the provision of service at any time and at any place, increases the possibility of cyber attacks, whose frequency, intensity and scope are on an upward trend. This phenomenon amplifies the practical challenges and the investment needed to provide high level cyber protection and increases the challenge of maintaining business continuity in the banking system.

These challenges characterize banking systems all over the world. In order to enable the banking system to prepare for these challenges and to ensure that the preparations are for the benefit of customers and the public, the Banking Supervision Department has, together with its partners, implemented a series of measures in recent years that have created the foundation for a more advanced and more competitive banking system. This is being accomplished by, among other things, the removal of barriers that prevent progress and by advancing infrastructure projects, such as open banking and “switching banks with a click” platform. These measures are already yielding results and they are expected to improve competition and the welfare of the banking system’s customers.

The changing environment and the developments in the banking system’s relations with its customers require adjustments and reinforcement in the area of fairness as well. The Banking Supervision Department is of the view that a fair and influential organizational culture provides a foundation for fair and high-quality service. Israel’s banking system must continue to build and implement all of the components of such an organizational culture.

Another issue that the Banking Supervision Department has placed high on its agenda is the development of methodologies to evaluate environmental risk (ESG) and to advance the banking system’s readiness on this issue. We attribute importance to the assimilation of standards that relate to the importance of the environmental damage that might be the result of business activity financed and supported by bankers, and can help mitigate it. We are closely monitoring the developments in this area among the leading supervisory authorities worldwide and we will continue to integrate the mitigation of this risk in our activity in coming years, based on the standards that will be adopted by leading international organizations and in the advanced economies.

The COVID-19 crisis illustrated the importance of a strong and stable banking system to the Israeli economy. The year 2021 marked the exit from the COVID-19 crisis and clearly demonstrated the contribution of the banking system to the development and growth of the domestic economy. The growth in economic activity was supported during the course of the year by the expansion in credit provided by the banking system to its customers in all sectors of activity, alongside a decline in interest rates.

Despite the impressive results for 2021, there is growing economic uncertainty as a result of the war in Ukraine and the continuing effects of the COVID-19 pandemic in certain areas of the world. These phenomena are exacerbating the disruptions to the global production and supply chains, increasing inflationary pressures, and they are leading to a slowdown in global economic growth, to an extent that is currently unclear. Although these forces have not yet reached a significant scale, the situation certainly may change in the future. These developments are being met in Israel by a focused and professional Banking Supervision Department and a strong banking system that is able to continue supporting its customers and the economy as a whole.

The Banking Supervision Department will continue, as always, to maintain a robust and stable banking system—one that is fair in its relations with it customers, can adopt to a changing financial world, and is prepared for future challenges.

Sincerely,

Yair Avidan

Yair

Supervisor of Banks

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CHAPTER 1

DEVELOPMENTS IN THE BANKING SYSTEM

1. INTRODUCTION

The events of 2021 demonstrated the resilience and stability of the Israeli banking system, which emerged even stronger from the COVID-19 pandemic. The economy recovered to a great extent during the year and as a result, there was a decline in the uncertainty and the economic risk to the banking system that resulted from the pandemic. In this context, there was a further decline in the unemployment rate (Figure 1.1) and less need among businesses and households for assistance from the government and the Bank of Israel (for further details on the Bank of Israel's assistance mechanisms at the height of the COVID-19 pandemic, see Chapter 1 of Israel's Banking System—Annual Report 2020). Despite the repeated waves of infection during 2021, there were less mobility restrictions imposed on the population by the government, since the lion's share of the population (about 87 percent as of the end of the year) had been vaccinated, which also facilitated the rapid increase in GDP of about 8.2 percent (for further details, see Chapter 1 of the Bank of Israel Annual Report 2021).

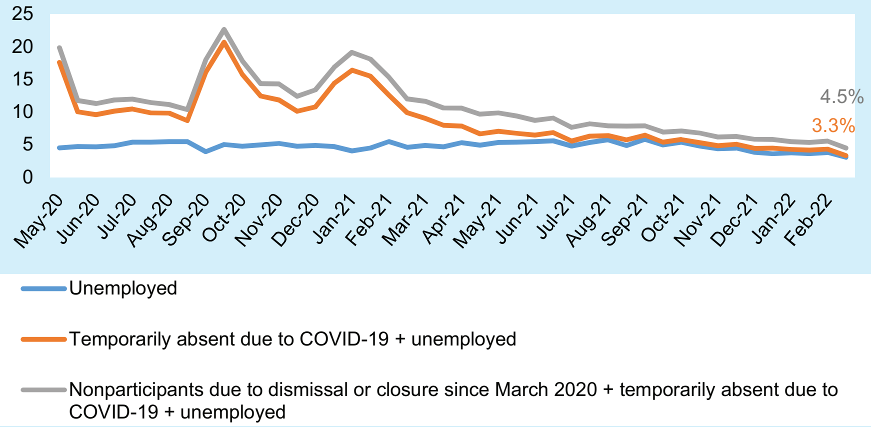
The robustness of the Israeli banking system is the result of a long series of measures implemented by the Banking Supervision Department in recent years that were designed to prepare the system for crises, including those meant to internalize insights gained from the Global Financial Crisis in 2007–09. Since 2012, the Banking Supervision Department has been carrying out a uniform stress test with the goal of testing the ability of the banks to absorb losses that are liable to result from an extreme macroeconomic event and to identify the focal points of risk to which the Israeli banking system as a whole is exposed, as well as each bank separately. The results of the test show that the extreme scenario examined in 2021 constitutes a serious threat to the Israeli banking system, although it would not endanger its resilience and stability (for further details, see Box 1.1 in this survey).

Two additional measures were introduced during 2021 that were intended to improve the system's response to crises. The first involves **a change in the accepted accounting rules so as to ensure that allowances will sufficiently take into account the losses expected in the credit portfolio based on a forward-looking approach.** The adoption of new rules for Current Expected Credit Losses (CECL) is expected to reinforce the Israeli banks' resilience in financial crises, with the goal of preserving the confidence of the public in the banking system (for further details, see Box 1.3 of this survey). The second was intended to examine more precisely the liquidity situation in the banking system. The Banking Supervision Department began the implementation of this measure in December 2021 with the adoption of the Net Stable Funding Ratio (NSFR). **The NSFR requires that the banks maintain a stable financing profile based on the composition of their balance-sheet and off-balance-sheet activities** (for further details on the NSFR, see Box 1.4 of this survey).

The COVID-19 pandemic is a unique crisis relative to previous ones, with respect to both its scale and the depth of its adverse macroeconomic effect. The effect of the crisis was more widespread even relative to—for example—the Global Financial Crisis in 2007–09 and was experienced in both advanced and developing economies. The stability of the banks prior to the outbreak of the pandemic and the economic crisis—which was reflected in the sizable capital buffers accumulated as a result of the lessons learned from the Global Financial Crisis, alongside the results of the stress tests over the years (which helped to identify focal points of vulnerability and deal with them)—made it possible to endure the COVID-19 pandemic from a financial perspective. Furthermore, it appears that the functioning of the banks during the crisis differed from that during previous financial crises, such that the banking system constituted part of the response to the crisis (for further details, see Box 1.7 in this survey).

Unemployment declined, and the economy returned to employment levels similar to the precrsis levels.

Figure 1.1
Unemployment as a Share of the Labor Force Aged 15+, May 2020–March 2022
(biweekly data, not seasonally adjusted, equivalized to the deviation of the level in the original biweekly data, percent)



SOURCE: Based on Central Bureau of Statistics.

Economic growth was supported by the rapid expansion in credit at a rate of about 13.6 percent during the course of the year. This growth characterized all of the banks' activity segments and was primarily the result of the substantial growth in **credit provided to the construction and real estate industry and in housing credit** (which reached a historic high in terms of volume in 2021). It is important to note that **at the same time there was a decline in the interest rate on bank credit**, which is evidence of an expansion of its supply (for further details, see the section on credit in this survey).

The expansion of credit also led to an increase in the return on equity in 2021, which stood at about 13.9 percent, compared to only about 5.9 percent in 2020 and an average of about 10 percent for 2020–21. This was also higher than the average return during the past decade. **The growth in profitability was the result not only of the increase in credit but also the decline in the interest expense** on the public's deposits, as the surplus liquidity in the economy and the reduction in the interest rate at the start of the COVID-19 pandemic; **the decline in the provision for credit losses**, in view of the improvement in the economy and the resumption of debt service by the vast majority of borrowers (following the deferral of debt payments during the crisis); **the increase in the CPI**, primarily during 2021 and in accordance with the global trend; and the continued upward trend in **the banking system's efficiency ratios** (for further details, see the section on business results in this survey). It is important to note that the decline in the banks' profitability during 2020 and the sharp improvement during 2021 are not unique to Israel and reflect a **trend that is common to many economies worldwide** (for further details, see Box 1.6 in this survey).

The decline in uncertainty with respect to the economic impact of the crisis enabled the banks to resume the distribution of dividends to shareholders during the course of 2021 (for further details, see the section on efficiency). Thus, about NIS 5.4 billion was distributed to the banks' shareholders in 2021, which constitutes about 29 percent of the banking system's profits. In this context, it is worth emphasizing that **85 percent of the banks' shares are held by the public**, such that about NIS 4.5 billion of the total was paid out to the public (Table 2).

The increase in credit and profitability were also reflected in the system's capital and in its capital ratios. **The Tier 1 Capital Ratio for the banking system remained high, although it declined somewhat during the year** to 10.9 percent. This is primarily due to the **growth in risk assets** as a result of the growth in credit and the resumption of dividend distribution, which worked to moderate the growth in capital.[1] It is nonetheless important to mention that **the capital ratios of all the banks exceed the regulatory limits** and that the

[1] The profits not distributed as dividends increase the banks' capital and allow an increase in risk assets.

Banking Supervision Department found that it was not necessary to extend most of the easings it had provided during the crisis, apart from those with respect to the leverage ratio (for further details, see the section on capital in this survey).

Beyond the increase in capital, **the continued increase in deposits** (which grew by 16.2 percent during the course of the year) **also facilitated the growth in credit.** Nonetheless, and in contrast to 2020 when the main part of the increase originated from the public's deposits (for further details on the reasons for the increase in the public's deposits, see Box 1.4 in Israel's Banking System – Annual Report 2020), **the increase in 2021 was primarily due to wholesale deposits**. Together with the substantial increase in credit, this led to some decline in the banks' liquidity ratio and the issuing of bonds in the capital market (for further details, see the section on liquidity in this survey).

The developments in recent months are raising economic uncertainty, in view of the effect of the war in Ukraine[2] and the slowdown in economic activity in China as a result of the increase in COVID-19 cases there and the Chinese government's response. These are exacerbating the disruptions in global supply chains and increasing global inflationary pressure, as well as causing some slowdown in global economic activity. In this context, the level of inflation in many countries has risen and inflation is expected to remain at a relatively high level in the near future. In this context, we would mention that inflation in Israel has risen less than in other countries (see Figure 5 in Box 1.6 in this survey).

In addition and based on a forward-looking perspective, it is expected that the Israeli banking system will continue to face many challenges and risks. The Banking Supervision Department is closely following the developments in the banking system using a wide variety of tools, including examinations of the banking system, surveys, etc. (For further details, see Chapter 3 in this survey.) Furthermore, the Banking Supervision Department has carried out a risk survey among senior figures in the Israeli banking system. The results of the survey this year indicate that **cyber risk remains the most concerning of the risks**, in view of the increased number of cyber events this year (for further details, see the section on cyber risk in this survey). **Technological risk**, which is the result of the rapid development of technology and its use in expanding the variety of services provided to customers, also remains a worrisome risk (for further details, see the section on technological risk in this survey). Another risk of concern is **business model risk**, which is the result of innovation and digitization and in view of the increasing competition in the banking system (for further details on the variety of risks facing the banking system and the results of the risk survey, see the section on risk in this survey).

[2] It is important to note that the banking system is not directly exposed to Russia and Ukraine to a significant extent.

2. BUSINESS RESULTS

The banking system's business results in 2021 were high, particularly relative to 2020, mainly in view of the economy's recovery from the COVID-19 crisis and the decrease in uncertainty in the economy.

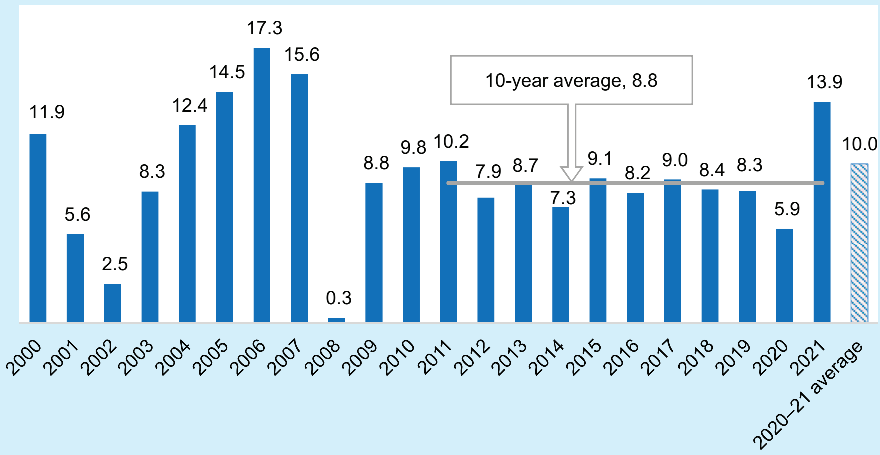
The business results for the banking system in 2021 were notably improved over 2020. This can be attributed to the economy's recovery from the COVID-19 pandemic, which began at the end of the first quarter of 2020 and had an impact on economic growth in both the domestic and global economies. The economy's recovery was accompanied by a reduction in uncertainty with respect to the continuation of the COVID-19 crisis and its future impact on economic activity in general and on borrowers' repayment ability in particular. Thus, most borrowers resumed debt payments that had been deferred during the COVID-19 pandemic.

The net profit[3] **of the banking system in 2021 was also significantly affected by events in 2020. A comparison of average net profit during 2020–21, a calculation that neutralizes the offsetting effects of the COVID-19 pandemic on net profit in those years, to net profit in 2019 shows an increase of about 30 percent. The net profit of the banking system in 2021 alone totaled about NIS 18.5 billion, a substantial increase** (about 145 percent) **relative to 2020** (when net profit was equal to about NIS 7.5 billion). The negative credit loss provisions in 2021, which had an impact on the banks' profits, is the most significant item within the decrease in provisions, where all of the banks recorded income from reduced credit loss provisions in 2021 (Table 3). The average return on equity in 2020–21 was about 10 percent, which is higher than the average return during the past ten years of 8.8 percent (see Figure 1.2). Comparing the average of the profit and loss items in 2020–21 to 2019 shows that the decrease in credit loss provision items contributed to the increase in average net profit for 2020–21. This was primarily due to interest expenses, due to the drop in interest on the public's deposits as a result of the fall in the dollar and shekel interest rates in 2020 relative to 2019. Also contributing were the reduction in provisions for credit loss, and operating expenses, together with a slight increase in non-interest income. The return on equity in 2021 was about 13.9 percent, compared to about 5.9 percent in 2020 and about 8.3 percent in 2019 (Table 3).

[3] The net profit attributed to the banks' shareholders.

The ROE in 2021 was about 13.9 percent. Even considering the 2020-21 average, the ROE was higher than the average of the past ten years.

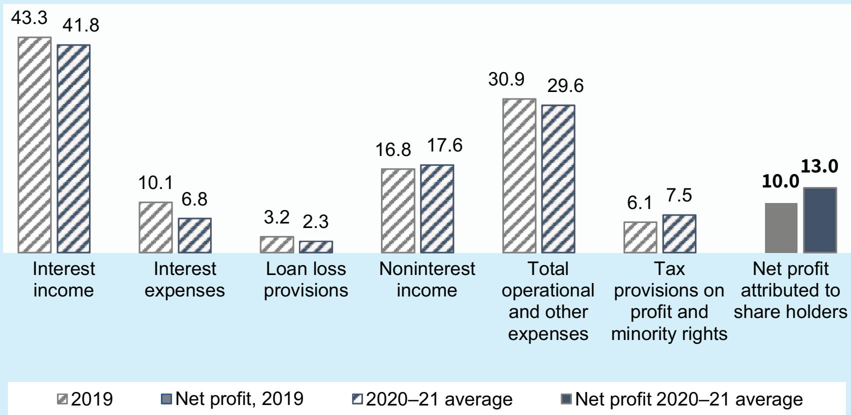
Figure 1.2
Return on Equity (ROE) After Tax, Total Banking System, 1995–2021 (percent)



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

Comparing the 2020–21 average of the profit and loss components to the 2019 values shows that most of the increase in net profit during the period was from a reduction in expense items.

Figure 1.3
Components of the Profit and Loss Statement, Total Banking System, 2020–21 average and 2019 (NIS billion)



SOURCE: Based on published financial statements.

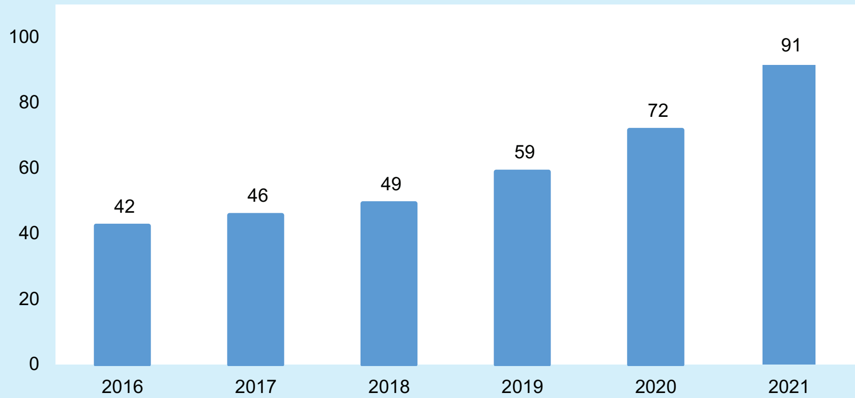
Following are the main factors that affected the business results of the banking system in 2021 relative to 2020:

The growth in net interest income was mainly based on interest income from credit to the public, due both to the growth in the credit portfolio and to the increase in the CPI in 2021.

Net interest income rose in 2021 relative to 2020 by about 16 percent and totaled about NIS 37.6 billion (Table 3). The main part of this increase originated in interest income on credit to the public, which reflects the rapid increase in economic activity and which occurred in spite of the drop in spreads (for further details, see the section on the credit portfolio and credit risk). The contribution of the CPI[4] to net total interest income in 2021 stood at about NIS 1.7 billion which occurred against the background of the gap between the increase in the "known" CPI in 2021 by 2.4 percent[5] and the decline of 0.6 percent in 2020. During 2021, there was a substantial increase in the gap between CPI-linked assets and CPI-linked liabilities (Figure 1.4), the vast majority of which originated on the assets side (primarily credit to the public); as of the end of the period, it stood at about NIS 91 billion. Thus, from a forward-looking perspective, it can be said that the banking system's net interest income will continue to be positively affected by an increase in the CPI. Net of the CPI's effect, net interest income rose by about 11 percent in 2021 relative to 2020.

A surplus of CPI-indexed assets over CPI-indexed liabilities creates a positive CPI contribution to net interest income.

Figure 1.4
The Gap between CPI-Indexed Assets and CPI-Indexed Liabilities, December 2016–December 2021 (NIS billion)



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

[4] The analysis of the effect of the CPI in this chapter is based on estimates that are calculated on the basis of interest-bearing balances linked to the CPI at the end of the period.
[5] The "known" CPI is the one that influences interest income and expenses. We note that the actual CPI for 2021 rose by about 2.8 percent.

An examination of the quantity and price effects on interest income and expenses in 2021 relative to 2020 indicates that both quantity and price had a positive effect on net interest income (Table 4) where the quantity effect was larger than the price effect (explaining about 66 percent of the total contribution to net interest income). We note that net of the rise in the CPI in 2021, the price effect on net interest income is negative. Net interest income increased in 2021 by about NIS 5.2 billion compared to 2020 where the main part of the increase was due to the portfolio of credit to the public and occurred in spite of the drop in interest rates in all of the supervisory activity segments (for further details on interest rates by activity segment, see the section on the credit portfolio and credit risk).

During 2021, the upward trend continued in the interest rate spread The increase is almost entirely explained by the effect of the CPI increase

During 2021, the upward trend continued in the interest rate spread between income on credit to the public and the expense due to the public's deposits. This spread stood at about 3.3 percent, compared to about 2.9 percent in 2020 (Table 5; Figure 1.5). The increase is almost entirely explained by the effect of the CPI increase. Net of the CPI, the aforementioned interest rate spread is about 2.74 percent and reflects a decline relative to 2020. This is essentially the lowest spread in the last seven years and is consistent with the drop in the interest rate on credit and the growth in total interest-bearing assets (for further details, see the section on the credit portfolio and credit risk). The slight drop in the proportion of expenses due to the public's deposits in 2021 contributed little to the increase in the interest spread. This decline derived almost entirely from the increase in the public's total deposits, which grew during 2021 by 16.2 percent. About 50 percent of the aforementioned increase was due to the public's deposits that do not bear interest (the vast majority of which are current account balances)[6] while total interest expenses even declined somewhat (by about 1.1 percent).

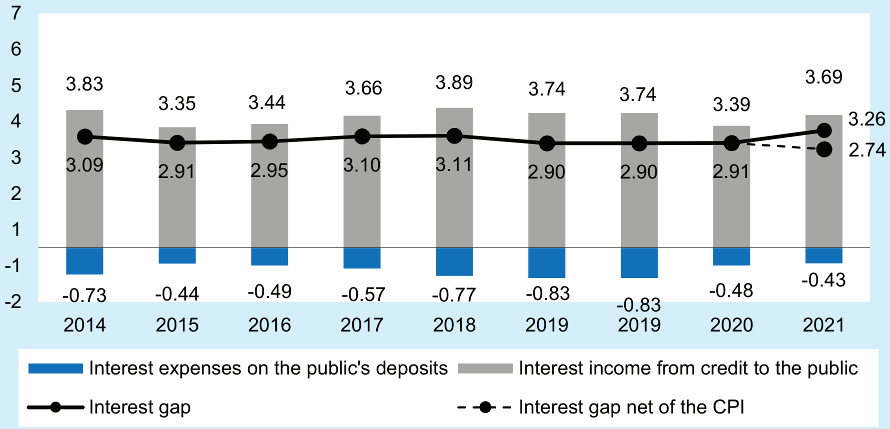
Credit loss expenses (income) were heavily influenced by the COVID-19 pandemic, both in 2020, during which the pandemic began and uncertainty was high, and in 2021 during which uncertainty moderated and accordingly net profit and the return on equity were also affected. An analysis of the average credit loss provisions for 2020–21 shows that the total credit loss provisions were about NIS 2.3 billion, a decline of about 28 percent relative to 2019, when the total credit loss provision stood at about NIS 3.2 billion.[7] In 2021, this item showed a negative provision (a reduction in the allowance that had accumulated in the past) of about NIS 3.3 billion (Table 3), relative to a provision of about NIS 7.8 billion in 2020 (a decline of 142 percent). The decline was primarily

[6] Accounts in which the activity consists of deposits and withdrawals of cash initiated by the account owner.

[7] The effect of the coronavirus pandemic on credit loss provisions was already seen in the financial reports of 2019, some of which were published at the beginning of the coronavirus crisis. These effects were reflected in the growth in credit loss provisions in the 2019 financial results, against the background of the initial impact of the pandemic.

Net of the effect of the CPI, there was a decline in the interest gap, which was the lowest in the past seven years.

Figure 1.5
Rate of Interest Income on Credit to the Public, Rate of Interest Expenses on the Public's Deposits, and the Interest Gap, Total Banking System, December 2014–December 2021 (percent)



SOURCE: Based on published financial statements.

due to the decrease in the provision on a group basis, although it was also due to provisions on an individual basis as well as collection. This was mainly the result of the improvement in the macroeconomic situation and the continuing downward trend in total debt on which payments were deferred, which led to a drop in total credit loss allowances (for further details, see the section on the credit portfolio and credit risk).

Non-interest income grew in 2021 relative to 2020 by about 12.6 percent and totaled about NIS 18.6 billion (Table 3). This increase resulted from non-interest financing income and income from fees. The increase in non-interest financing income was primarily due to the profits on the sale of nontradable equities[8] and the increase in unrealized profits and losses.[9]

Income from fees rose in 2021 relative to 2020 by about 8.7 percent to about NIS 13.5 billion (Table 3). The main part of the increase (about 30 percent of the total increase in this item) is due to fees on credit card activity, which is a result

[8] About 86 percent of the total increase in this item is due to Bank Leumi and originates from the realized and unrealized profits on the shares of Retailors and Ironsource in the amount of about NIS 518 million, which was recorded in 2021.

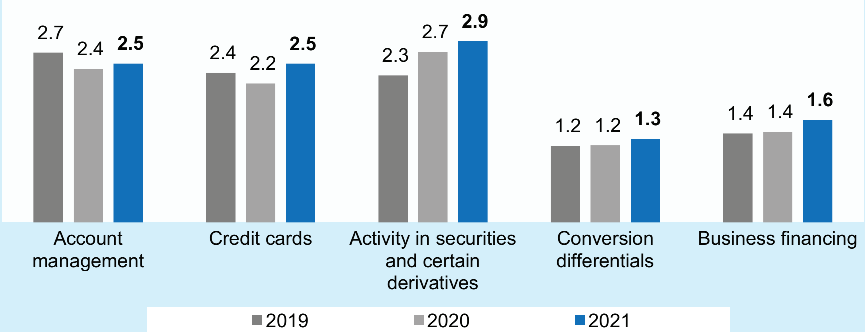
[9] Starting in 2019, a line was added for "realized and unrealized profits and losses from adjustments in the fair value of non-negotiable shares", which flows into the profit and loss statement. Particularly in the case of shares, there is also recognition of unrealized profit from the fair value adjustment. About 65 percent of the total increase in this line is due to Bank Hapoalim.

of the increase in total transactions brought about by the economic recovery.[10] The proportion of the increase in income from fees on securities transactions is also significant (about 16 percent of the total increase in this item) and it is the result of the increase in trading of securities (Figure 1.6).[11]

Total operating and other expenses rose during 2021 relative to the same period in the previous year by a rate of about 8 percent to about NIS 30.8 billion (Table 3). The main part of the increase is explained by higher salary and related expenses, which rose relative to the same period last year by a rate of about 14.5 percent. This is primarily explained by the adjustment of performance-linked compensation which depends on the banks' return and profitability (for further details, see the section on operating efficiency and efficiency processes).[12]

Most of the growth in fee income was from fees on credit card activity. There was also an increase in fees from securities activity in 2020–21, in view of households' increased participation in the capital market.

Figure 1.6
Main Fee Income Items, Total Banking System, 2019–2021
(NIS billion)



SOURCE: Based on published financial statements.

3. OPERATING EFFICIENCY AND EFFICIENCY PROCESSES

In 2021, the trend of improvement in the banking system's efficiency ratios continued, despite the growth in operating expenses compared to 2020.

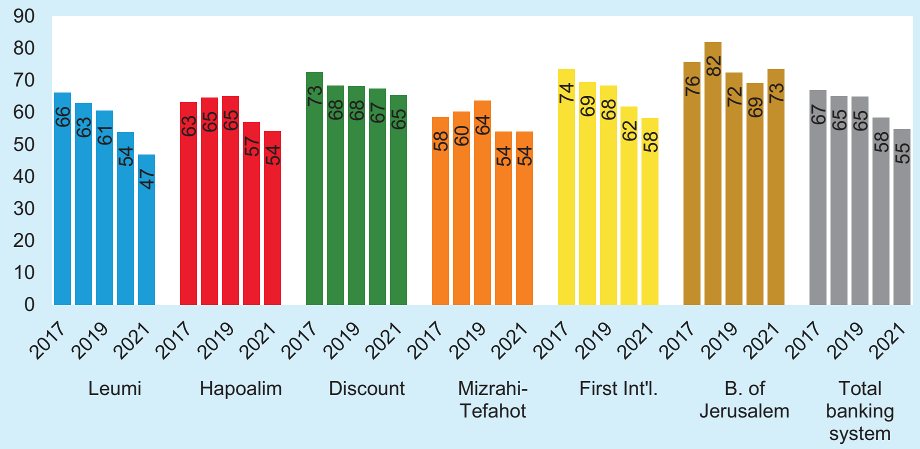
In 2021, the banking system's efficiency ratios continued to improve, as reflected in the decline of the cost-to-income ratio[13] to about 55 percent, as compared to 58 percent in 2020 (Figure 1.7). The improvement in the cost-to-income ratio was achieved as a result of an increase in income: net interest income, non-interest financing income, and other income. Unit output cost[14] fell

10 Primarily due to the interchange fee which is determined as a percentage of total transactions.
11 See also Box 4.3 in the Bank of Israel Annual Report 2021.
12 The increase in this item is due to the sharp rise in rates of return, which directly affect the payment of grants and bonuses. This is particularly the case in comparison to the previous year when such bonuses were not paid out by banks anywhere in the world due to weak business results and the high level of uncertainty with regard to how the pandemic would progress.
13 The ratio of total operating and other expenses to total net interest income and total non-interest income.
14 The ratio of total operating and other expenses to average total assets.

relative to 2020 (1.47 percent vs. 1.6 percent; Figure 1.8)[15] which was partly the result of a large increase in average total assets (of about 15 percent) relative to the more moderate increase in operating and other expenses (about 8 percent). **The improvement in the efficiency ratios occurred, as mentioned above, despite the increase in operating and other expenses relative to 2020** , which was led by salary and related expenses. This was due to an increase in bonuses to workers and executives across all the banks, as a result of the solid business results relative to 2020.[16] **The improvement in the cost-to-income ratio relative to the previous year included almost all of the banks (apart from Mizrahi-Tefahot, which did not show any major change relative to 2020).**[17]

The efficiency ratio improved in almost all banking groups in 2021.

Figure 1.7
Efficiency Ratio[a], Total Banking System, 2017–2021 (percent)



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

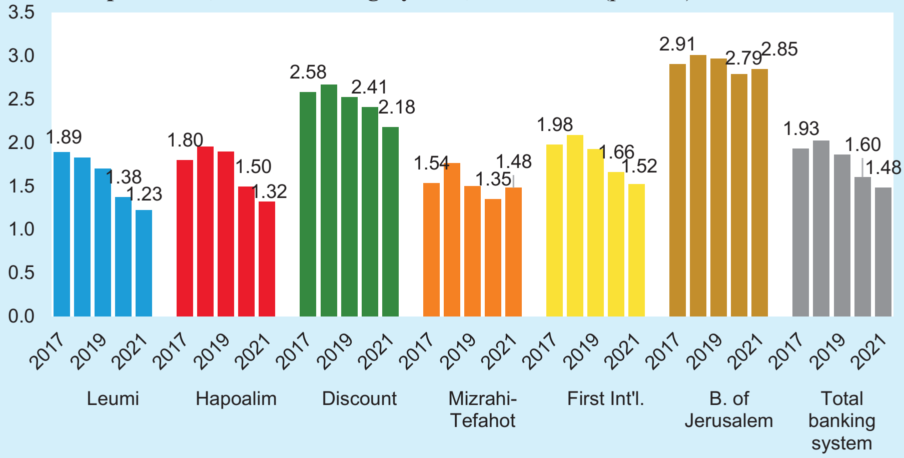
[15] Except for Bank Mizrahi-Tefahot due to its merger with Union Bank in the last quarter of 2020, which shifted its average cost ratio for 2020 downward.

[16] In this context, Bank Leumi presented the best cost-to-income ratio in the system (47 percent), against the background of, among other things, its large profit from non-interest financing income (about NIS 518 million). This followed the sale of shares and realized and unrealized profit on shares as part of the sale of real investments by a subsidiary and in particular during the second quarter of the year (although it maintains the best ratio even without this income—48 percent).

[17] Its expenses were affected by, among other things, the merger with Union Bank.

Due to the rapid growth in the average balance of assets, the unit output cost of the banking system improved in 2021.

Figure 1.8
Unit Output Cost[a], Total Banking System, 2017–2021 (percent)



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

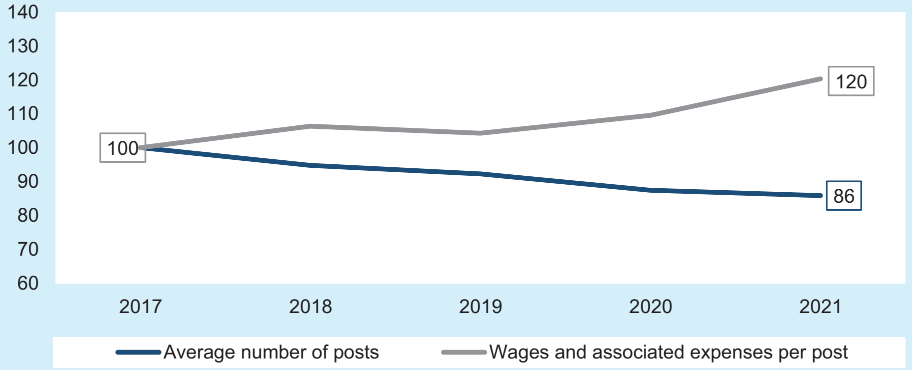
During the year reviewed, the banks continued to reduce their workforces. Similar to previous years, the decline in employee posts during the reviewed year was due to the reduction in low-wage posts (up to NIS 360,000 per year) and the continued decline in number of posts of bank employees abroad, and was partially offset by growth in the number of posts in the medium-high wage levels.

During the year being surveyed, the banks continued to reduce their level of human resources: The number of posts in the banking system declined compared to the end of 2020 by about 1.8 percent (about 665 posts), a somewhat lower rate than in 2020, when the number of posts declined relative to the end of 2019 by about 5.3 percent. This decline is a continuation of the trend in recent years; thus, from a peak in 2011 the number positions in the banking system has fallen by about 23.4 percent until today (Table 7; Figure 1.9). The decline in the number of positions in 2021 was the result of cuts at the low salary levels (up to NIS 360,000 per year), as in previous years, and the continuing downward trend in number of positions in the banks' staff abroad (Table 8), which was partly offset by the rise in the number of positions at mid to high salary levels (NIS 360,000—1 million per year), as well as the increase in number of positions at the highest salary levels (above NIS 1 million per year). This trend reflects a change in the mix of hiring in the banking system, with a shift toward high tech workers who earn relatively high salaries. Accordingly and as a result of the aforementioned increase in bonuses, salary and related expenses grew this year relative to 2020 by a rate of about 14.5 percent (Table 7). This increase occurred following two years (2019–20) in which salary and related expenses declined at an average annual rate of about 2.5 percent. This was due to, among other things, the reduced payment of bonuses to workers during these years as a result of the only mediocre business results during the pandemic.

The increase in the average salary[18] per employee post in the banking system was about 9.8 percent, which is high relative to previous years (Table 7; compared

The decline in the average number of employee posts continued in 2021, together with a continued increase in the average wage in the banking system.

Figure 1.9
Index of the Average Number of Employee Posts and Wage and Associated Expenses[a] per Post, Total Banking System, 2017–2021[b] (index: 2017=100)



[a] Associated expenses include severance, royalties, advanced training funds, pension, vacation, National Insurance and payroll taxes, other associated expenses, voluntary retirement, and option benefits.
[b] From 2017, the data are presented excluding Isracard. From 2018, the data exclude Max.
SOURCE: Based on published financial statements.

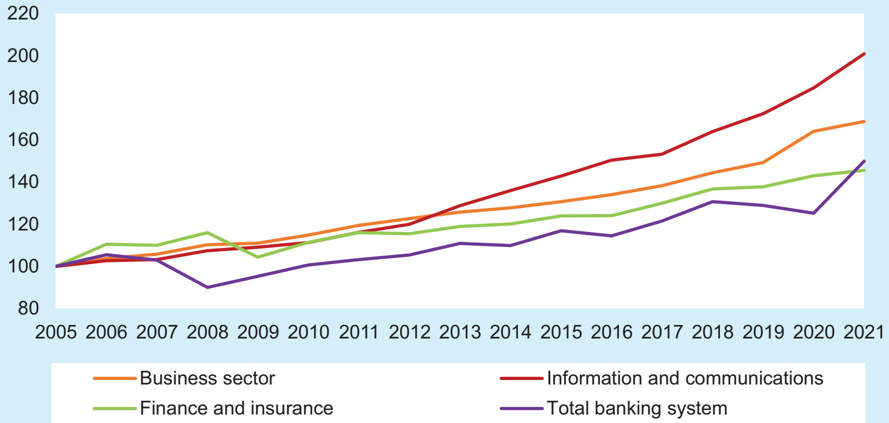
to an annual rate of increase of about 1.6 percent during 2019–20). Similarly, in 2021, wages in the financial and insurance industry grew by about 12.3 percent and in the information and communication industry, wages grew by about 6.7 percent[19] (Figure 1.10). In this context and from the perspective of differences in the growth of the average salary between these industries in recent years (in an attempt to smooth out one-time effects on salary increases over time), it appears that the average salary in the information and communication industry has grown during the last three years at an average annual rate of about 6.8 percent, as compared to the increase in the financial and insurance industry of about 6.1 percent and that in the banking system of about 4.3 percent.

The downward trend in the number of workers in the banking system in recent years is a result of the measures it has taken in order to **adjust to the developing and increasingly sophisticated business environment.** This was accomplished by **expanding the scope and variety of banking products and services offered, while reducing operating expenses and related inputs.** This

18 Salary and related expenses.
19 Central Bureau of Statistics data—average gross wage per employee post for Israeli workers in 2021.

The development of the average wage in the banking system in recent years was similar to its development in the general business sector.

Figure 1.10
Index of the Average Wage per Employee Post in Various Industries, and Wage Expenses per Post in the Total Banking System, 2005–2021 (index: 2005=100)



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

The downward trend in the number of banking system employees in recent years is a direct consequence of the range of steps taken in the system that were intended to adjust the banking system to the business environment that is developing and increasing in sophistication.

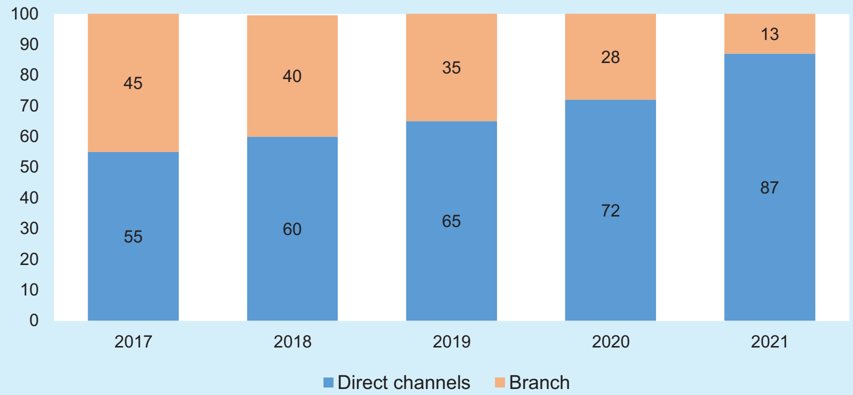
included among other things: (1) a reduction in human resources, which was accomplished by, among other things, the adoption of early retirement programs by all of the banks, which in general applied to defined target populations; (2) the closing of branches, a process that was supported and monitored by, among others, the Banking Supervision Department, with the goal of minimizing harm to populations that will have difficulty adjusting to the change and to the introduction of alternative services, whether provided digitally or by special branches (such as mobile branches); (3) a shift to new campuses outside the premium real estate areas, with the goal of reducing rental expenses and real estate usage in general; (4) synergy and exploitation of economies of scale between merged banks which are intended to eventually eliminate redundant infrastructure. These measures involve a great deal of investment and expense during the transition period; however, they can achieve greater efficiency in the long term and an improvement in the system's efficiency.

The year 2021 was also characterized by an upward trend in customer use of direct banking channels.[20] Banking Supervision Department data indicate that the proportion of household bank activity carried out through these channels has risen to about 87 percent in 2021 (Figure 1.11) as compared to about only 55 percent in 2017.

[20] Direct channels include networked sites, mobile apps, ATMs for self-service and telephone call centers (not including a telephone response by a worker in the branch).

In 2021, the increase in the rate of transactions made through direct channels as a share of total reported transactions continued.

Figure 1.11
Household Transactions Using Digital Channels[a] as a Share of Total Transactions, Relative to Branch Transactions, 2017–2021 (percent)



[a] Direct channels: websites, smartphone applications, self-serve ATMs, and telephone call centers.
SOURCE: Reports by the five banking groups to the Banking Supervision Department.

The share of banking activities conducted by households via direct channels increased in the reviewed year to about 87 percent of total activities, compared to about 55 percent in 2017.

The increasing share of activity carried out by direct channels is the result of technological advances, a trend that was accelerated by the COVID-19 pandemic and which motivated the banks to offer an increasing number of services by means of direct channels (including apps, websites, etc.[21]). This has reduced the need to visit the branch and to carry out activity with human assistance.[22] This process is improving the accessibility of banking services for customers and is making it easier for the public to manage and consume banking products. These developments are also helping to increase the efficiency of the banking system and improve the customer's service experience. It should be noted that the growing use of online technologies during the COVID-19 pandemic was not unique to the banking system and also characterized other industries. This was meant to support continued economic and social activity during the pandemic despite the restrictions imposed on congregating and travel (for further details, see Chapter 1 of the Bank of Israel Annual Report 2020).

[21] ATMs and telephone services are also included under the definition of direct channels.

[22] The main activities that are carried out by means of direct channels include transfers and payments, checks (deposits and ordering of checkbooks), receipt of credit, depositing or withdrawal from an account, and the purchase or sale of securities.

4. CAPITAL ADEQUACY AND LEVERAGE

In view of the system's robustness, it was decided not to continue most of the leniencies given by the Banking Supervision Department during the crisis.

The economic recovery and the adjustment to life alongside the coronavirus, as well as the performance of the banking system in 2021 (for further details, see the section on business results), helped to maintain a high capital ratio in the system (see the table of the breakdown of capital and capital ratios). The banking system's Tier 1 Capital Ratio was 10.9 percent at the end of 2021, which represented somewhat of a decline from 11.1 percent at the end of 2020 (Figure 1.12).[23] **The main factors that worked to produce this decline are the growth in risk assets and the resumption of dividend payments.** In view of the resilience of the system, it was decided not to extend most of the reliefs provided by the Banking Supervision Department during the crisis.[24] The anti-cyclical approach adopted by the Banking Supervision Department in recent years, which included strengthening the capital in the system prior to the pandemic and measures adopted during the pandemic, helped to maintain the supply of credit and the stability of the system and are evidence of its ability to deal with systemic crises. **However, there are currently other challenges facing the banking system in the context of its capital ratios, both in the short term (in the form of increasing inflation and expectations of rapid hikes in the interest rate that have no precedent in recent years) and in the long term, against the background of accelerated growth in credit (for further details, see the section on credit). These challenges require the banks to manage their capital with prudence.**

The banking system faces additional challenges that require the banks to consider prudent and conservative capital setting.

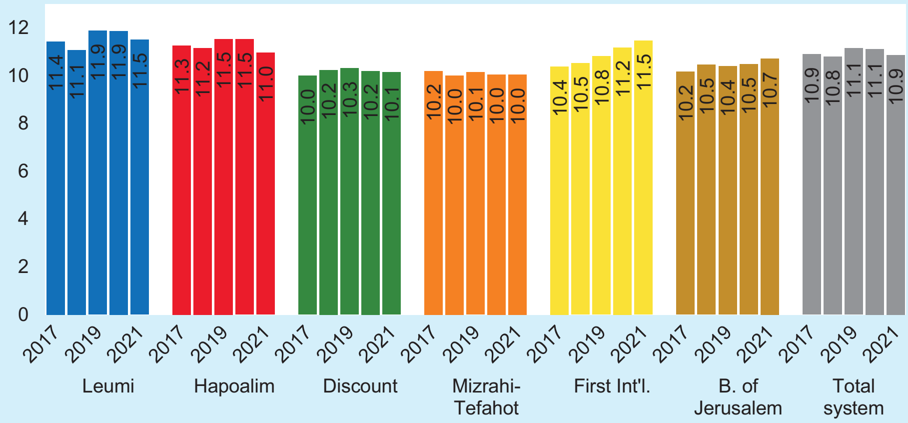
The **total Tier 1 Capital of the banking system** continued to grow, reaching NIS 140.2 billion (an increase of 9.6 percent relative to December 2020). This is a rapid pace of accumulation relative to the growth rate of 4.7 percent during the years 2017–20. **During the course of the year, the Banking Supervision Department changed its stance with respect to the payment of dividends while at the same time calling on the banks to adopt prudent**

[23] In spite of the lower risk weight for the exposure of the banks to insurance companies, provident funds and mutual funds, which worked to improve the capital ratios.

[24] Lowering the minimum capital ratio and cancelation of the capital allocation against housing loans. In contrast, it was decided to extend the exemptions for the minimum leverage ratio until December 2023.

Despite the slight decline, the capital ratios in the system remained high.

Figure 1.12
Common Equity Tier 1 Capital Ratios[a], Total Banking System, 2017–2021 (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.

and conservative capital setting.[25] The resumption of dividend distribution during the second half of 2021 acted to moderate the rate of growth in capital (3.7 percent relative to 13.8 percent during the first half of 2021). Thus, a large quantity of dividends was distributed during the course of the year (NIS 5.4 billion as compared to an average of NIS 2.4 billion during the period 2017–20). Furthermore, it is expected that the sharp increase in the yields on government bonds during the first months of 2022 (Figure 1.13) will further reduce the capital of most of the banks in the short term. It will also affect total profit

[25] In March 2020, the Banking Supervision Department published its position that the dividend distribution policy should be reconsidered, given the uncertainty with respect to the future of the COVID-19 pandemic.

In June 2020, the Banking Supervision Department published its position that the distribution of dividends at a level of more than 30 percent of the bank's profit in 2020 is not considered to be consistent with prudent capital planning.

In September 2021, the Banking Supervision Department published its position that the distribution of dividends at a level of more than 30 percent of the bank's profit in 2020 and 2021 is not considered to be consistent with prudent capital planning.

https: //www.boi.org.il/en/NewsAndPublications/PressReleases/Pages/19-09-2021.aspx

In December 2021, the Banking Supervision Department published its position that the return to normal activity makes it possible for the banks to forecast their capital needs more accurately and to distribute dividends. Nonetheless, when deciding on the distribution of dividends the banks should adopt caution with respect to their business model and should take into account the level of uncertainty that still exists in the markets.

https//: www.boi.org.il/he/NewsAndPublications/PressReleases/Pages.13-12-21.aspx [Hebrew] and in particular the adjustments for workers' benefits and for presentation of available-for-sale bonds according to fair value.[26] In contrast, it is expected that the increase in yields will also contribute to improvement of the capital ratios, since higher inflation and interest rates are expected to contribute to profitability.

It appears that during 2021 (and as a continuation of the trend that began at the end of 2020) risk assets grew at a rapid pace. The risk assets in the system grew by about 11.4 percent during the year, as compared to an average rate of increase of about 4.5 percent during the period 2017–20. The main source of this growth was credit risk assets, which grew at a rate of 12.2 percent during the year and which constitute about 92 percent of total risk assets. The increase in credit risk is explained by the increased exposure to corporations and to commercial real estate (which are weighted by a high risk weight), alongside continuing growth in the exposure to housing credit (for further details, see the section on credit). Despite the increase in exposure to industries with high risk weights, the average risk weight of the exposure to credit is lower than in 2020 (49.9 percent vs. 51.2 percent), because in parallel to the rapid increase in credit during the year, there was an increase in exposure to sovereigns[27] (Table 9), which are weighted with a negligible risk weight, and in exposure to housing credit which is weighted by a low risk weight relative to business credit (Table 10).

The total capital ratio remained high despite the slight decline during 2021 and stood at about 14 percent as compared to 14.4 percent in December 2020 (Table 11). The decline in the total capital ratio is large relative to that in the Tier 1 Capital ratio since the capital base grew at a slower pace than Tier 1 Capital (7.6 percent vs. 8.9 percent). This gap is the result of the continued gradual erosion of capital instruments that are not eligible to be included in regulatory capital and the low growth rate in Tier 2 Capital relative to Tier 1 Capital (4.8 percent during 2021). The growth in Tier 2 capital is the result of, among other things, the issuing of CoCo debt instruments during the course of the year in the amount of about NIS 7 billion (of which NIS 5.2 billion were by means of international issues of dollar bonds).[28] They were part of a record year in issues by the banking system, which amounted to about NIS 25 billion[29] during the year, more than double the amount issued in 2020 (about NIS 12 billion). The growth in total issues continued into the first quarter of 2022 (about

[26] The rise in yields is expected to reduce liabilities due to workers' benefits and therefore to contribute to the growth in capital. However, the effect of the reduction in the value of the available-for-sale bond portfolio is greater and therefore the rise in yields is expected to erode total capital.

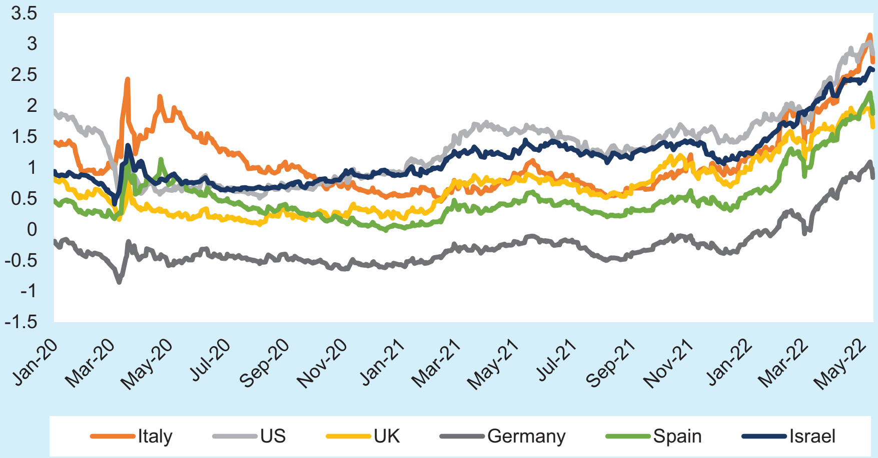
[27] Sovereigns, their central banks and the national monetary authority, Proper Conduct of Banking Business Directive 203.

[28] Annual Survey 2021, Tel Aviv Stock Exchange.

[29] All debt instruments – regular corporate bonds, commercial securities and contingent convertible (CoCo) bonds.

An increase in yields is expected to have an impact on the capital ratios.

Figure 1.13
Yield to Maturity on 10-Year Unindexed Fixed-Rate Government Bonds, 2020–May 12, 2022 (percent)



SOURCE: Based on Tel Aviv Stock Exchange and Bloomberg.

NIS 9 billion[30]), accompanied by share issues to the public by Discount Bank in March 2022 in the amount of about NIS 1.4 billion, the largest issue in more than two decades. These issues contribute to the diversification of the banks' financing sources and their ability to continue providing credit to meet the increase in demand.

The banking system's leverage ratio continued to erode during 2021 and stood at about 5.8 percent as compared to 6.2 percent in December 2020 (Figure 1.14). The erosion in the leverage ratio was particularly notable for the two largest banks: Leumi and Hapoalim (6.06 percent and 6.03 percent as compared to 6.6 percent and 6.8 percent in 2020, respectively). If not for the extension of the exemption decided on during the pandemic with respect to the lowering of the minimal required leverage ratio,[31] they would have been close to the required threshold, as a result of the continuing upward trend in total exposure. We would mention in this context that the minimum required

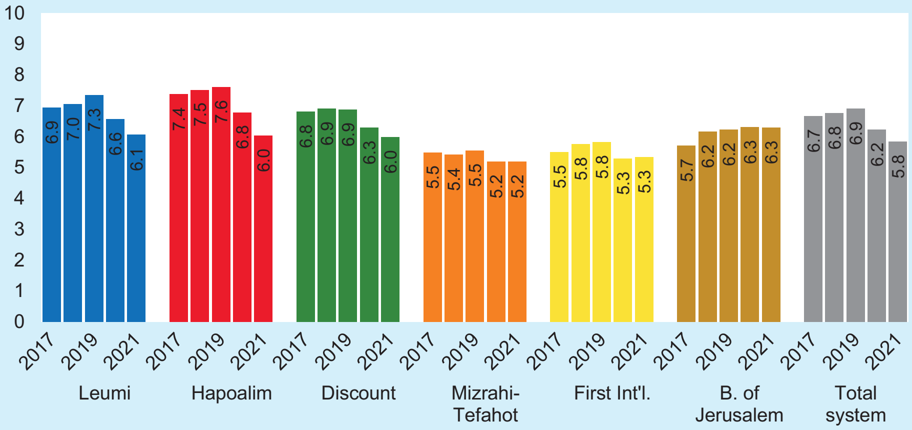
[30] Monthly Survey, March, Tel Aviv Stock Exchange.
[31] Proper Conduct of Banking Business Directive 250.
https://www.boi.org.il/en/BankingSupervision/SupervisorsDirectives/ProperConductOfBankingBusinessRegulations/250_et.pdf

leverage ratio in Israel[32] is higher than in other countries.[33] The conservative minimum leverage ratio has helped to limit the accumulation of leverage in the banking system in recent years and has complemented the risk-based capital requirements (capital ratios) according to generally accepted international standards

As in 2020, the erosion in the leverage ratio resulted from a more rapid increase

The leverage ratio continued to deteriorate in 2021.

Figure 1.14
Leverage Ratio[a], Total Banking System, 2017–2021 (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.

in total exposure (16 percent in 2021) relative to Tier 1 Capital (9.6 percent in 2021). The increase in total exposure originated in the continued growth of balance-sheet exposure, which constitutes about 90 percent of total exposure[34] and which grew by 15 percent this year (as compared to 19 percent during 2020). The source of this increase in balance-sheet exposure is the continued upward

[32] Prior to the leverage ratio exemption, the banking corporations were required to maintain a leverage ratio of not less than 5 percent on a consolidated basis. A banking corporation whose total balance-sheet assets on a consolidated basis constitute 24 percent or more of the banking system's total balance-sheet assets was required to maintain a leverage ratio of not less than 6 percent. Proper Conduct of Banking Business Directive 218.

[33] The minimum leverage ratio recommended by the Basel Committee is 3 percent.

[34] During 2021, there was a substantial increase in the total exposure to derivatives (35 percent compared to -3 percent in 2020), securities (92 percent as compared to 23 percent in 2020) and off-balance-sheet exposure (18 percent as compared to 9 percent in 2020); however, their weights in total exposure are low, at 1.4 percent, 1 percent and 8.2 percent, respectively.

trend in the public's deposits (for further details, see the section on liquidity risk), which was translated into higher growth in balance-sheet assets as a result of both the providing of credit and the deposits with the Bank of Israel (which increase the exposure to sovereigns; for further details, see the section on the balance sheet).

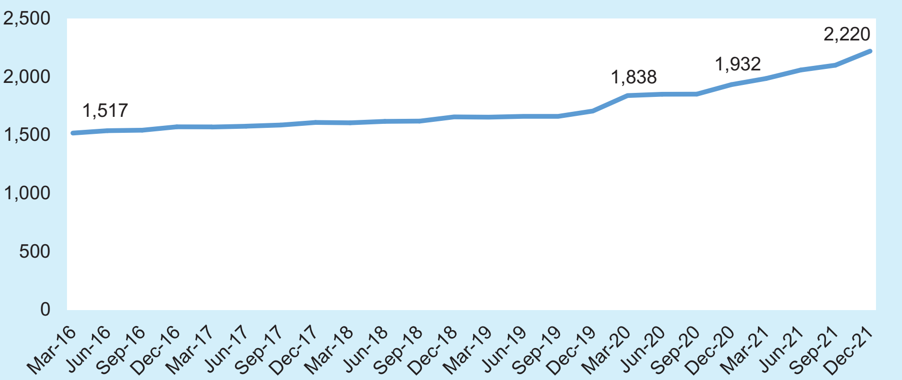
5. BALANCE-SHEET AND OFF-BALANCE-SHEET ACTIVITY

The aggregate balance sheet of the banking system grew in 2021 by a particularly high rate of about 15 percent to about NIS 2,220 billion (Table 12), **as compared to about NIS 1,932 billion at the end of 2020.** The growth in the total balance sheet is a continuation of the substantial growth that began in 2020 (Figure 1.15). It encompassed all of the banks and was primarily influenced by the increase in the public's total deposits on the sources side, together with an increase in total uses as a result of the upward trend in the size of the portfolio of credit to the public. Net of the effect of changes in the exchange rates, the rate of growth in the banking system's balance sheet would have been higher by about 0.5 percentage points (in view of the appreciation of the shekel with respect to the dollar in 2021).[35]

The banking system's balance sheet increased in 2021 by a particularly high rate, continuing its notable growth from 2020, mainly due to growth in the scope of the public's deposits and the trend of growth in credit to the public.

The banking system's total balance sheet continued to grow rapidly in 2021.

Figure 1.15
Development of the Banking System's Total Balance Sheet, March 2016–December 2021 (NIS billion)



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

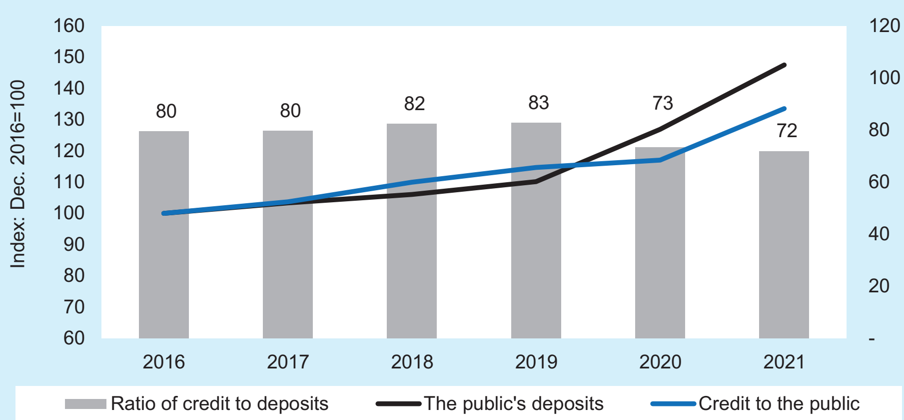
[35] In 2021, the shekel appreciated relative to the dollar by about 3.3 percent and relative to the euro by about 10.8 percent.

On the sources side, the growth trend in the public's deposits continued, mainly in demand deposits of institutional investors and other corporations. On the uses side, the growth was reflected in in increased credit to the public and in growth in cash and deposits (mainly deposits at the Bank of Israel).

On the sources side, the upward trend continued in the public's deposits, where the rate of increase in 2021 stood at about 16.2 percent; it was the main component of growth in the banking system's total liabilities. The main part of the growth in the public's deposits was in the checkable deposits of institutional entities and other corporations. The growth in the public's deposits is a direct continuation of the trend during the pandemic, with the rate of growth in 2020 at about 18 percent (for further details on the reasons for the increase in the public's deposits in 2020, see Box 1.4 in Israel's Banking System – 2020). **On the uses side, the increase was reflected in the growth of net credit to the public** by about 14 percent. Total credit was about NIS 1,293 billion and its growth occurred against the background of, among other things, the economic recovery and developments in the local housing market (for further details, see the section on the credit portfolio and credit risk). **The ratio of net credit to the public to the public's deposits maintained a similar level to that in 2020 and stood at about 71 percent** (Figure 1.16), as compared to about 83 percent in 2019. This decline was due to the difference between the rate of growth in net credit to the public during the last two years (an average annual rate of growth of about 8 percent) relative to the rate of growth in the public's deposits during that period (an average annual rate of growth of about 17 percent). **In addition to the growth in total credit to the public, the growth in total cash and**

The ratio of credit to deposits remains low, in view of the gap between the growth rate of net credit to the public and the growth rate of the public's deposits in the past two years.

Figure 1.16
Ratio of Credit to Deposits and Development of its Components Over Time, Total Banking System, 2016–2021



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

bank deposits that began in March 2020 continued in 2021 (the vast majority of which was in deposits at the Bank of Israel) and they totaled about NIS 603 billion, which represents a growth rate of 29.5 percent relative to the end of 2020. The growth in total cash and bank deposits during the past year was more rapid than the growth in total credit to the public, such that its share of total assets continued to grow and stood at 27 percent at the end of 2021 (as compared to 24 percent at the end of 2020).

At the same time, **the securities portfolio contracted by about NIS 5 billion in 2021 (a decline of about 2 percent)** (Table 13) to **about NIS 233 billion at the end of 2021.** The vast majority of the decline was a result of the decrease in the holdings of Israeli government bonds (in the available-for-sale portfolio) which occurred in spite of the growth in the holdings of foreign government bonds and shares (Table 13). **The capital of the banking system grew in 2021 by a rate of about 9.6 percent to about NIS 140.2 billion** (for further details, see the section on capital adequacy and leverage).

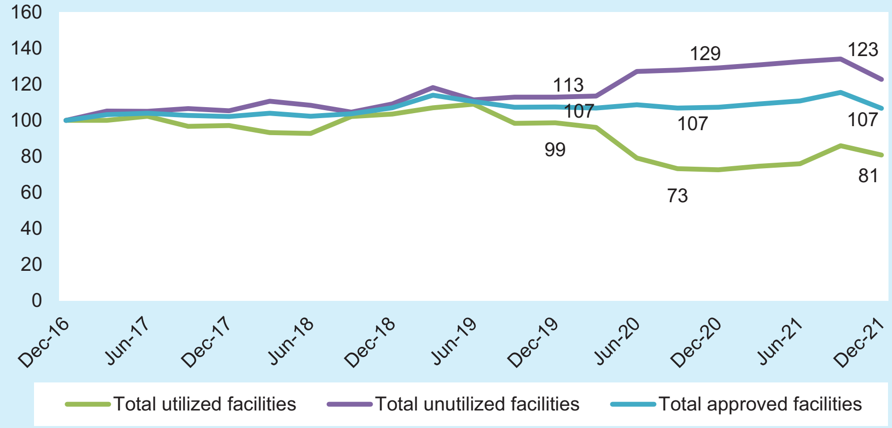
With respect to the banking system's off-balance-sheet activity, total guarantees and liabilities for the provision of credit grew in 2021 by about 15 percent to about NIS 647 billion (Table 14). The main part of the increase was a result of the increase in activity overall and the increase in both the construction and real estate industry and housing credit. This was in spite of the decline in unused credit card credit lines, which is partly explained by the cutting back of these credit lines at Bank Hapoalim and Bank Leumi as part of the implementation of the Increasing Competition and Reducing Concentration in the Banking Market in Israel Law, 5777-2017.

An examination of credit lines on demand accounts[36] in the banking system shows that the total approved credit lines remained at a similar level to that in previous years and totaled about NIS 100 billion at the end of 2021. In this context, it was found that the total utilized credit lines in the system grew during 2021 to about NIS 29 billion (which represents a growth rate of about 1.4 percent relative to the end of 2020). This was at the expense of unutilized credit lines which contracted to about NIS 70 billion (which represents a decrease of about 4.9 percent relative to the end of 2020; Figure 1.17). This followed 18 months of the opposite trend in which total unutilized credit lines grew at the expense of utilized credit lines.

[36] Including current loan accounts and other credit lines.

Total utilized credit facilities increased in 2021, at the expense of unutilized credit faclities.

Figure 1.17
Development of Utilized and Unutilized Credit Facilities and Total Approved Facilities, Total Banking System, 2016–2021 (index: 2016=100)



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

In this context, an examination of credit lines in the demand accounts of individuals—who account for about 38 percent of the total credit lines in the banking system—found that in 2021, there was an increase in total used credit lines, following a decrease in 2020. This was due to, among other things, the economic downturn, which led to a drop in private consumption and in the usage of credit lines. This development was characteristic of all categories of income.[37]

6. RISKS

a. Introduction

The banking system is exposed to a broad variety of risks. These are divided into risks characteristic of the banking system due to the nature of the banks' activity, which include credit risk, market risk, liquidity risk and operational risk, and risks—which intensified—originating in the business, technological and regulatory environment in Israel and abroad, which include technological risk, cyber risk, conduct risk, compliance risk, business model risk, etc. Beyond the microprudential risks that affect the individual bank and which result

[37] There are five income categories – A to E, where A is the lowest income earners and E the highest. For further details, see Reporting to the Banking Supervision Department Directive 836.

from the character of its activity and its exposures, the banking system is also exposed to macroeconomic risks which are the result of a downturn in the real economy or in the capital market. When macroeconomic risks are realized, the correlation between the various risks rises, which can amplify the effect on the banking system.

The intensity of financial risk has declined in recent years, up until the onset of the COVID-19 pandemic. Among the reasons for this were the healthy macroeconomic reality during the past decade and the attention devoted by the Banking Supervision Department and the banking system to these risks in recent decades. This has been reflected in the monitoring and management of ongoing risk, including an examination of the system's resilience in various stress situations and the tightening of regulatory requirements in various domains. This was designed to identify focal points of vulnerability in the banking system and ensure the stability of the banks, even in the case that these risks are realized.

The totality of these measures, as reflected in, among other things, the improvement in the quality of capital and in the capital ratios relative to previous years, the improvement in the banks' liquidity and the improvement in the quality of the credit portfolio and the decline in the level of concentration, created a positive starting position for dealing with the COVID-19 pandemic and allowed the banks to absorb the resulting losses. Nonetheless, the pandemic created serious challenges for the banking system, including the intensification of numerous types of risk, including financial, operational and technological. It is conventional to categorize these risks as follows:

Credit risk is the risk that a borrower or group of borrowers will not meet their obligations to the bank, which will be manifested in non-payment of the principal and/or interest. As a result, the bank's income will be eroded, perhaps to the point of losses to the bank.

Market risk is the risk due to unexpected changes in market prices: interest rates, the CPI, exchange rates, share prices, etc. which will reduce the bank's income or the value of its capital.[38] This is a result of balance-sheet and off-balance-sheet positions that are affected by the change in market conditions by way of the fair prices of financial instruments.[39]

Liquidity risk is the risk due to uncertainty with respect to unexpected withdrawals from deposits and unexpected demand for credit that the bank must provide immediately. This may result in the bank not being able to meet its obligations to depositors.[40]

[38] David Rothenberg, "Bank Management in Israel, Management of Assets, Liabilities and Risks", Keter, 2002, Jerusalem. [Hebrew]

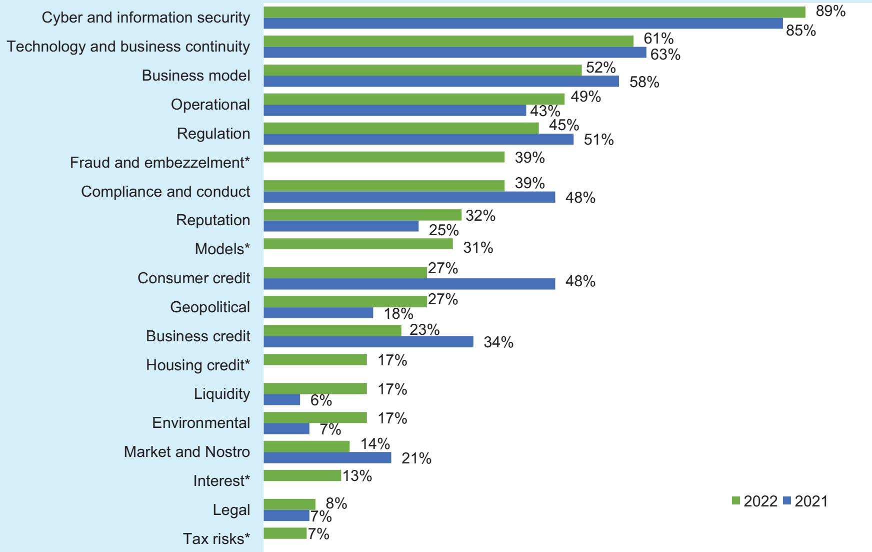
[39] Section 2a of Proper Conduct of Banking Business Directive no. 339, "Management of Market Risk".

[40] Ibid.

Operational risk[41] is the risk of a loss or an adverse impact on the bank's business continuity that is the result of inadequacy or failure of internal processes, human resources or systems or as a result of external events.

Cyber risk, technological risk, and business continuity remain the most worrying risks in the banking system.

Figure 1.18
Risks that are Worriesome[a] to the Banking System, 2022 Compared with 2021 (percent)



* Categories that were added for the first time in 2022.
SOURCE: Banking Supervision Department analysis of the results of the 2022 risk survey of senior banking system officials.

As in the previous three years, the Banking Supervision Department again carried out a survey this year of senior office holders in the Israeli banking system,[42] with the goal of assessing risk based on their outlooks. The respondents were asked, among other things, to state which of the risks that threaten their organization is the most concerning. The findings of the survey indicate that, as in the past two years, cyber risk continues to be the most worrisome risk in the banking system in 2022, alongside technological and business continuity risk (Figure 1.18). In contrast, the proportion of respondents who are concerned about the risks related to consumer credit and business credit declined significantly relative to the previous year (by about 21 percentage points and 12 percentage points, respectively). This can be explained by the recovery of the Israeli economy during 2021 as well as the resumption of rapid growth in credit.

[41] Section 5 of Proper Conduct of Banking Business Directive no. 350, "Management of Operational Risk".
[42] Including credit card companies.

In order to protect the public's deposits, the Banking Supervision Department is continuing to monitor the totality of risks facing the banking system and to use its various tools to ensure that their management is carried out adequately, with the goal of maintaining the resilience and stability of the banking system in any scenario in the present or the future.

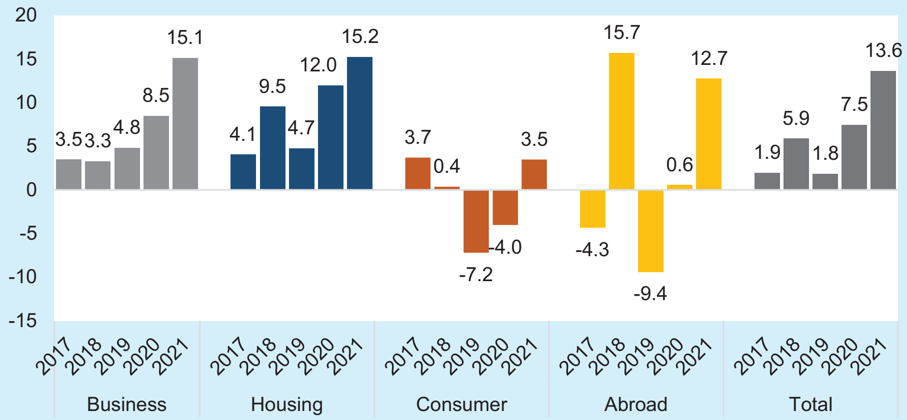
b. The credit portfolio and credit risk

The credit portfolio of the banking system grew during 2021 at the high rate of 13.6 percent (for purposes of comparison, the average increase during the years 2019–20 was 4.6 percent; Figure 1.19), **alongside a reduction in the interest rates in all segments,** which may be evidence of an increase in the supply of bank credit (Figure 1.20). **The growth derived mainly from a particularly sharp increase in credit provided to the construction and real estate industry and in housing credit** (for which 2021 was a record year with respect to transactions), which together accounted for about 69 percent of the total growth during the period. Furthermore, there was **accelerated growth in the business sector relative to previous years** (15.1 percent as compared to an average of 6.6 percent during the years 2019–20), most of which occurred in the large and mid-sized business sectors (19.4 percent and 17.3 percent, respectively). **Consumer credit grew during the year by about 3.5 percent following two years of contraction** (the average contraction during the years 2019–20

The balance of credit to the public grew in 2021 by a high rate of about 14 percent. Credit quality indices continued to improve in view of the continued recovery of economic activity following the COVID-19 crisis.

Credit growth is high, mainly in business and housing credit.

Figure 1.19
Rate of Change in Outstanding Balance Sheet Credit in the Main Segments, Total Banking System, December 2017 to December 2021 (percent)

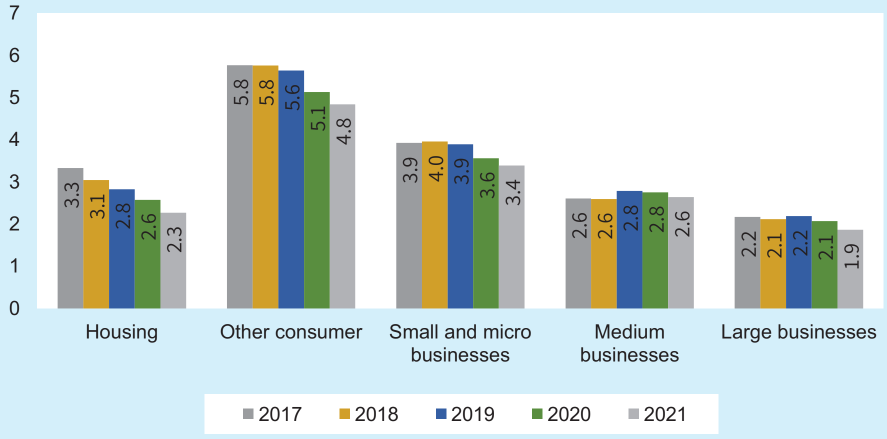


SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

was 5.6 percent). Furthermore, the improvement in the credit quality indexes continued as a result of the continuing economic recovery following the COVID-19 pandemic.

The interest rate declined in all activity segments, which may indicate an increase in the supply of bank credit.

Figure 1.20
Average Interest Rate on Unindexed Credit Issued to the Public in the Various Activity Segments, Total Banking System, 2017–2021 (percent)



SOURCE: Based on published financial statements.

Households

Consumer credit increased by 3.5 percent during 2021, after 2 years of contraction.

Consumer credit grew by 3.5 percent during 2021 following a contraction in recent years. During the COVID-19 pandemic, there was a slowdown in economic activity, which led to a decline in private consumption and accordingly in the usage of credit card credit lines and current account credit lines as well. During the second half of 2021, as the economy returned to normal functioning, there was a significant rise in private consumption and accordingly also in the rate of usage of credit card credit lines and current account credit lines, which accounted for about 45 percent of the growth in consumer credit. Bank credit in the form of car loans also grew at a high rate during 2021 (6.4 percent relative to 2020), in line with the high demand for vehicles.

While there was an increase of 3.6 percent in other consumer credit,[43] consumer credit provided on a credit card was relatively stable (an increase of 0.67 percent). There was a significant increase in credit card credit provided by the First International Bank and Bank Mizrahi-Tefahot (12 percent and 9 percent, respectively), while the provision of credit in this segment contracted in the other banks. Nonetheless, we note that the main part of the decline was in the Discount Bank Group (NIS 572 million; Table 15),[44] which was apparently a result of the decline in the number of receivables on credit cards as a result of the shift to daily settlement (for further details, see the subsection on credit card companies in this chapter). Unused credit card lines declined by about 18.5 percent during 2021 which was due to the implementation of the Increasing Competition and Reducing Concentration in the Banking Market in Israel Law, 5777-2017, (for further details, see the subsection on the balance sheet in this chapter).

It is reasonable to assume that growth will continue, given the economic recovery following the COVID-19 crisis. This is due to, among other things, the fact that exemptions provided in the form of a temporary directive—which permits the increasing of the loan-to-value ratio to 70 percent in the case of all-purpose loans that are secured by a residential home—will not be extended and also the termination of the program for deferral of loan payments, which constituted an alternative to consumer credit for borrowers.[45] The growth in other consumer credit was accompanied by a decline in the interest rate during 2021 (an average of 4.84 percent relative to an average of 5.14 percent during 2020; Figure 1.20), which was reflected in a drop of 0.3 percentage points in the spread from credit activity (Table 15).

Alongside the growth in bank credit balances, the share of credit extended by nonbank corporations continues to grow.

The growth in consumer credit was observed not only among the banks but also among the credit card companies, financial institutions and non-bank entities. In this context, consumer credit provided by financial institutions grew by about 50 percent during 2021 (reaching a total of about NIS 30 billion); the credit provided by non-bank entities grew by 37 percent (reaching a total of about NIS 4 billion); and the credit provided by credit card companies grew by 8 percent (reaching a total of about NIS 25 billion). This growth led to an increase in the weight of the financial institutions in the consumer credit market (14 percent) and an additional reduction in the share of the banks, despite the aforementioned growth in total credit in 2021 (71 percent; Figure 1.21). An analysis carried out by the Research Department at the Bank of Israel found that about 15 percent of the new mortgages taken out between September 2017

[43] This credit does not include credit card credit lines and the utilization of current account credit facilities.

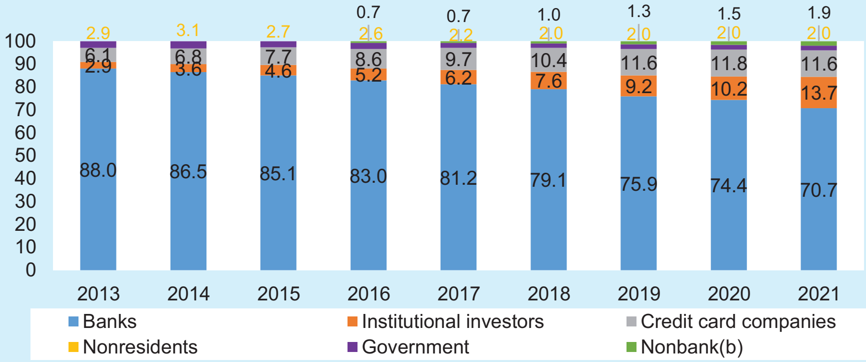
[44] The banking corporations attribute the decline in this type of credit to the shift to daily settlement; however, there is no disclosure as to the scope of the change without this effect.

[45] https://www.boi.org.il/en/NewsAndPublications/PressReleases/Pages/9-8-21.aspx

and June 2021 were accompanied by a consumer loan and therefore it is possible that part of the growth in consumer credit is the result of this activity.[46]

The downward trend in the banking system's share of outstanding consumer credit continues.

Figure 1.21
Distribution of Outstanding Household Debt (nonhousing) by Source[a], 2013–2021
(percent)



[a] Excluding credit from nonresidents due to a lack of data. Credit from banks includes loans that are not for the purchase of a dwelling but are given against a dwelling as collateral. Credit from credit card companies excludes credit that is the responsibility of, or backed by, the banks, which is included in outstanding credit from the banks.
[b] The data include the following companies: Mimun Yashir, Derech Ha'Ashrai (a subsidiary of Shlomo Holdings), and Albar Credit (a subsidiary of Albar).
SOURCE: Bank of Israel and Tel Aviv Stock Exchange.

In a study carried out by the Bank of Israel as part of the Fair Credit Law[47] with respect to the actual cost of credit[48] during the period 2017–20, it was found that there has not been an increase in the actual cost of credit in the banking system. More specifically, there has been a change in the distribution of consumer credit,[49] such that a larger proportion of the loans are provided at lower interest rates. An analysis of the Credit Data Registry shows that as of August 2021, the weight of credit provided at low interest rates has risen at the expense of credit provided at high interest rates. In this context, credit provided at interest rates of up to 8.1 percent accounted for 80 percent of total credit, which represents an increase of 11 percentage points relative to 2017. This trend was also observed

[46] Box 3 – The use of consumer loans for home purchases, Financial Stability Report for the Second Half of 2021, Bank of Israel.
[47] https//: www.nevo.co.il/law_html/law01/047_031.htm#Seif1
[48] The actual cost of credit – the ratio of total additions to the amount actually received by the borrower, on an annual basis (Section 1 of the Fair Credit Law, 5753-1993).
[49] Total time-limited credit provided during the past year (without housing loans).

for credit card companies, where the weight of consumer credit provided at high interest rates has declined. Nonetheless, and in contrast to the drop in interest rates in the banking system and among the credit card companies, there has been an increase in the interest rate on credit provided by non-bank entities (for further details, see the subsection on credit card companies in this chapter).

The improvement in the economic situation was reflected in improved indices of consumer credit quality (Table 16). Thus, an average annual credit loss provision of 0.27 percent of total credit was recorded in 2020–21, compared to 0.62 percent in 2019. The main part of the change in this expense is due to the reduction of the group provision, a result of the resumption of payments on about 99 percent of the consumer credit on which payments were deferred during the pandemic.

Housing credit

Credit volume at the beginning of 2022 remained high, reaching a record of NIS 13.4 billion in March.

Housing loans reached a historic high in 2021 and this trend continued into early 2022. During the year, a total of NIS 116.1 billion in housing credit was provided, an increase of 29 percent relative to 2020, and the number of mortgages provided jumped to about 130,000, an increase of 20 percent relative to the previous year (Figure 1.22 and 1.23). This type of credit, which was provided by the banking system, is a result of the high number of transactions in the housing market, which also reached a record high. In sum, about 151,000 homes were purchased in 2021, an increase of 40 percent relative to 2020.[50]

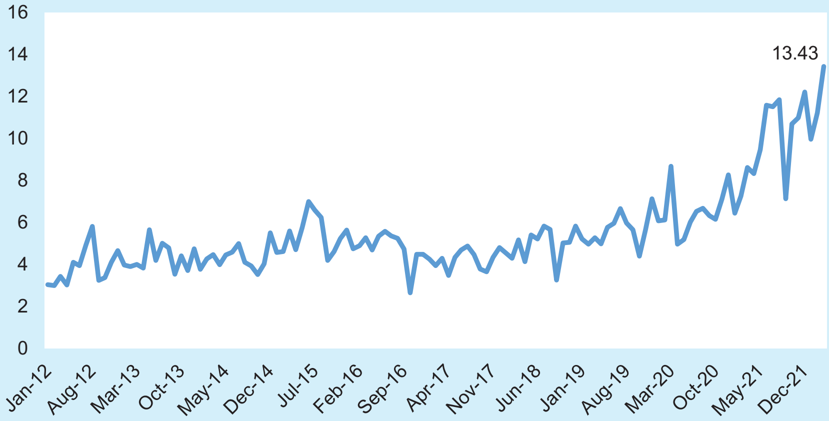
Loan volume continued at a high level in February and March 2022 and was NIS 11.2 billion and NIS 13.4 billion, respectively, which are also historical highs.

The increase in residential housing credit was accompanied by an increase in the risk indices. In this context, the average loan-to-value (LTV) ratio continued to rise during 2021 to a level of 54.1 percent, which represents an increase of 8 basis points relative to the average rate for 2020. As of March 2022, the average LTV rate had risen even further, reaching a level of 54.8 percent. This figure, together with the upward trend in housing prices (Figure 1.24), reflects an increase in the size of the average loan, from NIS 780,000 in 2020 to about NIS 890,000 in 2021 or about 14 percent. As of March 2022, the size of the average loan stood at NIS 975,000 (Figure 1.25).

[50] Survey of the residential real estate sector – December 2021, the Chief Economist Branch in the Ministry of Finance.

2021 was a peak year for new housing credit.

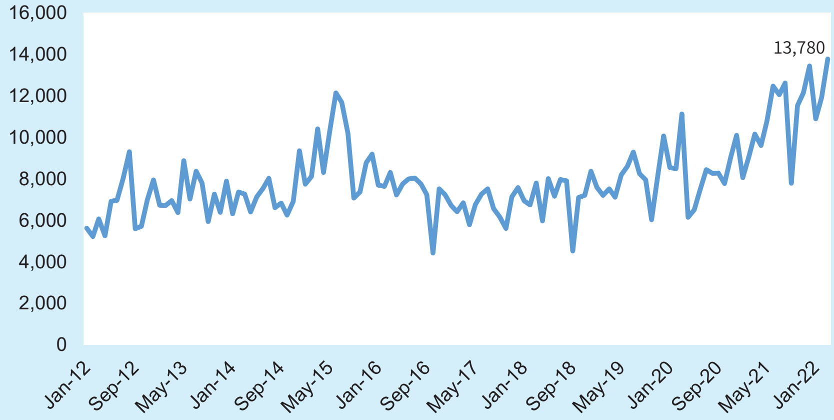
Figure 1.22
Monthly Residential Credit Borrowing, 2012–March 2022 (NIS billion)



SOURCE: Based on reports to the Banking Supervision Department.

The pace of new mortgage borrowing remained high at the beginning of 2022.

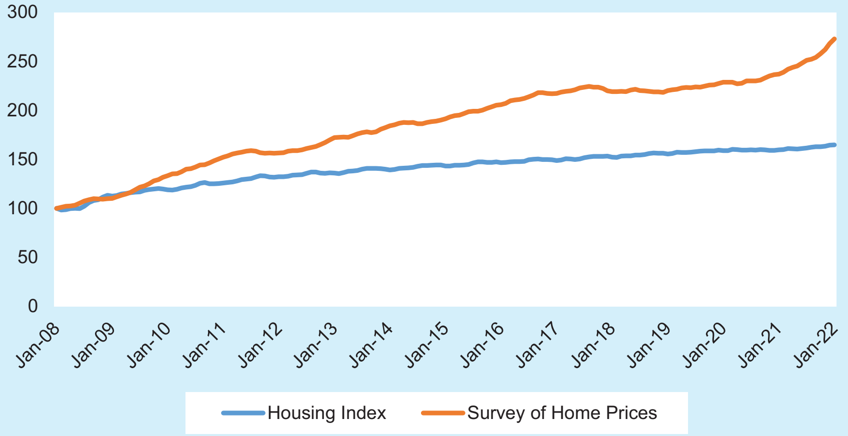
Figure 1.23
Monthly Number of Housing Loans, 2012–March 2022



SOURCE: Based on reports to the Banking Supervision Department.

The Survey of Home Prices increased more sharply than the Housing Index.

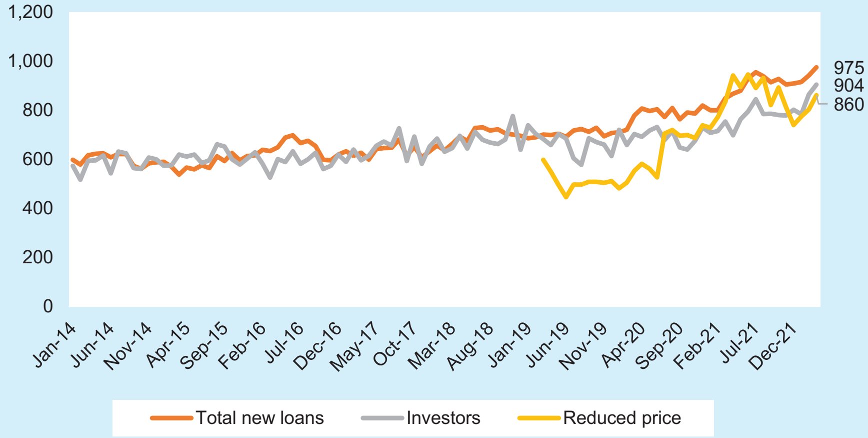
Figure 1.24
Survey of Home Prices vs Housing Index, January 2008–January 2022



SOURCE: Based on Central Bureau of Statistics.

The average loan level increased during the year.

Figure 1.25
Average Loan Level, 2014–March 2022 (NIS thousand)



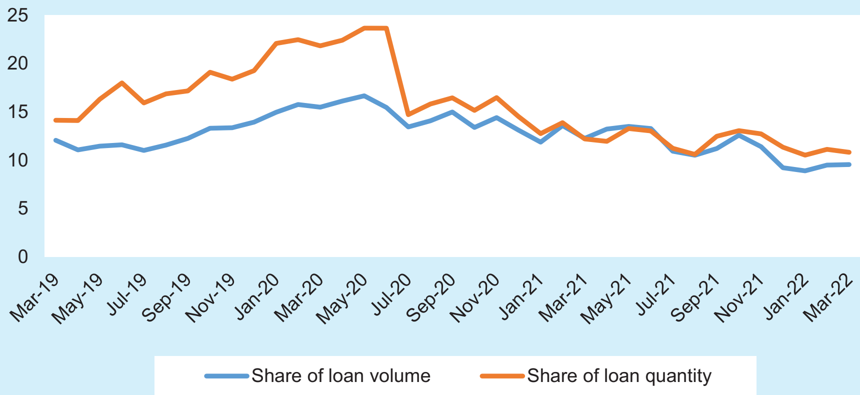
SOURCE: Based on reports to the Banking Supervision Department.

Housing credit activity was mainly for buying a single home and for homes bought as an upgrade.

The main source of residential credit activity continues to be purchases of single homes and homes bought as upgrades (their weight in recent years continued to be over 80 percent of transactions), partly due to the decline in the proportion of loans that are part of the Buyer's Price program (in which there are still credit transactions being carried out for purchased apartments even though the program has ended) within total housing credit loans – from an average of 20 percent in 2020 to 12 percent in 2021 and 11 percent in March 2022 (Figure 1.26). Nonetheless, the Ministry of Construction and Housing announced in February 2022 that about 30,000 housing units will be included in the new "Buyer's Price" program[51] in 2022, of which about 10,000 will be included in the lottery during March 2022.[52] The high level of response by households that are eligible to participate in the program is evidence of the high demand for residential home ownership.

The number of housing loans as part of the Buyer's Price program declined during 2021.

Figure 1.26
Loans in the Buyer's Price Program as a Share of Total Loan Volume and Total Loan Quantity, March 2019–March 2022 (percent)



SOURCE: Based on reports to the Banking Supervision Department.

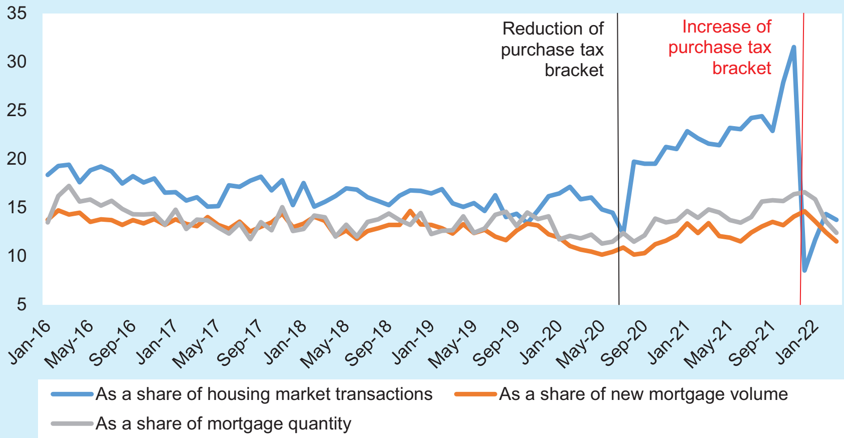
51 https://www.gov.il/he/departments/news/spokesman-13032022 [Hebrew]
52 https://www.gov.il/he/departments/news/spokesman-13032022 [Hebrew]

The activity of investors in the housing market reached a peak during November 2021, accounting for about 32 percent of purchases (as compared to an average of about 23 percent in 2021; Figure 1.27). This occurred against the background of the announcement by the Ministry of Finance that the purchase tax on a second home would be raised from 5 percent to 8 percent in November 2021, which led many investors to accelerate their purchases before the tax change went into effect. During 2021, the gap widened between the weight of investors in the housing market and their weight in the residential credit market, which reached a peak of 15 percentage points in November 2021 (double the average following the reduction in the purchase tax in July 2020). The gap is apparently the result of purchases by investors without the need for credit or financing from non-bank sources and deferred transactions, which will be reflected in credit provided during 2022. Nonetheless, the gap was closed during the first three months of 2022, against the background of a drop in the proportion of investors among home buyers (as of March 2022, investors accounted for 14 percent of the purchases in the housing market).

During 2021, investors' activity reached a record, as they brought forward purchases ahead of a purchase tax increase in November 2021. From the end of 2021, there was a decline in the share of investors in housing market transactions.

The difference between investors as a share of home buyers and investors as a share of mortgage borrowers was closed in recent months, in view of the increase in the purchase tax rate for a second home.

Figure 1.27
Investors as a Share of Home Buyers Compared to Investors as a Share of Mortgage Borrowers (Quantity and Volume), 2016–March 2022 (percent)



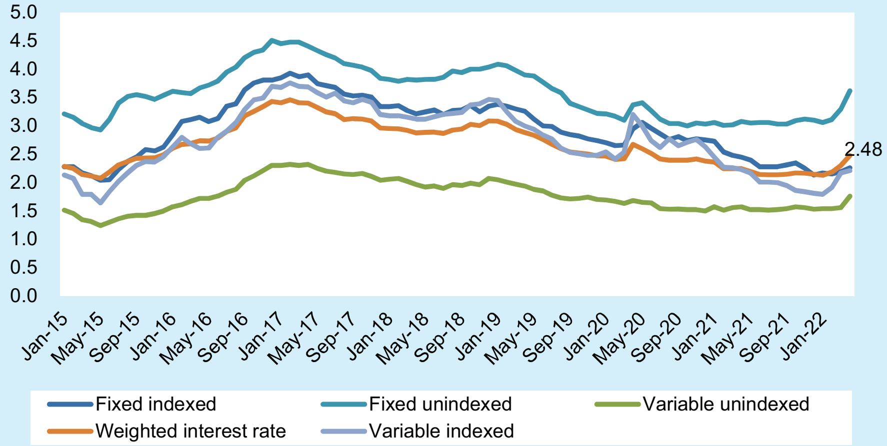
SOURCE: Based on Israel Tax Authority data and reports to the Banking Supervision Department.

The weighted interest rate on new housing loans continued to decline in 2021, and rose by about 30 basis points to 2.48 percent during the first quarter of 2022, against the background of the increase in inflation, the Bank of Israel interest rate, and market returns.

The downward trend in the weighted interest rate on new housing loans continued during 2021 and as of December 2021, it stood at 2.18 percent. Against the background of rising inflation and the increase in the Bank of Israel interest rate to 0.35 percent, the weighted interest rate rose to 2.48 percent as of April 2022, an increase of 30 basis points relative to December 2021 (Figure 1.28). During 2021, there was a decline both in the rate of interest on the CPI-indexed tracks and in their weight within the loan composition. The decline in the weight of the CPI-indexed tracks is apparently the result of higher inflationary expectations during 2021. The increase in the weighted interest rate during March and April 2022 is primarily the result of the increase in the interest rate on the CPI-indexed variable interest rate track, in view of the significant increase in yields on indexed government bonds and the increase in the interest rate on the unindexed fixed interest rate track, whose weight in the loan composition also rose (Figure 1.29). The aforementioned occurred against the background of the increase in the Bank of Israel interest rate and in the inflation rate. The cancelation of the prime interest track restriction to one-third of a mortgage in January 2021 led to an increase in the weight of the prime interest rate track in 2021 to 38.2 percent, as of August 2021. Nonetheless, the proportion of the prime interest rate track within housing loans has stabilized in recent months and it stood at 37.1 percent as of March 2022 (an increase of 8.3 percentage points relative to December 2020; Figure 1.30).

The downward trend in the weighted interest rate continued in 2021. However, in recent months, there was an increase in all tracks and in the weighted rate.

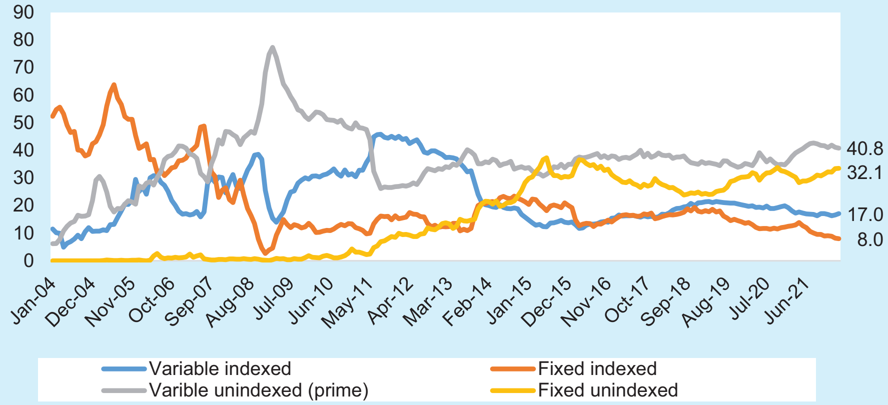
Figure 1.28
Interest Rates on Housing Loans by Interest Track and Indexation, Total Banking System, January 2015–April 2022 (percent)



SOURCE: Based on reports to the Banking Supervision Department.

There was an increase in unindexed loans at the expense of indexed loans.

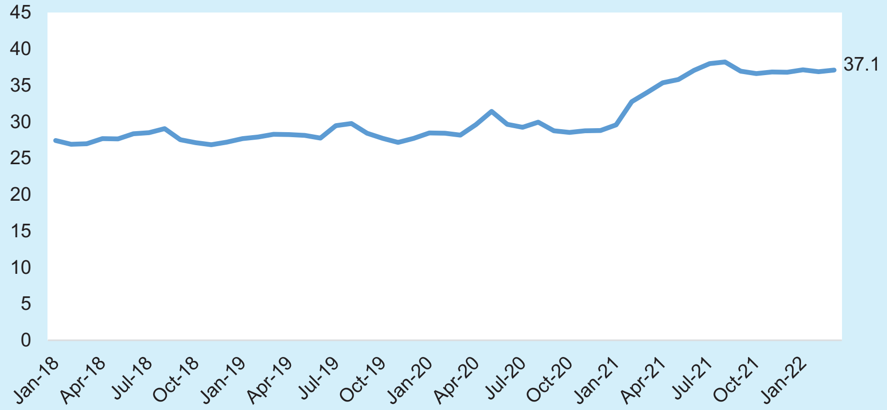
Figure 1.29
Distribution of Mortgages by Indexation and Interest Type[a] as a Share of Total Mortgages Issued in the Current Month, 2004–March 2022 (percent)



[a] The prime track is the main option in the variable rate unindexed track.
SOURCE: Based on reports to the Banking Supervision Department.

Prime-indexed loans as a share of housing loans stabilized in recent months.

Figure 1.30
Prime-Indexed Loans, Excluding Bullet and Balloon Loans, as a Share of New Housing Loans, 2018–March 2022 (percent)



SOURCE: Based on reports to the Banking Supervision Department.

Only about a quarter of mortgage balances will not be impacted by changes in the interest and inflation rates.

The weight of unindexed fixed-rate loans[53] stood at about one-quarter of total mortgages as of December 2021 (Figure 1.31); the weight of unindexed variable interest rate loans (including the prime interest rate track) stood at about 40 percent of the total; and the weight of CPI-indexed interest rate tracks stood at 34 percent of the total. Most mortgages are not made up exclusively of unindexed fixed interest rate loans; rather most are a mix of a number of tracks, some of which are indexed or bear a variable interest rate. Therefore, the increase in the various parameters that determine the mortgage interest rate, such as the CPI, the Bank of Israel interest rate and yields in the markets,[54] are expected to have an effect on many borrowers and on most mortgages (75 percent). These developments, together with the increase in the proportion of highly leveraged loans are expected to increase mortgage payments among some households. However, an analysis of the uniform stress tests carried out by the Banking Supervision Department each year indicates that in spite of the macro environment and the increase in total mortgages, the proportion of borrowers that will be stressed by these developments is not all that high nor is this expected to threaten the stability of the banking system (for further details, see Box 1.1 in this survey).

The Bank of Israel and the Banking Supervision Department in particular have taken on a goal of increasing fairness and trust in the banking system, which is accomplished by means of, among other things, simplifying bank services and increasing their accessibility. Due to the complexity and importance of a mortgage for most households, the Bank of Israel has promoted a comprehensive change in the mortgage domain with the goal of improving the tools available to customers in assessing and understanding bank services and improving their bargaining power, their ability to make informed financial decisions and their overall financial situation. This change will go into effect on August 31, 2022 and will improve transparency, facilitate the ability to compare quotes from various banks and increase the customer's understanding of the process, as well as making it more efficient (for further details, see Box 3.5 of this survey).

The promotion of fairness in the banking system also involves greater financial inclusion and in particular eliminating the many barriers faced by Arab society in its access to credit. The Joint Team for Increasing Financial Inclusion in the Economy examined the main barriers that make it difficult for the banks to provide mortgages to borrowers in Arab society and formulated policy recommendations in order to mitigate them. The Bank of Israel is currently a member of the team, which is led by the Accountant General in the Ministry of

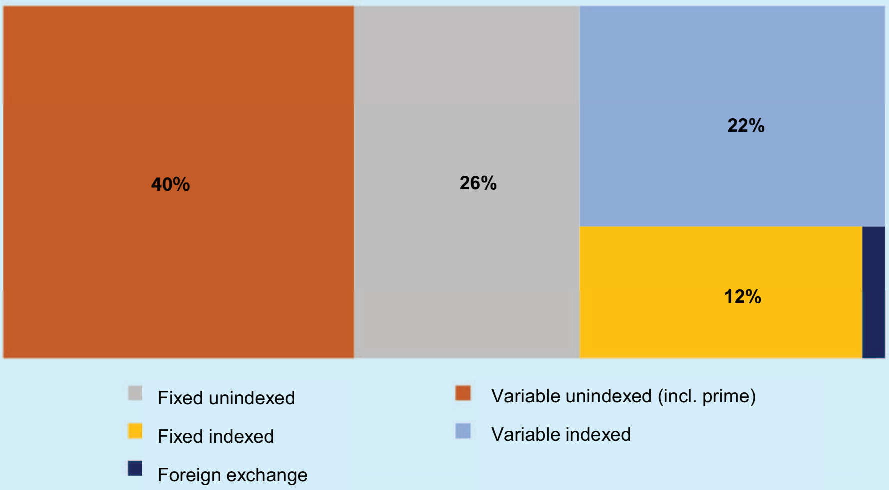
[53] This track essentially fixes the rate of interest for the entire period of the loan, such that it is unaffected by changes in the interest rate or in the CPI.

[54] Which is expected to affect the variable interest rate track, in which the anchor changes throughout the period and is determined by yields in the markets.

Finance and is continuing to examine the matter. (For further details, see Box 1.9 in this survey.)

Only about one-quarter of outstanding mortgages are not affected by changes in the interest or inflation rates.

Figure 1.31
Distribution of Outstanding Mortgages by Indexation and Type, March 2022



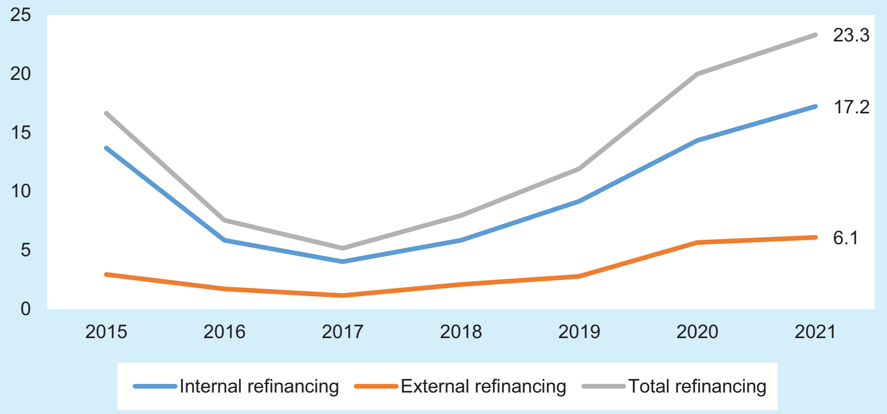
SOURCE: Based on reports to the Banking Supervision Department.

The decline in the interest rate for residential purposes, alongside the cancelation of the restriction on the prime interest rate portion, has led to a significant increase in mortgage refinancing (both external and internal), which grew by 17 percent in 2021 relative to 2020 and reached about NIS 23.3 billion (Figure 1.32). Furthermore, there was an increase of 48 percent in early repayments relative to the previous year (Figure 1.33).

A marked increase can be seen in refinancing and early payments during 2021.

The rate of refinancing increased further during 2021.

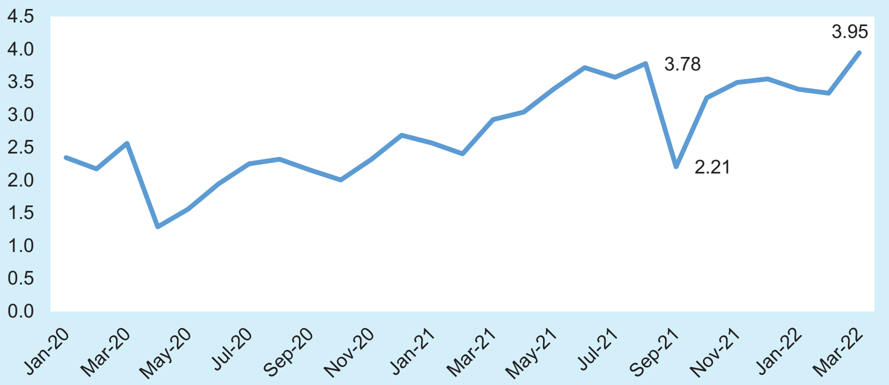
Figure 1.32
External, Internal, and Total Refinancings, Total Banking System, 2015–2021 (NIS billion)



SOURCE: Based on reports to the Banking Supervision Department.

The rate of early mortgage repayments increased by about 48 percent in 2021.

Figure 1.33
Early Repayment of Housing Credit, Total Banking System, January 2020–March 2022 (NIS billion)



SOURCE: Based on reports to the Banking Supervision Department.

The quality of the housing credit portfolio

The improvement in economic condition alongside the decrease in uncertainty in 2021 **led to an improvement in the quality of the housing credit portfolio**. The share of the credit loss provisions within total housing credit declined by 0.1 percent as compared to an increase of 0.21 percent in 2020 (it should be mentioned that the rate in 2020 was the result of a group credit loss provision that was meant to absorb expected future losses). Furthermore, **the weight of credit in arrears of 90 days or more within total housing credit was at a historic low** of 0.61 percent in 2021, compared to 0.73 percent in 2020.

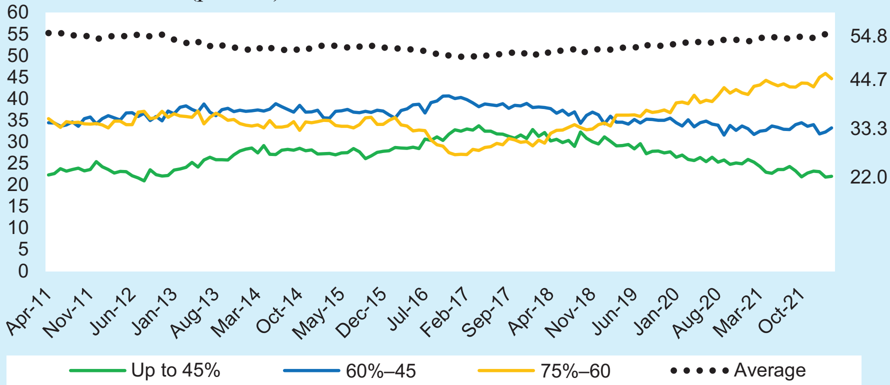
The improvement in the credit portfolio quality in 2021 was reflected in a decline in credit loss provisions and in a historically low share of credit more than 90 days in arrears out of total housing credit.

The growth in housing credit was accompanied by an increase in the risk indices for the housing credit portfolio. During the year, there was an increase in the average LTV ratio, which stood at 54.8 percent as of March 2022, an increase of 1.2 percentage points relative to December 2020 (Figure 1.34). This increase was due to credit provided at high LTV ratios (60 to 75 percent), which accounted for about 43.1 percent of total credit extended in 2021, as compared to an average of 40.4 percent in 2020. During the first three months of 2022, there was an additional small increase, such that the rate stood at 44.7 percent as of March 2022. Furthermore, there was some increase in the average period to final repayment, which was about 22.9 years on average during 2021, as compared to 22.4 years during 2020. During the first three months of 2022, there was an additional rise in the average period to final repayment to 23.45 years. **At the**

Alongside the improvement in the credit portfolio, growth in credit was accompanied by an increase in the risk indices of the housing credit portfolio.

Loans with high LTV rates increased during the year.

Figure 1.34
Distribution of New Housing Loans by LTV Rate, Total Banking System, March 2011–March 2022 (percent)

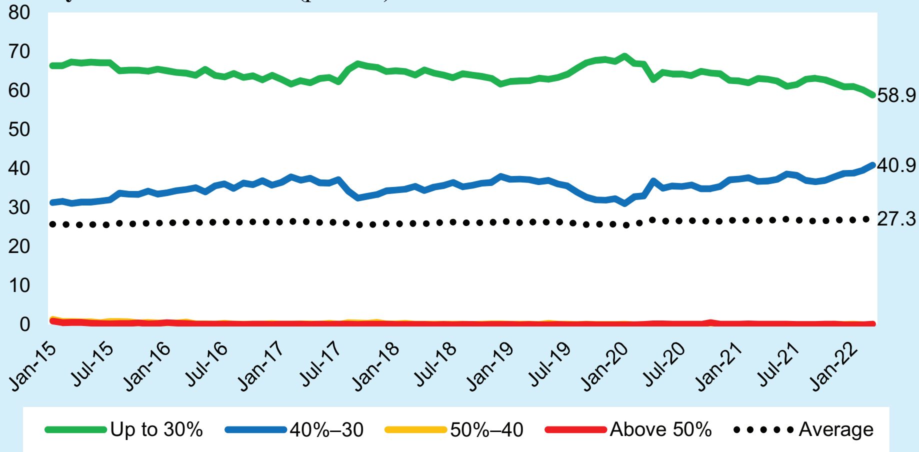


SOURCE: Based on reports to the Banking Supervision Department.

same time, the payment-to-income (PTI) ratio remained relatively stable (at an average of 26.8 percent during 2021 as compared to an average of 26.5 percent during 2020). This is the main indicator of a borrower's ability to absorb shocks to his income and still service his loan. The average PTI ratio was 27.3 percent as of March 2022 (Figure 1.35).

PTI rates remained stable in 2021.

Figure 1.35
Distribution of New Housing Loans by PTI Rate, Total Banking System, January 2015–March 2022 (percent)



SOURCE: Based on reports to the Banking Supervision Department.

The upward trend of loans extended at high LTV and PTI ratios continued. Such loans accounted for about 18.3 percent of total volume as of March 2022.

In recent years and during 2021 in particular, there has been an upward trend in the share of loans provided at both high LTV ratios (60 to 75 percent) and high PTI ratios (30 to 40 percent). Thus, the proportion of these loans within the total stood at 16.9 percent on average in 2021, which represents an increase of 2.2 percentage points relative to the average in 2020 and an increase of 4 percentage points relative to the average in 2019. In March 2022, the proportion of these loans within the total stood at 18.3 percent (Figure 1.36).

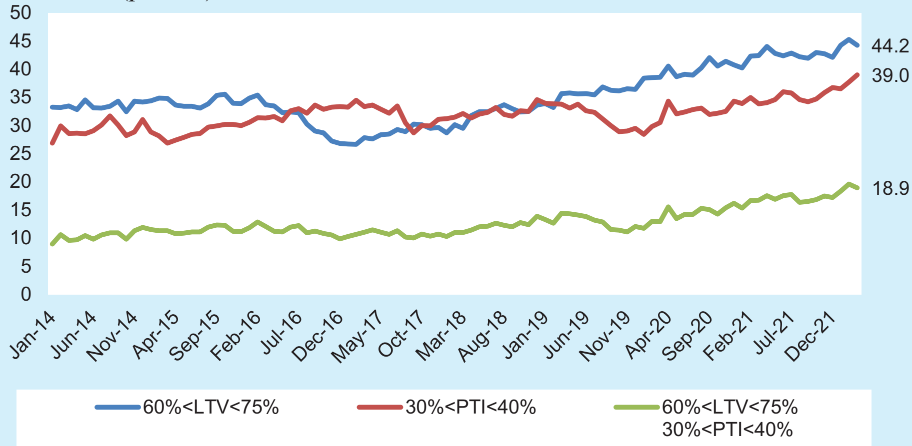
An international comparison shows that **over the years a large number of measures in the domain of housing credit have been adopted in Israel relative to other countries and that there are currently restrictions in place on all possible parameters** (the LTV ratio, the PTI ratio and the period to final repayment). Thus, the maximum LTV ratio is stricter than in other countries; the average LTV ratio in Israel is lower than in other countries; and the period to final repayment is similar to that in other countries (Figure 1.37, 1.38 and

1.39). **This is in addition to the capital-based measures[55] introduced in recent years by the Banking Supervision Department, which in some ways are more stringent than in other countries.**

The average LTV in Israel is low by international comparison.

The proportion of loans with high LTV and PTI rates increased in 2021.

Figure 1.36
Proportion of Loans with High LTV and PTI Rates, Total Banking System, 2014–March 2022 (percent)

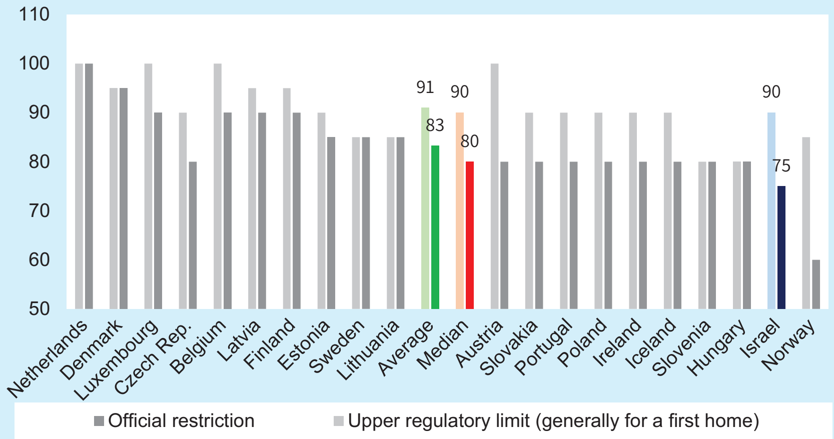


SOURCE: Based on reports to the Banking Supervision Department.

[55] These measures include the adoption of a strict approach to the weighting of risk assets (the standard approach), which is more conservative than the working framework of the Basel Committee, and the requirement that banks allocate capital against 1 percent of their total housing credit.

LTV levels in Israel are low by international comparison.

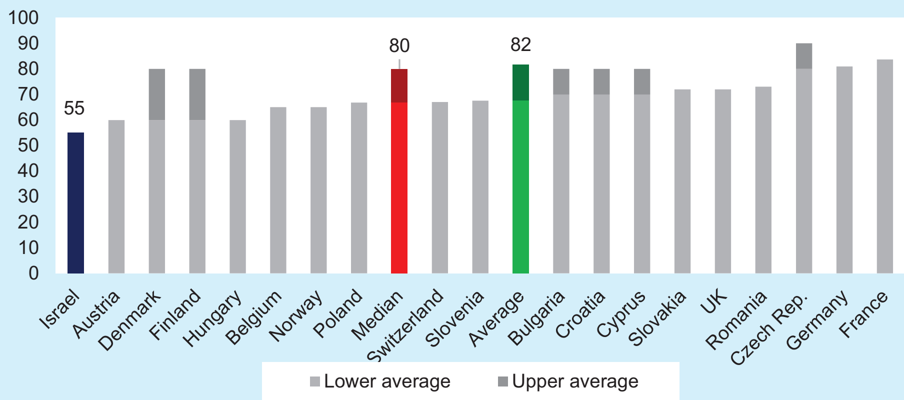
Figure 1.37
Maximum LTV Rate in Various OECD Countries, March 2022 (percent)



SOURCE: Foreign countries–ESRB data (Data were unavailable for the countries not listed.); Israel–Banking Supervision Department.

The average LTV rate in Israel is low by international comparison.

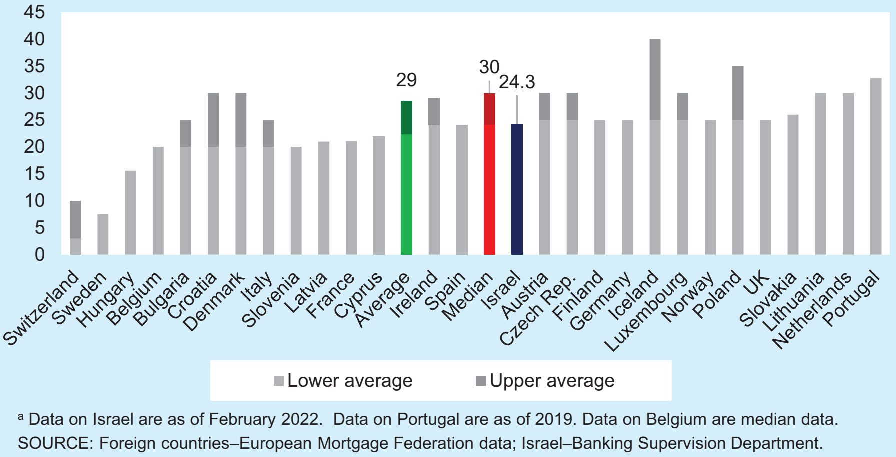
Figure 1.38
Average LTV Rate[a] in European Countries and Israel[b], December 2021 (percent)



[a] Data on Israel are as of February 2022. Data on Switzerland are median data.
[b] In some countries, the average LTV changes based on customer profile (age, first home, etc.)
SOURCE: Foreign countries–European Mortgage Federation data; Israel–Banking Supervision Department.

The average term to final repayment in Israel is not significantly different than in European countries.

Figure 1.39
Average Term to Final Repayment in European Countries and Israel[a], December 2021 (years)



[a] Data on Israel are as of February 2022. Data on Portugal are as of 2019. Data on Belgium are median data.
SOURCE: Foreign countries–European Mortgage Federation data; Israel–Banking Supervision Department.

Commercial credit

Credit to most of the economy's industries grew during 2021, led by the construction and real estate industry and housing credit (as in previous years) which accounted for 69 percent of the growth in 2021. Four industries were characterized by particularly high growth rates in credit: electricity and water, construction and real estate, financial services and transportation and storage (Table 18). Credit to the electricity and water industry grew by 37.2 percent since the beginning of the year (NIS 5.8 billion); credit to the construction and real estate industry grew by 25.5 percent (NIS 44.6 billion); credit to the financial services industry grew by 20.7 percent (NIS 13.5 billion); and credit to the transportation and storage industry grew by 16 percent (NIS 3.1 billion).

In this context, the share of credit to the construction and real estate industry together with housing credit increased during the year to 54 percent of total bank credit to the public (compared to 52 percent in 2020), with credit provided to the construction and real estate industry nearly doubling in size since 2013 (Figure 1.40). This significant growth was accompanied by an increase in the industry's credit risk, against the background of increased competition between the banking corporations. The increased risk appetite included, among other things, the relaxation of underwriting terms. In view of the aforementioned increase in risk, the Banking Supervision Department required the banking system to reinforce its monitoring and control of risk in this industry, to adjust

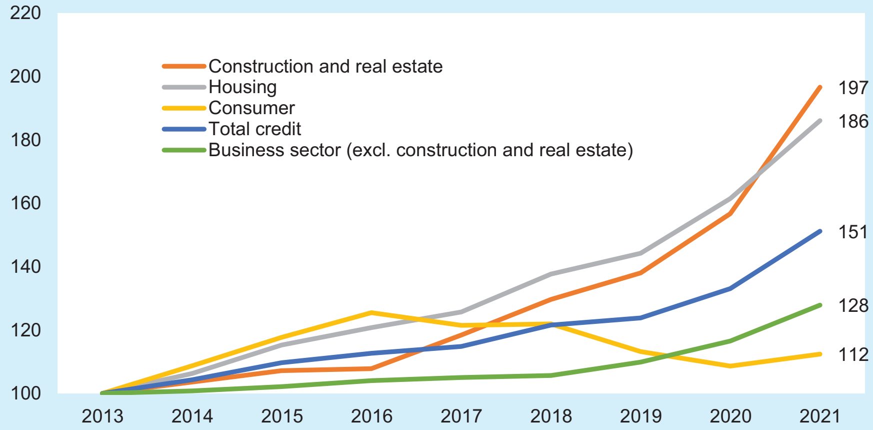
The share of credit to the construction and real estate industry increased to 54 percent of total bank credit to the public.

its group allowance in the financial statements for 2021 and onward and to include a qualitative and quantitative disclosure of the increased risk due to this industry in those financial statements. Furthermore, the Banking Supervision Department is currently considering whether to impose a requirement to allocate additional capital against the highly leveraged financing of land acquisitions (for further details, see Box 1.8 in this survey).[56]

There was significant growth in the access to bank credit for businesses in 2021, as indicated by the Business Tendency Survey published by the CBS.

The growth rate of credit to the construction and real estate industry accelerated.

Figure 1.40
Development of Balance-Sheet Credit to the Main Segments, Total Banking System, 2013–2021 (index: 2013=100)



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

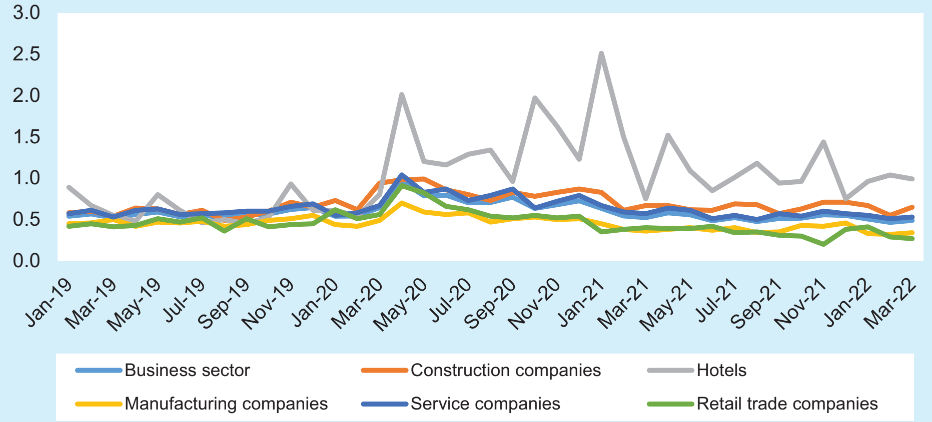
According to the survey, the difficulty in obtaining financing is low in all industries. Nonetheless, the hotel, hospitality, and food services industry still lags behind the rest in its ability to obtain credit (Figure 1.41). The upward trend in credit to this industry, which was particularly affected by the COVID-19 pandemic, continued, although at a slower pace (2.5 percent in 2021 as compared to 16.1 percent in 2020). This trend is backed by the drop-off in activity in the three government-guaranteed loan programs during 2021, which reached a negligible level in recent months.

Despite the improved access to credit in various industries, the trend of growth in credit to the hotels, hospitality, and food services increased at a lower pace.

[56] https://www.boi.org.il/he/NewsAndPublications/PressReleases/Pages/20-3-22.aspx [Hebrew]

There was a decline in financing difficulties in all segments.

Figure 1.41
Index of Financing Difficulties[a], by Bank Credit Segment, According to the Business Tendency Survey, January 2019–March 2022



[a] The data are on a scale of 0–3, based on ascending level of seriousness of the constraint.
SOURCE: Central Bureau of Statistics Business Tendency Survey.

Supervisory activity segments

During 2021, the banking system markedly increased credit to the business sector, which grew at a rate of 15.1 percent.

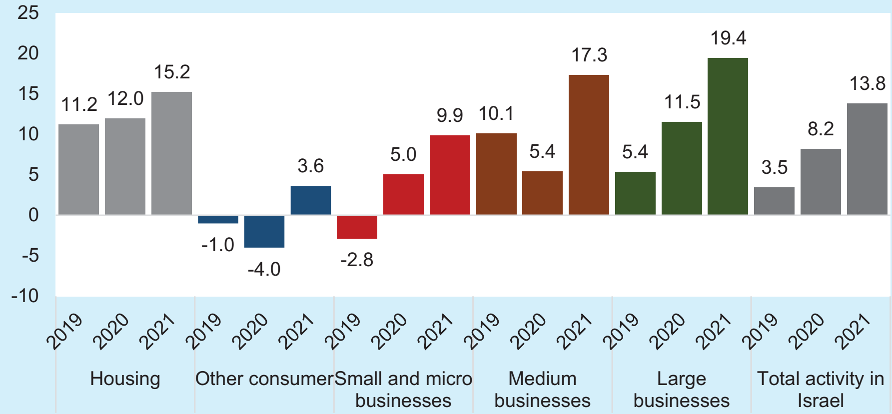
There was accelerated growth in all segments of activity in 2021. The banking system substantially increased its business credit, which grew at a rate of 15.1 percent. The growth derived mainly from large businesses, which accounted for 57 percent of business credit. The leaders in this segment are Bank Hapoalim and Bank Leumi (which increased their business credit by 20 percent and 18 percent, respectively; Table 17). The growth in credit to large businesses stood at 19.4 percent, which is almost double that in the previous year (11.5 percent; Figure 1.42). Growth among mid-sized businesses stood at 17.3 percent, which is more than triple the rate in 2020. **The growth among small and micro businesses was 9.9 percent, which is a significant increase relative to the decline of half a percent during 2019–20.** Apart from Bank Leumi and Bank Hapoalim, standouts were Bank Mizrahi-Tefahot, which increased its credit to large businesses by 17 percent and Discount Bank and First International Bank, which increased their credit to mid-sized businesses by 14.8 percent and 13.3 percent, respectively.

The spread from credit activity to the business sector fell by 0.1 percentage points during 2021, which was primarily the result of a decline in the spread for small and micro businesses, which fell by 0.2 percentage points (Table 17).

An examination of the breakdown of the portfolio of credit to the public for the period 2016–21 reveals a change in the banking system's credit portfolio (Figure 1.43). **Thus, there was an increase in the weight of housing credit and credit to large**

The increase in the balance of credit to the business sector accelerated.

Figure 1.42
Rate of Change in Outstanding Credit to the End of the Reporting Period in the Various Activity Segments, Total Banking System, December 2019–December 2021 (percent)



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

The share of credit to the housing and large business sectors increased alongside a decrease in the share of consumer credit and credit to small and micro businesses in the banking system's credit portfolio.

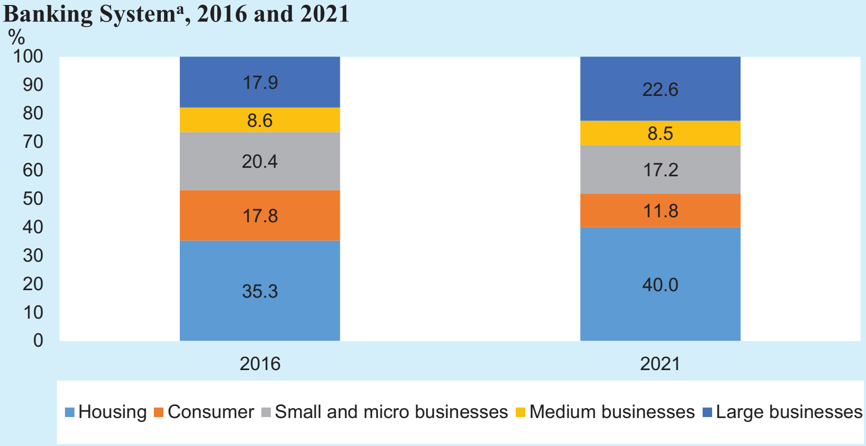
businesses, alongside a contraction in consumer credit and credit to small and micro businesses. Apart from Bank Mizrahi-Tefahot (a decline of 2.8 percentage points), **there was an increase of about 5 percentage points in the share of housing credit within the banking system's credit portfolio, which reached about 40 percent.** Despite the growth in consumer credit this year, its share fell during 2016–21 by about 6 percentage points. An examination of the portfolio of business credit for those years shows a **drop in the weight of credit to small and micro businesses** (about 3.2 percentage points), while the weight of **credit to mid-size businesses remained relatively stable. There was an increase of 4.7 percentage points in the case of large businesses on the level of the banking system as a whole.** These changes in the breakdown of the credit portfolio are the result of, among other things, changes in the demand for credit; the fact that banks reached their capital requirement at the end of 2017; exemptions on the risk weighting of housing credit in 2018; exemptions on industry indebtedness restrictions for the construction and real estate industry; increased competition in consumer credit; and an improvement in the portfolio of consumer credit by the banks.

Credit loss provisions declined in all of the various activity segments (Figure 1.44). The banks increased their credit loss allowances markedly in 2020, based on the assumption that the COVID-19 crisis would threaten borrowers' repayment ability. Since this scenario was only partially realized, a large part of the allowances put in place during 2020 were cancelled, as can be seen from the decline in credit loss provisions. Thus, the average rate of credit loss provisions for the years 2020–21 for small and micro businesses was 0.15 percent, compared to 0.61 percent in 2019; the average rate for mid-sized businesses was 0.28 percent as compared to 0.17 percent in 2019; and the average rate for large businesses was 0.42 percent as compared to 0.33 percent in 2019.

Credit loss provisions declined in all the activity segments.

Credit to the housing and large business segments increased, while consumer credit and credit to small and micro businesses declined.

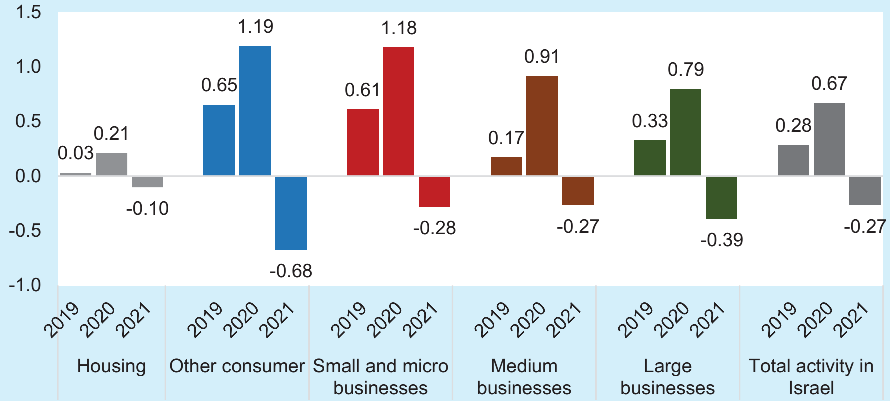
Figure 1.43
Distribution of the Credit Portfolio by Supervisory Activity Segment, Total Banking System[a], 2016 and 2021



[a] Data on the total banking system for 2016 do not include data on Union Bank.
SOURCE: Banking Supervision Department calculations.

Loan loss provisions as a share of the end-of-period balance of credit declined in the various activity segments.

Figure 1.44
Loan Loss Provisions as a Share of End-of-Period Balance of Credit in the Various Activity Segments, Total Banking System, December 2019–December 2021 (percent)



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

The quality of the credit portfolio

Most credit quality indices recovered and credit loss provisions declined. Most borrowers who deferred payments to repay credit during the crisis went back to regular repayment.

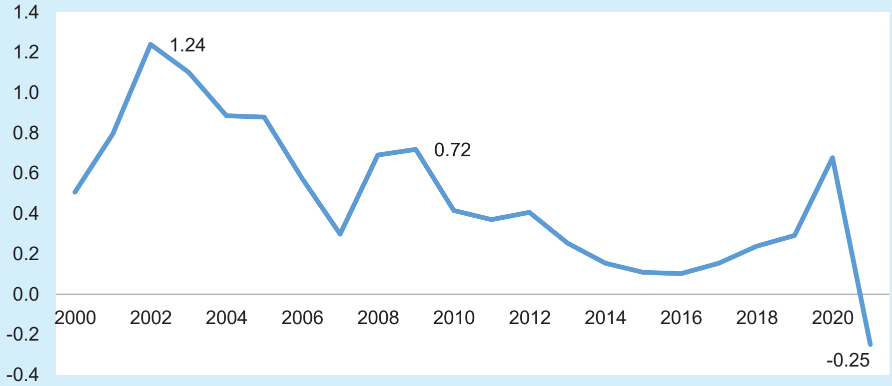
Most of the credit quality indices recovered during 2021 (Table 19). All of the banks recorded income (negative provisions) in the line for credit loss provisions, such that the average credit loss provision for the years 2020–21 was 0.18 percent, compared to 0.29 percent in 2019 (Figure 1.45). This is in addition to the fact that most borrowers who had deferred payments on their debts during the pandemic resumed them subsequently. The weight of troubled credit within total credit to the public was 2 percent, which is lower than prior to the pandemic (part of the reason is the relaxations in accounting rules granted during the pandemic). Furthermore, the recovery rate of written-off debt (out of total gross write-offs) was significantly higher than the rate in previous years, at 104 percent (compared to an average of 65 percent during the period 2016–20). It should be noted that part of this debt recovery may be due to debts written off prior to the pandemic. Nonetheless, the coverage ratio[57] remains high relative to its pre-pandemic level (115.1 percent as compared to 88.3 percent in 2019). This is evidence that the system is remaining prudent, in view of the belief that the

[57] The ratio of the total credit loss provision to impaired debt and unimpaired debt in arrears of 90 days or more.

recovery of the economy is not yet complete and the fear of further outbreaks that could set the economy back.

In view of the improvement in the economic environment and borrowers' resumption of loan repayments, loan loss provisions declined.

Figure 1.45
Loan Loss Provisions as a Share of Total Balance Sheet Credit to the Public, Total Banking System, December 2000–December 2021 (percent)



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

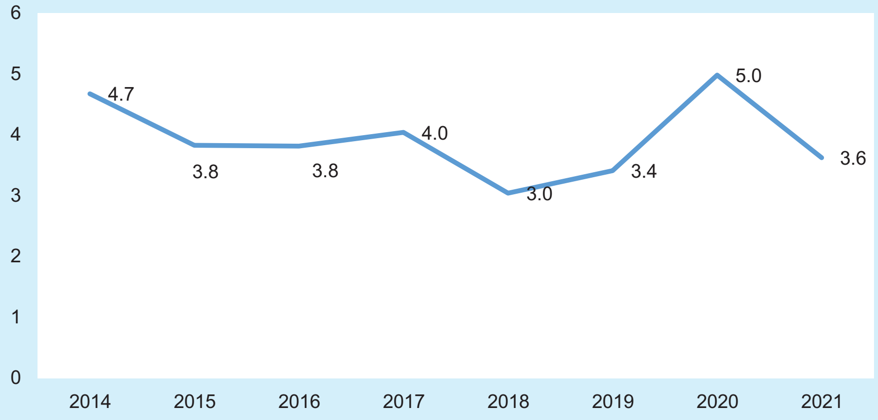
The share of non-execution rated credit risk declined in 2021. The share of housing credit out of total credit risk that is not rated as performing increased, at the expense of the share of credit risk that is not rated as performing extended to private and commercial customers.

Starting January 2022 and in line with accepted international standards, the Banking Supervision Department required Israeli banks to adopt the new banking rules for Current Expected Credit Losses (CECL). An analysis carried out by the Banking Supervision Department showed that its effect is expected to be relatively moderate and according to the disclosures included in the banks' financial statements, an increase in the credit loss allowance of about NIS 1.6 billion is expected (0.12 percent of total credit to the public). The increase derives mainly from allowances for the portfolios of commercial and consumer credit, alongside a reduction in allowances for the portfolio of housing credit (for further details, see Box 1.3 in this survey).

The proportion of non-execution-rated credit[58] declined in 2021 to a level similar to its average prior to the pandemic, which followed an increase of 1.6 percentage points in 2020 (Figure 1.46). The proportion of credit that is not execution-rated within total credit fell in 2021 to 3.6 percent, which is similar to its average during the pre-pandemic years (average for 2017–19).

The nonperforming credit risk is similar to the average of the years preceding the COVID-19 crisis.

Figure 1.46
Nonperforming Credit as a Share of Total Credit Risk, Total Banking System, 2014–2021 (percent)



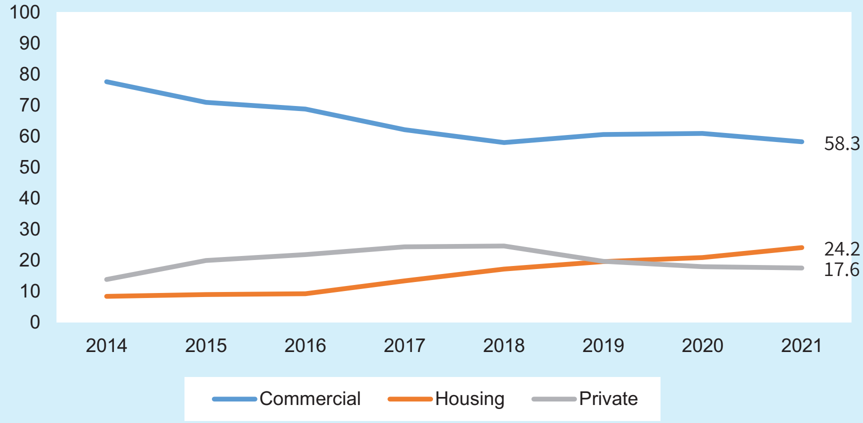
SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

In this context, there has been a change in the breakdown of non-execution-rated credit (Figure 1.47), with the weight of housing credit rising from 19.7 percent in 2019 to 24.2 percent at the end of 2021. This increase was at the expense of non-execution-rated credit to individuals and commercial customers and is in line with the rise in the risk indices of the housing credit portfolio.

[58] The risk of credit whose credit rating at the time of the report is not currently in line with the credit rating required for the provision of new credit according to the bank's policy. In other words, credit that was provided in the past but would not be provided according to currently existing conditions.

Housing credit as a share of total nonperformance credit risk increased at the expense of nonperformance credit to private and commercial borrowers.

Figure 1.47
Distribution of Nonperformance Credit by Segment, Total Banking System, 2014–2021 (percent)



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

c. Liquidity risk

The Liquidity Coverage Ratio (LCR)[59] is the leading index for measuring a bank's liquidity risk. Following a substantial increase in 2020, the ratio eroded during 2021, with its average aggregate value reaching about 125 percent for the banking system as a whole as of December 2021. This is similar to its level prior to the pandemic and higher than the minimum ratio required by the Banking Supervision Department (100 percent) (Figure 1.48). **The erosion in the ratio occurred despite the issuing of a significant quantity of bonds by the banking system during 2021. Bonds**

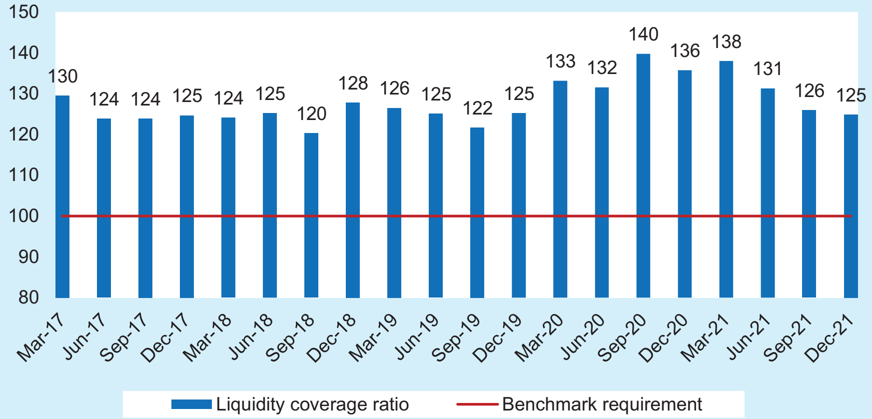
During 2021, the Liquidity Coverage Ratio eroded, as its average aggregate value in the banking system in December 2021 was about 125 percent, similar to its level just before the COVID-19 crisis, and higher than the minimum requirement set by the Banking Supervision Department.

[59] 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 High-Quality Liquid Assets (HQLA) 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, 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.

constitute a stable source of long-term financing for the banks and support the continuation of growth in the banking system's portfolio of credit to the public.

Following a sharp increase in the liquidity coverage ratio that began in March 2020, the ratio eroded in 2021, returning to the precrisis liquidity levels.

Figure 1.48
Liquidity Coverage Ratio (LCR), Total Banking System, March 2017–December 2021 (percent)



SOURCE: Based on reports to the Banking Supervision Department.

The banking system's excess liquidity has grown since the beginning of the pandemic in 2020, as reflected in the various liquidity indices. The assistance programs implemented by the government, including assistance to businesses affected by the pandemic and to workers who were let go or furloughed, injected large amounts of liquidity with the goal of alleviating the economic distress resulting from the lockdowns and social distancing. The Monetary Committee of the Bank of Israel also made use of a variety of tools in response to the pandemic, in order to achieve the following goals: (1) maintaining the normal functioning of the financial markets; (2) reinforcing the transmission from the Bank of Israel interest rate to market interest rates; and (3) improving the terms on which credit is provided.[60] Alongside the monetary tools employed during this period, the Banking Supervision Department took a number of steps that

[60] For further details, see the Monetary Policy Report for the First Half of 2020.
https://www.boi.org.il/en/NewsAndPublications/RegularPublications/Pages/MPR202001h.aspx

had a significant effect on the credit market and on the operational continuity in the financial system.[61]

The injection of liquidity into the economy by the government and the Bank of Israel worked to increase the inventory of high-quality liquid assets (HQLA) in the banking system. Thus, the public's deposits grew significantly;[62] the Bank of Israel increased the allocation in the monetary tenders;[63] and the response by the banks to the monetary tender was translated into increased deposits by the banks at the Bank of Israel, which in turn worked to increase the banking system's HQLA inventory.

Starting from the second quarter of 2021, as the economy and demand for credit recovered, the HQLA inventory began to erode gradually, in parallel to the continuing and rapid increase in net outflow. Therefore, following a steep rise in the LCR, which began in March 2020, this year was characterized by an erosion of the ratio and a return to levels of liquidity that were characteristic of the banking system prior to the pandemic (Figure 1.48).

The erosion of the LCR that began in the second quarter of 2021 was the result of a sharp increase in net outflow (Figure 1.49) at an annual rate of about 27 percent (about NIS 112.5 billion), which is primarily explained by the sharp increase in wholesale financial deposits of up to a month (Figure 1.50). These are considered to be less stable and therefore are weighted by high exit rates in the context of the liquidity scenario regarding the LCR. Note that the erosion was in spite of the substantial, though slower, increase of about 17 percent annually (given the growth in credit extended,[64] among other things) that occurred in the HQLA inventory in 2021 (about NIS 95.5 billion; Figure 1.49). The significant increase in the HQLA inventory in 2021 was the result of the continuing growth in the reserves of the banking system at the Bank of Israel. Note that the aforementioned growth in the HQLA inventory was in spite of the sale of bonds—primarily Israeli government bonds—by the banks during 2021, which led to a further reduction in the component of eligible tradable securities (Figure 1.51). During the current year, the banking system issued a large quantity of bonds (NIS 24 billion), which constitute a stable long-term source of financing for the banks. The issuing of bonds supports the continuation of growth in the banking system's assets without eroding the LCR.

The erosion in the Liquidity Coverage Ratio was due to a sharp increase in the volume of retail financial deposits up to 1 month, which are considered less stable than current-account deposits, and took place despite continued growth in the volume of the banking system's deposits at the Bank of Israel.

[61] For further details, see Israel's Banking System 2020.
https://www.boi.org.il/en/NewsAndPublications/RegularPublications/Pages/Skira19.aspx

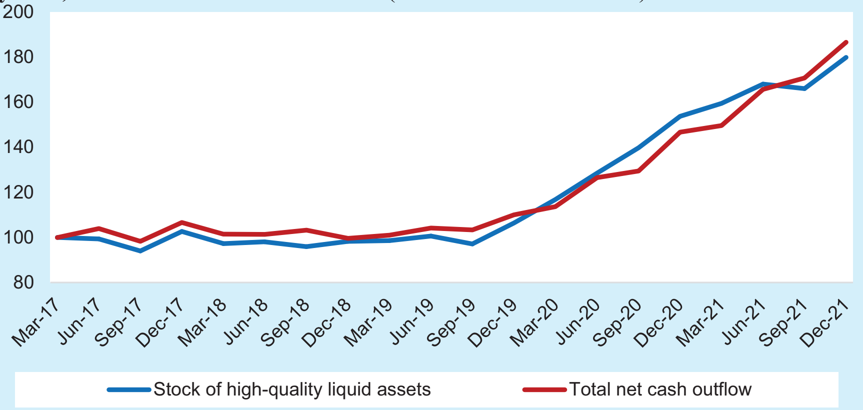
[62] For further details, see Box 1.4 "The Increase in the Public's Liquid (Current Account) Deposits during the COVID-19 Crisis" in Israel's Banking System 2020.
https://www.boi.org.il/en/NewsAndPublications/RegularPublications/Pages/Half2020.aspx

[63] Monetary tenders are deposits in shekels that the banks place with the Bank of Israel, where each bank submits a quote with an amount (up to the amount of the tender) and the interest rate that it is seeking. The tender is a graduated tender on the interest rate. By means of the monetary tenders, the Bank of Israel can influence the monetary base and the short-term interest rate in the money market.

[64] In order to provide credit to the public, use was made of funds held in deposits at the Bank of Israel, which led to a reduction in the HQLA inventory.

The erosion of the liquidity coverage ratio is due to a sharp increase in net cash outflow, and exists despite the significant increase in the stock of high-quality liquid assets.

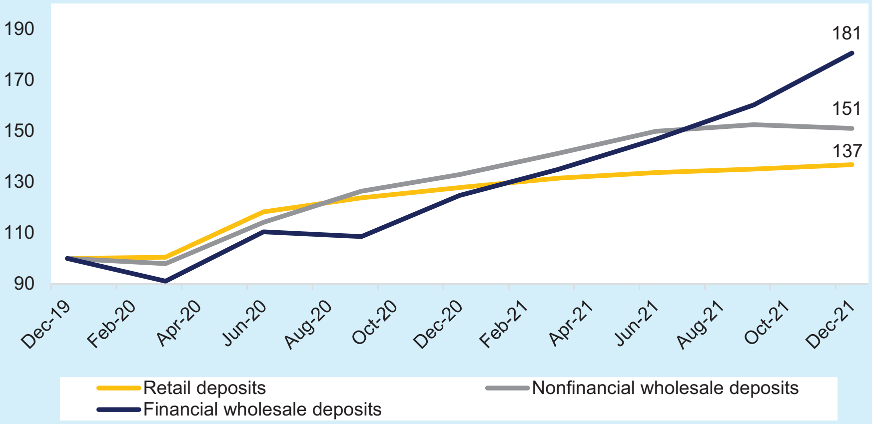
Figure 1.49
High-Quality Liquid Assets (HQLA)[a] and Net Cash Outflow, Total Banking System, March 2017–December 2021 (index: March 2017=100)



[a] As defined in Proper Conduct of Banking Business Directive 221.
SOURCE: Based on reports to the Banking Supervision Department.

The sharp increase in net cash outflow is mainly due to a sharp increase in financial wholesale deposits for withdrawal in up to one month.

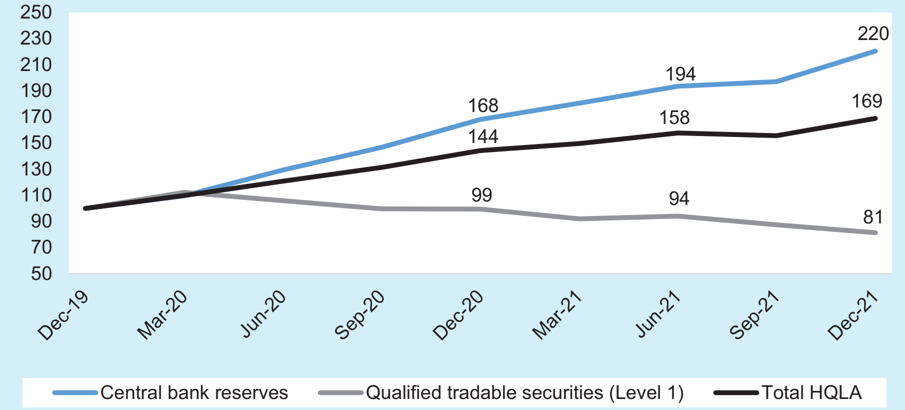
Figure 1.50
The Public's Deposits for Withdrawal in Up to One Month, Total Banking System, December 2019–December 2021 (index: December 2019=100)



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

Accelerated growth of the Bank of Israel reserves led to an increase in the stock of high-quality liquid assets, despite the continued realizations of qualified securities during the year.

Figure 1.51
Volume of High-Quality Liquid Assets (HQLA)[a] and Its Main Components, Total Banking System, December 2019–December 2021 (index: December 2019=100)



[a] As defined in Proper Conduct of Banking Business Directive 221.
SOURCE: Based on reports to the Banking Supervision Department.

The goal of the LCR is to ensure that a bank holds sufficient liquid assets in order to meet any 30-day liquidity stress scenario. As part of this stress scenario, assumptions are made with regard to the expected cash flow during a 30-day period and an assessment is made as to whether the bank has a sufficient HQLA inventory to meet its expected net outflows.[65] As such, the LCR is an indication of the bank's ability to meet its liquidity needs in the short run (up to 30 days, as mentioned), but does not assess the quality of the sources on which the bank relies nor the bank's ability to ensure that the structure of its liabilities and capital are aligned with its financing needs, its balance-sheet assets and its off-balance-sheet liabilities in the long term (sustainable financing). In order to assess the banking system's ability to maintain a stable financing profile, the Banking Supervision Department initiated the adoption of the Net Stable Funding Ratio (NSFR)[66] starting from December 31, 2021. This ratio requires that the banks maintain a stable financing profile according to the composition of their balance-sheet assets and their off-balance-sheet activities. In the numerator appears "available stable funding" which is defined as the portion of capital and of liabilities that can be relied on during the course of a year (Figure 1.52). In the denominator appears the sum of the "required stable funding items" which are affected by the liquidity characteristics and term to maturity of the

As of December 31, 2021, the Banking Supervision Department adopted the Net Stable Funding Ratio. As of December 2021, the ratio in the banking system is 131 percent, higher than the minimum requirement set by the Banking Supervision Department.

[65] For further details, see Proper Conduct of Banking Business Directive 221.
[66] For further details, see Box 1.4 in this survey.

various assets held by the bank and its off-balance-sheet exposures (Figure 1.53). As can be seen from the graphs, the main components of available stable financing are retail deposits (56 percent) and wholesale financing (26 percent). The main component of required stable financing is loans and securities (85 percent). The NSFR should be at least 100 percent. As of December 2021, the ratio of the banking system was about 131 percent.

The main components on the available stable financing side are retail deposits and wholesale financing. On the required stable financing side, the main components are loans and securities.

Figure 1.52
Available Stable Financing (ASF) Items, December 2021

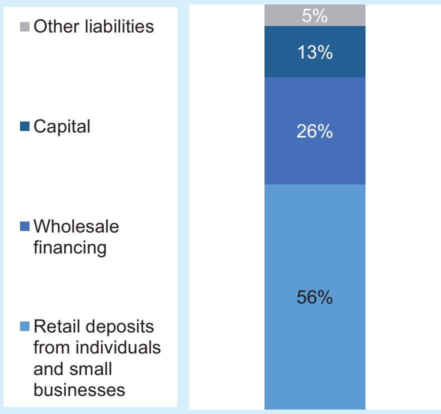
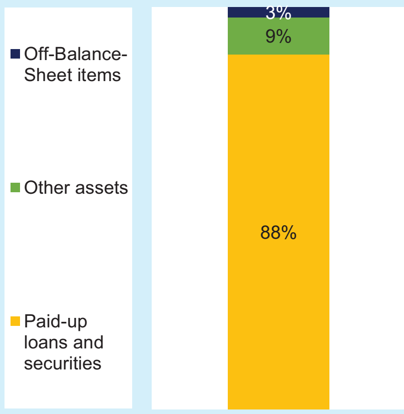


Figure 1.53
Required Stable Financing (RSF) Items, December 2021



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

The structure of the banks' assets and liabilities

In order to finance its activity, the banking system in Israel relies primarily on the deposits of the public, which can be divided into stable deposits and less stable deposits. In order to maintain a stable financing profile, the banks must ensure a sufficient level of stable deposits. The main stable deposits are retail deposits, which are characterized by a high level of dispersion and relatively low amounts in each deposit. As such, there is a low probability of large-scale withdrawals in the short term. In contrast, an example of unstable deposits—for a period of up to one year—are those of wholesale customers since they are characterized by a high level of concentration and there is a high risk that a significant amount will be withdrawn in the short term.

Although the LCR at the end of 2021 was similar to its pre-pandemic level, the structure of assets and liabilities in the banking system changed during the crisis. In particular, the proportion of less stable sources within total sources had grown. These developments led to an increase in exposure to liquidity risk to some extent, even though this is not reflected in the LCR.

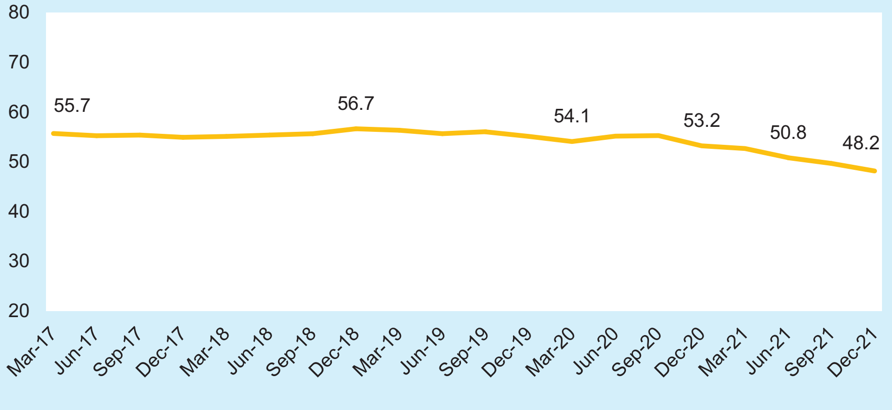
The Core Funding Ratio (CFR)[67] is meant to assess the quality of sources on which the bank relies. In other words, it measures the proportion of stable liabilities within total liabilities. While the total deposits of the public grew, their composition—as measured by this ratio—has deteriorated since the beginning of 2020, and the proportion of stable liabilities within total liabilities has declined significantly (Figure 1.54). The erosion of this ratio is a result of the increase in total liabilities at a rate of about 15 percent, while the rate of increase in stable liabilities was more moderate at about 4 percent.

From the beginning of 2020, while the scope of the public's deposits grew, their composition as measured by the core funding ratio deteriorated, and stable liabilities as a share of total liabilities decreased markedly.

The main increase in total liabilities during 2021 was mainly due to a large increase (about 33 percent) in total wholesale deposits (both financial and non-financial) for periods of up to one year, where the rate of increase in total liabilities without wholesale deposits for periods of up to one year stood at only about 5 percent. The growth in business activity, as well as the response of financial institutions to the volatility in exchange rates—primarily during the second half of 2021—can explain the growth in wholesale deposits.

Stable liabilities as a share of total liabilities in the banking system have been declining since 2020, due to rapid growth in nonstable liabilities.

Figure 1.54
Core Financing Ratio (CFR), Total Banking System, March 2017–December 2021
(percent)



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

[67] According to the definition of the EBA, the Core Funding Ratio is composed of the following components: In the numerator – total stable liabilities, which is composed of total retail deposits, total wholesale deposits of more than one year and bonds and deferred promissory notes. In the denominator – total liabilities.

d. Market risk

Following is a description of the various types of market risk: [68]

Exposure to interest rate risk[69]

There are several indices of risk derived from an interest rate increase.

The net fair value[70] and net interest income of the banking system are not exposed to a serious threat from an increase in the interest rate.[71] According to the table analyzing total assets and liabilities as of the end of 2021, an increase in the interest rate is expected essentially to increase both the net interest income and the net fair value of the banking system, where the effect varies across the banks. With respect to net interest income, the effect of an interest rate increase is positive for all five of the large banks. It should be noted that the risk as a result of changes in the interest rate can also be measured by other indices, including the effect on profits or capital. Since there are no uniform data in this context, this chapter only relates to the possible erosion in the net value of the bank's capital and the effect on interest income. The equity capital of the Israeli banks in particular is expected to erode as a result of an increase in the interest rate.

The effect of an interest rate increase on fair value – **Using the value approach**, various scenarios were examined for the effect of changes in the risk-free market interest rate on the banking corporation's fair value of assets, liabilities and off-balance-sheet positions. This approach focuses on a horizon of longer than one year,

[68] **Market risk** results from the probability that unexpected changes in market prices (interest rates, price indexes, exchange rates, share prices, etc.) will reduce a bank's income or the value of its capital. From David Rothenberg, "Bank Management in Israel, Management of Assets, Liabilities and Risks", Keter, 2002, Jerusalem. [Hebrew]

[69] Interest rate risk (without the credit risk spread) is the risk to the banks' profits as a result of fluctuations in interest rates, which affect the existing positions of each of the banks. When interest rates change, the present value and timing of future cashflows change with them. These in turn lead to changes in the fundamental value of the bank's assets, liabilities and off-balance-sheet items and thus affect the bank's economic value. Changes in interest rates also affect the bank's profits through their effect on income and expenses that are sensitive to the interest rate, thus affecting net interest income (NII). Excessive interest rate risk can constitute a threat to the bank's capital base and/or its future profits if it is not managed appropriately. Interest rate risk is measured using one of two main approaches: the profits approach or the value approach.

It is customary to analyze the interest risk of the banking portfolio separately because instruments are held for longer periods in this portfolio than in the trading portfolio. The holding period also dictates the intensity of the potential shocks being analyzed. Since the data for the banking system shows that there is no material difference between the banking portfolio and the banks in general, the analysis that follows is carried out from the perspective of the banking system as a whole and not that of the banking portfolio alone. (Note, however, the banking portfolio constitutes 95 percent of the total portfolio.)

[70] A bank's net fair value is equal to the difference between the fair value of its financial assets and the fair value of its financial and other liabilities in each indexation segment, in addition to the effect of derivative financial instruments. The adjusted net fair value of a bank's capital is the net fair value after the effect of employee-related liabilities and attribution to the period of demand deposits.

[71] A parallel upward shift of the curve by 1 percent.

since it is based on expected cash flow from assets, liabilities and off-balance-sheet items that exist at the time of the measurement.

A parallel increase of one percentage point in interest rates is expected to increase the net fair value of the five large banks by about NIS 760 million, in contrast to the expectation of a decline in net fair value in 2020 (Table 1.1). Note that according to the forecast of the Research Department published on April 11th 2022, the Bank of Israel interest rate is expected to be 1.5 percent in one year's time.

In 2021, the impact on fair value of a parallel growth of 1 percentage point in the interest rate improved.

It is important to note that when estimating interest rate risk based on the value approach, the assumptions made with regard to the conduct of the banks' customers as a result of the change in the interest rate are important. These behavioral assumptions have a major impact on the measurement of interest rate exposure. For example, there has been significant growth in the banking corporations' total current account deposits in recent years. In assessing interest rate risk, the banking corporations spread out demand deposit withdrawals over time, on the assumption that the bank's customers will not withdraw funds from their accounts rapidly, even as a result of significant changes in the interest rate.[72] Another important assumption relates to early repayments of housing loans. These occur in scenarios of interest rate declines and therefore the assumption with regard to their pace has a substantial effect on interest rate exposure. Note as well actuarial liabilities, which constitute a major factor for some of the banks, such that the estimation of these liabilities involves assumptions with regard to the retirement dates of workers, life expectancy, etc. All of these assumptions[73] work to lengthen the duration of liabilities and shorten that of assets and lead to a lower exposure to interest rate risk in scenarios of an interest rate increase according to the value approach. Therefore, these effects need to be quantified in the management of interest rate risk and taken into account.

Table 1.1
The impact of a parallel increase of 1 percent in the interest rate on the adjusted net fair value

NIS million	31-Dec-21	31-Dec-20
Bank Hapoalim	669	-703
Bank Leumi	252	46
Discount Bank	-344	247
First International Bank	-10	-86
Mizrahi Bank(includes Union Bank)	191	56
The five banking groups	**758**	**-440**

SOURCE: Based on published financial statements.

72 The interest rate on deposits.
73 Naturally, all of the aforementioned assumptions are based on models, such that there is liable to be a gap between the model's assumptions and actual developments.

The effect of an interest rate increase on net interest income – A parallel increase of one percentage point in interest rates at the end of 2021 would have led to an increase in net interest income of NIS 5.5 billion, as compared to an increase of NIS 4.8 billion at the end of 2020 (a nominal increase in the effect of about 15 percent). Since the net interest income of the five large banks together grew by 16 percent in 2021[74], the relative effect of an increase of 1 percent remained similar (Table 1.2).

Exposure to indexation base risk

The sensitivity of the banks to changes in the indexation base is determined by the position held by the banks. An analysis of the data indicates that while a change in the exchange rate[75] affects the various banks differently, a change in the CPI[76] affects all of the banks identically and that effect is characterized by a positive correlation, such that a drop in the CPI leads to a loss while a rise in the CPI leads to a profit (Table 1.3 and 1.4).

Table 1.2

The impact of a parallel increase of 1 percent in the interest rate on net interest income

NIS million	31-Dec-21	31-Dec-20
Bank Hapoalim	1,391	1,035
Bank Leumi	1,092	1,220
Discount Bank	1,216	1,000
First International Bank	529	418
Mizrahi Bank(includes Union Bank)	1,291	1,145
The five banking groups	**5,519**	**4,818**

SOURCE: Based on published financial statements.

There is a positive link between the change in the CPI and the effect on bank profits.

e. Technological risk

Technology in the financial world has developed at an accelerated pace in recent years. It constitutes a catalyst to increase the supply of digital services offered by the banks, yet at the same time, it increases the technological risk to the banking system's ability to meet future banking challenges and may have implications for the banking system's sustainable business model risk.

During the past two years, the COVID-19 pandemic was one of the main factors behind the acceleration of digitization in the financial world. The growth in demand for digital banking services as a result of the pandemic emphasized the long-term necessity for the banking corporations to assimilate advanced

[74] From about NIS 32 billion to about NIS 37 billion.
[75] The exchange rate of foreign currency against the shekel.
[76] The Consumer Price Index.

Table 1.3
The impact of an increase/decrease of 10 percent in the exchange rate

An increase of 10 percent in the foreign exchange rate				A decrease of 10 percent in the foreign exchange rate		
NIS million	31-Dec-21	31-Dec-20		NIS million	31-Dec-21	31-Dec-20
Bank Hapoalim	38	-1		Bank Hapoalim	261	37
Bank Leumi	90	90		Bank Leumi	17	-33
Discount Bank	330	197		Discount Bank	-329	-362
First International Bank	0	-3		First International Bank	-8	0
Mizrahi Bank(includes Union Bank)	19	17		Mizrahi Bank(includes Union Bank)	-7	-38
The five banking groups	**477**	**300**		**The five banking groups**	**-66**	**-396**

SOURCE: Based on published financial statements.

Table 1.4
The impact of exposure to inflation

An increase in the CPI				A decrease in the CPI			
NIS million	31-Dec-21	31-Dec-20		NIS million	31-Dec-21	31-Dec-20	
Bank Hapoalim	529	273		Bank Hapoalim	-548	-388	3%
Bank Leumi	469	425		Bank Leumi	-474	-525	3%
Discount Bank	83	122		Discount Bank	-86	-132	3%
First International Bank	78	78		First International Bank	-66	-82	3%
Mizrahi Bank(includes Union Bank)	746	954		Mizrahi Bank(includes Union Bank)	-746	-973	5%
The five banking groups	**1,905**	**1,852**		**The five banking groups**	**-1,920**	**-2,100**	

SOURCE: Based on published financial statements.

technologies and improve their capabilities in technological domains, such as for example the tailoring of information to fit the individual.

Technological risk in the banking system has been notable in recent years, as a result of technological and digital acceleration.

Another factor determining the rate of assimilation of advanced technological services in the world of banking is that the banking corporations have been dealing with new competitors in recent years, most of which are digital and provide "traditional" services to customers, such as, for example, payment services by means of advanced technologies. The start-up companies that are offering technological services in the financial domain (fintech companies) constitute a challenge to the banking system to modify its models and business processes, increase their competitiveness and promote processes that introduce technological innovation. These start-up companies make extensive use of information technologies and innovative automation and manage to absorb quickly both traditional and innovative services. This competition constitutes an opportunity and challenge for the banking system, while at the same time it creates the possibility of digital disruption and increases sustainable business model risk in traditional banking.

Technological risk is a marked component in the banking system's sustainable business model risk.

These accelerated technological developments are forcing the banks to rethink their business model in favor of one that is based on a customer-focused technological platform and accordingly on advanced and innovative technological platforms. Looking to the future with respect to the structure of the banking system, one scenario is that the banks will become more like companies based on innovative technologies, which facilitate, among other things, the wise and efficient use of information and cooperation with third parties. It is expected that the traditional banks will have to adopt advanced technologies in order to maintain a sustainable business model. The banking system is expected to continue managing this risk in coming years where the key will be the pace and manner of adoption of advanced technologies, which will involve upgrading computer systems, work processes and human and technological capital.

The process of adopting and assimilating new technologies constitutes an opportunity for the traditional banks to increase their efficiency and innovation, which may in the end create a more competitive financial system with a larger number of market participants, a situation that may also contribute to financial inclusion.

Alongside the opportunities, there is a significant upward trend in technological risk. Thus, a changing competitive environment can lead to a situation in which the banks must deal with challenges to the implementation of their business strategy. Among other reasons, this is because the core legacy systems constitute a hindrance to the bank's ability to rapidly adopt solutions under increasingly competitive conditions, to modify work processes so as to be quicker responding and more streamlined and to preserve and recruit manpower that can support existing and future systems.[77]

[77] OECD (2020), Digital Disruption in Banking and its Impact on Competition http://www.oecd.org/daf/competition/digital-disrutpion-in financial-markets.htm.

In addition to the aforementioned, there are additional technological risk components with broad implications for the intensity of technological risk, as identified and mapped by the ECB.[78] Among them are business operation and continuity; management of changes and transferring them to production; cyber and information security; outsourcing and the supply chain; and the reliability and integrity of data. Furthermore, the general trend of moving computer systems to a cloud configuration is itself a technological risk component whose scope will increase with the growing adoption of this configuration in the banking system.

The general trend of switching computer systems to cloud configurations is also a component of technological risk, the impact of which will grow as long as the use of this configuration in the banking system expands.

The core systems

The banking corporations' core systems constitute a central component of technological risk, whether from the viewpoint of operational continuity or that of competition and the increasing need to integrate additional digital services. While the latter represents a business challenge to the banks in terms of preserving and increasing market share, operational continuity in the core systems constitutes a growing technological challenge and is high up on the agenda of both the banking corporations and the Banking Supervision Department.

The core legacy systems, which constitute the heart of the bank's technological architecture, have in recent years become a hindrance to the banking corporations in assimilating new technologies and advanced digital services. The core systems, most of which are based on mainframe technologies, have for a number of decades been the main component of the banking system and are used to implement the banking corporations' main financial transactions.

The technological divisions of the banking system have in recent years been required by various entities (regulatory entities and business entities) to implement numerous changes in their core systems—at an increasingly rapid pace and with increasing intensity. The core systems and technologies on which banking is currently based creates various challenges in implementing these changes.

Overall, the banking corporations' existing systems were developed in stages, without any consistent architectural planning, and were for many years based on serial work processes (the waterfall model) with relatively long and complex development cycles and testing processes prior to being brought to production.

The architecture of the core legacy systems that exist in most of the banking system constitutes a challenge on two main levels: the ability to maintain and preserve what exists and the flexibility to implement changes and how long they will take. The maintenance of previous-generation systems constitutes a

[78] EBA Guidelines on ICT and security risk management.
http://eba.europa.eu/regulation-and-policy/internal-governance/guidelines-on-ict-and-security-risk-management

challenge over time, since the systems were developed using old technologies and they require a workforce trained to maintain them. This means that changes carried out in these systems constitute a structural risk to the stability of the systems. Accordingly, there is a built-in difficulty when introducing changes and installing new programs, whether in response to technological progress or the growing demands of the market.

Furthermore, ongoing training processes are necessary to prepare the staff maintaining these systems and additional resources must be shifted, when necessary, to that purpose from the banking corporation's other activities.

At the same time, it appears that despite the growing need to deal with the complexity of the existing core systems, disruptions that can shut down the service occur only rarely in day-to-day operations and the systems are overall considered to be stable from the perspective of availability, thanks to the large investments made by the banking system to this end.

In view of the centrality of the core systems in the banking corporations' activity and as part of the measures introduced by the Banking Supervision Department in its efforts to maintain the stability of the banking system, the Department recently completed a sector-wide examination of the stability of the core systems. The goal of the examination was to examine the stability of the main systems that support the core banking activities, with emphasis on the technological perspective.

The examination focused on the core systems in the following domains: credit; demand deposits and cash applications; customer management; and the capital market, although it also related to other aspects of these systems and also to aspects of corporate governance.

It was found that the main challenges in operating the existing core systems are as follows:

- The architecture of the systems ("spaghetti") which makes maintenance and development more difficult.
- The need for a long overnight process, which leads to errors and failures.
- The lack of a uniform and available data layer.
- Challenges in preserving knowledge and a shortage in manpower.
- Difficulty in carrying out changes in the short term due to, among other things, the need for long regression checks.

In view of the constraints implicit in these outdated systems, most of the banks are considering their replacement with more advanced and flexible systems that can meet the needs of a changing world. The project to replace or upgrade the core banking systems involves a great deal of resources and risk and is expected to take a number of years for the entire banking system.

Technological and human capital

With the increasing competition in the financial market in recent years, Israel and the rest of the world are undergoing a transformation from services provided in physical branches by tellers to widespread use of advanced technological tools, such as: big data; robotic processes; shift of services to the cloud; etc. These changes require the recruitment and training of manpower that will be specialized in advanced technologies.

These changes in the expertise required of workers and the increasing competition in the market for technological manpower—together with the difficulty in recruiting workers with the appropriate expertise—constitute a major challenge to the banking system in Israel. In an era in which technology is the main engine for a bank's ability to compete, the banks must also revise their organizational culture. The difficulty in changing an organization's culture flows from, among other things, the attempt by the banks to implement a culture of rapid assimilation of change, as in a start-up company, alongside the attempt to maintain the risk profile required by the regulator. The banking system in Israel is investing a large amount of resources in the management and mitigation of this risk.

Looking ahead

The banking corporations are expected to continue assimilating new technologies in coming years, with the goal, among others, of responding to a changing competitive environment.

According to the aforementioned survey carried out by the Banking Supervision Department among officeholders in the Israeli banking system, technology risk constitutes a significant risk to the banks (Figure 1.18). The complexity of the existing financial systems, together with increasing competition and the desire to assimilate new technologies rapidly, is raising the level of technological risk in the operations of the banks in Israel and abroad, and therefore the banks must strengthen their management of this type of risk, including the assimilation of new tools and work methods. The existence of focused and proactive corporate governance, which ensures the allocation of sufficient resources to technological transformation and also ensures that technological risks are managed efficiently, will likely produce a more appropriate response to future challenges.

The banking system works and will need to continue working to manage technological risk, and in particular to align systems, work processes, and human capital to the changing competitive environment.

Based on an understanding that the threat to traditional banking from technology companies will likely converge to a critical point and the belief that one of the roles of the Banking Supervision Department is to ensure that the banking system adopts a forward-looking approach, the Banking Supervision Department has in recent years made significant efforts to assess the banks' ability to deal with future challenges, including the assimilation of innovative technologies (for further details, see Box 2.1 in this survey), with the goal of ensuring the existence of a sustainable business model over time, while at the same time ensuring that the existing systems continue to operate reliably.

f. Cyber risk

Cyber risk remained high in 2021 and its upward trend in recent years appears to be continuing. Thus, it continued to be the most worrisome risk from the perspective of the banking system for the fourth year in a row, according to the findings of the risk survey carried out by the Banking Supervision Department among senior officials in the banking system (for further details, see the section on risks in this chapter). The survey found that 89 percent of the respondents felt that cyber risk and information security constitute the most worrisome risks. In addition, most of them mentioned the increasing incidence of cyber events and threats to information security as the main factor in the bank's operational risk, while 94 percent said that they expect an increase in the level of cyber risk in the coming year.

Cyber risk continued to increase in 2021, and is the most concerning risk in the banking system's view.

Developments and trends in the cyber domain in 2021

The cyber threat continued to intensify during 2021 both in Israel and abroad. There were significant developments in the cyber domain during the year, including the number of attacks and in some cases their level of sophistication. This is also the case with respect to the parties involved and the increasing presence of state and criminal actors with impressive cyber capabilities. They also exploited the new reality created by the COVID-19 pandemic, which led to increasing use of digital platforms and tools and the increasing popularity of working from home among many organizations, a phenomenon that expanded the attack spaces. At the same time and relative to the intensification of the threat during 2020, the year 2021 will not be remembered as an outlier with respect to cyber events in Israel or elsewhere.

The number of cyber incidents increased, in Israel and abroad, during 2021.

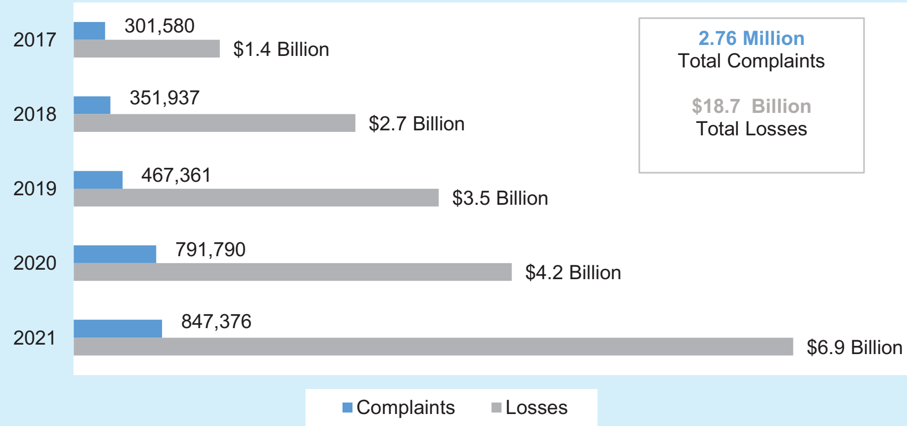
Evidence of the increasing scope and number of events in 2021 can be found in the FBI's Internet Crime Report for 2021.[79] According to the report, there was an increase of about 7 percent in the number of reports received by the IC3[80] center relative to 2020 (compared to an increase of about 69 percent in 2020 relative to 2019) and an increase of about 64 percent in monetary damage (Figure 1.55).

A similar trend was observed in Israel. Thus, for example, the National Cyber Directorate has reported an increase of 20 percent in the number of cyber events reported by individuals and organizations in 2021 (which follows the increase of 50 percent in 2020).[81] According to the Israel Money Laundering and Terror Financing Prohibition Authority[82], Israel is exposed to a significant

[79] https://www.ic3.gov
[80] IC3 – Internet Crime Complaint Center – An entity within the FBI that provides the public with an interface and platform for reporting cyber events.
[81] https//:www.gov.il/he/departments/news.2021_119/ [Hebrew]
[82] "Use of the financial system to transfer ransom payments," the Israel Money Laundering and Terror Financing Prohibition Authority, February 15, 2022. [Hebrew]

The number of Internet fraud incidents and monetary loss from such incidents increased in 2021.

Figure 1.55
Complaints and Losses over the Last Five Years



SOURCE: FBI Internet Crime Report, 2021 https://www.ic3.gov

level of ransom attacks, which according to various estimates increased sharply last year – by up to seven-fold (although a significant proportion were blocked). According to a survey by the Central Bureau of Statistics in July 2021[83], about 42 percent of the large businesses in Israel (more than 250 workers) have experienced a cyber attack.

Apart from the growth in the number of events, there is also an upward trend (with respect to number and level of sophistication) in ransom attacks;[84] attacks on essential infrastructure; attacks that focus on the supply chain in order to gain access to a specific target; and a trend of fast utilization of newly discovered vulnerabilities, sometimes within a few days of the announcement.

The financial sector continues to be an attractive target for attacks, alongside the healthcare system, the retail sector, government and links in the supply chain. During 2021, there were a not insignificant number of attacks against financial institutions, including central banks, insurance companies and commercial banks, as well as digital wallets and companies involved in the management and trading of crypto currencies (Figure 1.56).

83 "Survey of use of information and computer technologies and cyber defense", November 21, 2021.
84 https://www.ic3.gov?/force_isolation=true.

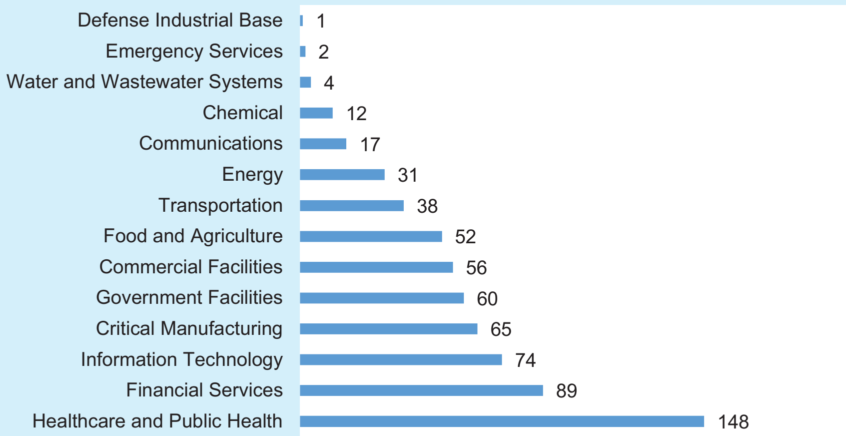
Among the cyber events in 2021, there were quite a few major events, with respect to either the type of attack, its characteristics or its complexity, the scope of the damage and the effect of the event and/or the perpetrators of the attack. Following are some of the events that illustrate the risk, the characteristics and the possible effects of a cyber event and the development of the threat in 2021:

- **The Colonial Pipeline event—a ransomware attack on US oil infrastructure**

In May 2021, Colonial Pipeline, a network of oil pipelines in the US that originates in Houston and carries gasoline and jet fuel to the US Southeast, suffered a ransomware attack that led to the shutting down of the system. In addition to a demand for ransom, the attackers threatened to publish 100 gigabytes of data. The ransom was paid by the company (75 bitcoin, which was equivalent to about $4.4 million), and even then the shutdown continued for 6 days due to the time required to restart the operation of the pipeline. Due to the shutdown, there was a shortage of fuel in airports, which led to disruptions in flight schedules, and a shortage of gasoline in the areas served by the pipeline. As a result, the average price of fuel rose to $3 per gallon, its highest level since 2014.

The financial sector was the sector with the second-most ransomware attacks duirng 2021.

Figure 1.56
Number of Infrastructure Sectors Victimized by Ransomware



SOURCE: FBI Internet Crime Report, 2021 https://www.ic3.gov

In the aftermath of the attack, the White House declared an emergency and Secretary of Commerce Gina Raimondo announced that the repair of the pipeline is a top priority for the Biden administration.

- **The Accellion event and the leakage of information from New Zealand's central bank**

In December 2020 and January 2021, an attack was carried out on the Accellion company's FTA software, which facilitates the secure sharing of files (safekeeping services). The attackers managed to identify a number of unrecognized vulnerabilities in the software and exploited them to steal a large amount of information from user organizations. According to reports, over 100 organizations were affected by the event, including New Zealand's central bank.[85]

- **The Banco Pichincha event in Ecuador**

The largest private bank in Ecuador fell victim in 2021 to two cyber attacks, one in February and another in October. The attack in February involved data leakage while the attack in October was a ransomware attack, in which the bank's withdrawal services and direct channels of service were shut down for a number of days.[86]

- **The Kaseya attack**

In July 2021, the Kaseya company, a US company that provides managed IT services to a large number of organizations, was subject to an attack. The attack occurred on the night between the 4th and 5th of July and took advantage of an unrecognized weakness in one of the company's products. It also took advantage of the fact that there were fewer workers on the job, including IT workers, during the holiday. As a result, the attackers managed to infiltrate the networks of thousands of organizations (most of them SMBs) served by Kaseya. The attackers demanded a ransom of $70 million. The attack was perceived as one of the largest supply chain events thus far.

There were also a number of major cyber events in Israel during 2021:

- **Ransomware attack on the Hillel-Yaffe Hospital**

In November 2021, there was a ransom attack on the Hillel-Yaffe Hospital. As a result, the hospital operated in only a partial format for several weeks until the restoration of the computer infrastructure. As a result of the event, the hospital was forced to work manually during this period. The number of elective procedures was cut back and new patients were referred to other medical centers.[87,88]

- **Cyber attack on the CyberServe internet hosting company**

In October 2021, the servers of the CyberServe internet hosting company were infiltrated by a group of attackers who called themselves the Black Shadow. As a result,

[85] https//: www.rbnz.govt.nz/our-response-to-data-breach.
[86] https: //www.bleepingcomputer.com/new/security/cyberatttack-shuts-down-ecuadors-largest-bank-banco-pichincha/
[87] https: //hy.health.gov.il/?CategoryID=25&ArticleID=9110
[88] Yuval Neeman Workshop for Science, Technology and Security, Tel Aviv University – Cyber Policy and Security Report – October 2021. [Hebrew]

the sites hosted by the company were shut down and data of some of the companies hosted on its servers was leaked. Among the companies affected by the event were Mor Medical Center, the Atraf site (a dating service for the LGBT community), and the Pegasus tourism company.[89,90]

In addition to these events, there were a number of major weaknesses revealed in 2021:

- **The Microsoft Exchange weakness** In March 2021, the Microsoft company published special security updates for Exchange servers. The updates were meant to, among other things, deal with Zero Days[91] vulnerabilities, which apparently were being exploited by attackers.[92,93]
- **The Log4Shell weakness** was discovered in December 2021 in a commonly used Java-based open source library called Log4j. The weakness allows attackers to run code remotely on servers that use the library without identifying themselves. This threat was considered to be so serious that it received the highest level of severity (CVSS 10), which is assigned only to weaknesses that are very easy to exploit and that create a high level of risk. The attempts to exploit this weakness in order to carry out attacks appear to have begun only one day after it was announced.

Against this background, the banks and credit card companies continued this year to invest efforts in preparing for events and the risks they involve, while focusing on defense against sophisticated and determined attackers, including ongoing modification of their defenses to meet new and developing threats. This is in accordance with, among other things, regulatory requirements, with emphasis on early detection and the ability to respond and recover quickly, in addition to efforts invested in prevention and minimizing the damage from a cyber attack once it occurs.

The banking corporations and credit card companies continue their constant preparation for dealing with cyber events.

Looking toward 2022, we expect that cyber risk will remain at a high level. The number of potential targets will continue to grow, in view of, among other things, the increasing adoption of work-from-home arrangements, alongside the adoption and promotion of innovation and digitization in the banking system, including a growing presence on the cloud. In view of the trends in cyber attacks observed in previous years, and in 2021 in particular, we expect that the threat will continue to intensify also from the attackers' viewpoint. This includes a continuing upward trend in both the number of events and their sophistication; the exploitation of weaknesses

[89] https://www.gov.i./he/departments/news/lead+recommendations

[90] Yuval Neeman Workshop for Science, Technology and Security, Tel Aviv University – Cyber Policy and Security Report – October 2021. [Hebrew]

[91] A weakness for which there is no security patch. This situation allows attackers to infiltrate computer systems or systems that include computers without encountering any barriers or obstacles since the producer of the software has not put in place the necessary protection.

[92] https://msrc-blog.microsoft.com/2021/03/05/Microsoft-exchange-server-vulnerabilities-mitigations-march-2021/

[93] https://www.crn.com/news/security/hackers-abusing-microsoft-exchange-server-vulnerabilites-huntress

(recognized or unrecognized), including their rapid exploitation in order to carry out attacks; the presence of a diversity of attackers from the viewpoint of abilities and intentions, including state players; and continued exploitation of the supply chain as a vector of attack. Furthermore, we expect an increase in activity designed to improve preventative and response capabilities among government organizations, as well as state enforcement by means of, among other things, indictments and arrests. An example of this is the establishment of the Ransomware Task Force, which was announced by the White House in 2021. This is a broad-based international coalition of industry, government and enforcement organizations whose goal is to create a comprehensive framework to fight ransom attacks.[94]

Organizations must continue their defense efforts while minimizing targets of attack as much as possible. They must constantly evaluate the development of threats and opportunities and tailor their defense efforts accordingly. This is in addition to the understanding that completely eliminating the threat is not feasible and as a result emphasis must be placed on identifying, responding to and managing an event rapidly and with determination.

The Banking Supervision Department is continuing its supervisory activities regarding cyber risk in a system-wide manner and through various means, while implementing a range of supervisory tools that could lead to an improvement in the level of cyber protection in the banking system, with an emphasis on the readiness and resilience of the banking corporations and credit card companies against cyber threats.

g. Money laundering and compliance risk

Major economies have invested an increasing amount of effort in recent years to fighting unreported capital and tax evasion, including intensive activity to locate money held in countries outside the country of residence. Accordingly, there are increasing legal obligations imposed on the banks to examine the banking activity of their customers, with the goal of identifying suspicious activities, reporting them and in certain cases preventing them. Banks that do not act as required of them by law are subject to major fines and sanctions. As a result, there has been increasing friction between the banks and some of their customers, since as a result of the aforementioned legal obligations the banks

Measures implemented by the Banking Supervision Department in the cyber domain

The Banking Supervision Department continued its regulatory activities using a variety of regulatory tools, with the goal of improving the level of cyber defense in the banking system. This included emphasis on the preparedness and resilience of the banks and credit card companies in the face of cyber threats. Among the measures taken in 2021: 1. Improving and strengthening of cooperation between the National Cyber Directorate and the Financial Cyber Center with the goal of upgrading the national cyber response provided to the banking system. This includes the use of a tool that was made accessible to the Banking Supervision Department by the National Cyber Directorate and that provides a picture of the level of cyber defense and information security in supervised entities, as viewed from the outside.

[94] http://securityandtechnology.org/ransomwaretaskforce/report/
https://www.politico.com/new/2021/07/14/white-house-ransomware-task-formce-499723

2. Increased sharing of information and data in order to reduce risk and increase the level of protection in the banking system (by means of, among other things, meetings of the sectoral professional cyber defense forum) and the sharing of information and data on cyber defense with parallel regulatory bodies in Israel and abroad. 3. Completion of the development of evaluation tools that can provide a current and up-to-date picture of the level of cyber defense in the banking system and its introduction among supervised entities. 4. Examination and evaluation activities among the banks in Israel with respect to cyber security and in particular in focal points with increased cyber risk. 5. Involvement in supervisory revisions related to cyber defense (including cloud computing; modifications for new banks; reporting of a major cyber event; etc.).

One of the activities carried out by the Banking Supervision Department in order to reinforce the level of cyber security in the banking system is the planning, implementation and execution of a systemic cyber simulation exercise for the banking system's CEOs. The simulation, which was implemented in the format of a roundtable and that simulated a developing cyber event with increasing severity, took place on April 5, 2022. It was organized by the Supervisor of Banks and was attended by the CEOs of the banking system. Also participating in the simulation were representatives of the National Cyber Directorate, including the head of the Directorate, a representative of the Center for Financial Continuity in the Ministry of Finance and additional representatives from the Bank of Israel. Also participating were senior representatives of the banking system who assisted the bank CEOs during the consultation stages, as part of the rounds to introduce the scenarios included in the simulation. The main goal of the simulation was to formulate broad conceptual directions for response while taking into account the various issues and dilemmas that the CEOs are likely to face during a cyber event, on the level of the individual bank and/or on the level of the banking system as a whole. This also included sharing of information, brainstorming and crosspollination between the participants. And indeed, the discussions that took place as part of the simulation dealt with the issues and dilemmas related to the ability of an individual bank and of the banking system as a whole to deal with a major cyber event. Some of these issues and dilemmas require further study and clarification on the level of the individual banks, on the level of the banking system as a whole, and on the national level.

In addition, the Banking Supervision Department continuously monitors events and developments in the domain of cyber security in Israel and abroad and has tracked a number of events in the banking system. These include attacks that attempted to block service and attempts to defraud banking customers, as well as the banking system's efforts to deal with weaknesses in information security that became public during the year (the Exchange weakness and the Log4Shell weakness). It has worked to share relevant information and data about major events in real time among entities in the banking system, including analysis of potential implications for the banking system, such as in the case of the ransom attack on the Hillel-Yaffe Hospital.

are carrying out more intensive Know Your Customer efforts and are more actively seeking explanations for funds transferred to and from their customers' accounts.

In 2020, the Financial Action Task Force (FATF)[95] requested that Israel update the national risk assessment in the area of money laundering and terror financing which was last carried out in 2017. In this context, each financial regulator was asked to carry out an update of the risk assessment for the entities that it supervises. The Banking Supervision Department evaluated the main focal points of risk—both existing and emerging—to which the banking system is exposed in the context of money laundering and terror financing. The findings of the risk evaluation were published in November 2021.[96]

In line with the FATF requirement, the Banking Supervision Department formulated an assessment of risk rating for the main existing and developing focal points of AML/CFT risk to which the banking system is exposed.

h. Conduct risk

An organizational culture that is fair towards customers is the basis for ensuring equitable and high-quality customer service in the Israeli banking system. There is a direct link between fairness and the public's trust in the banking system and therefore one of the Banking Supervision Department's objectives is fairness—"the assimilation of a fair culture toward customers that is inclusive and influential".

The reinforcement of fairness is at the core of relations between the banks and their customers and as such, it is at the focus of endeavor for the Banking Supervision Department, including adjustment to a changing environment and technological developments in the banking world.

The Banking Supervision Department views banking fairness as a value in and of itself, one that is to be maintained and nurtured based on an approach of placing the customer at the center of banking activity. The result of encouraging fairness is to reduce the risk of unfair behavior towards the customer. Conduct risk is the result of unacceptable behavior on the part of the bank or of negligence, including behavior of its workers and outsourcing suppliers that does not necessarily constitute a violation of the law but may bring about an undesirable outcome for the bank's customers as the result of unfair behavior or the providing of inappropriate service. The realization of this risk is liable to expose the bank to financial losses as a result of damage to its reputation and the trust of its customers and to legal claims that might be brought against it. The Banking Supervision Department may also take measures against it, including the imposition of financial sanctions or other steps.

As part of the approach of placing the customer at the center of banking activity, the Banking Supervision Department is working to enhance fairness and prevent improper conduct of the banking corporation that is liable to lead to an undesired result vis-a-vis its customers.

[95] The FATF is a leading international organization that establishes international standards for the war on money laundering and terror financing and which periodically monitors their implementation in the various countries.

[96] https://www.gov.il/he/departments/General/risk-nra

Conduct risk is defined by the Financial Services Authority (FSA) in the UK as "the risk that firm behavior will result in poor outcomes for customers".[97]

A different definition of conduct risk was given by the European Banking Authority (EBA). It relates to conduct risk "as the current or prospective risk of losses for an institution arising from an inappropriate supply of financial services, including cases of willful or negligent misconduct".[98]

Sources of conduct risk:

1. Asymmetry of information between the bank and its customers.
2. Differences in bargaining power between a bank and its customers.
3. Conflict of interest between the good of the bank and the good of the customer.

Guidelines for the protection of the financial consumer

In October 2011, the G20 and the OECD published 10 guidelines that constitute guidelines for responsible business behavior by financial service providers. The goal of these guidelines is to reinforce the protection of consumers of financial services by means of developing accepted and authoritative international rules (herein: the guidelines). These guidelines essentially provide the basis for the management of conduct risk.[99]

In 2016, an additional guideline was added for financial inclusion in digital banking.[100] The OECD is currently working on a revision of the guidelines, more than a decade after they were published. The new version is expected at the end of 2022.

The guidelines have since then constituted the most advanced standard for appropriate conduct toward consumers and include the following:

1. A legal, regulatory and supervisory framework.
2. The role of oversight bodies.
3. Equitable and fair treatment of consumers.
4. Disclosure and transparency.
5. Financial education and awareness.
6. Responsible business conduct of financial service providers and authorized agents.
7. Protection of consumer assets against fraud and misuse.
8. Protection of consumer data and privacy.
9. Complaints handling and redress.
10. Competition.

Accordingly, the supervisory expectation is that apart from compliance and regulation, the bank will assimilate values that promote a culture of fairness toward its customers. This includes the following values, which are at the center of banking fairness and bank-customer relations:

- The right to hold a bank account.

[97] Retail Conduct Risk Outlook, 2011, p. 3.
[98] EU-wide stress test: Frequently Asked Questions, page 42021.
[99] G20 High-Level Principles in Financial Consumer Protection, Oct. 2011.
[100] ibid. https://www.gpfi.org/publications/g20-high-level-principles-digital-financial-inclusion

- Protection of special populations.
- Equity in providing banking services.
- Fair advertising and marketing.
- Effective disclosure and transparency
- Professional and accessible service.
- Protection of information privacy.
- Protection against fraud.
- Responsible business behavior.

These guidelines essentially constitute the basis for the fair behavior expected from financial corporations and reflect the Banking Supervision Department's approach in the realm of consumer protection in banking. This approach is intended to create a uniform consumer language and its goal is to raise the awareness of banks to conduct risk and to evaluate the banks on that basis.

i. Business continuity risk

The banking system plays a central role in financial intermediation and the advancement of economic activity. This includes the proper functioning of the payment and settlement systems, the providing of banking services to the public, and the importance of the public's confidence in the ability of the banking system and preserving its reputation. Furthermore, the banking system is exposed to a variety of threats with potential to disrupt business activity, including war, earthquakes, cyber attacks, employees' strikes, etc.

Based on its centrality, the banking system must ensure its resilience to significant threats and operational disruptions. This subject is dealt with in Proper Conduct of Banking Business Directive no. 355, which defines the principals of business continuity management that expected of the banking corporations. Additional supervisory guidelines were set out in circulars and letters distributed within the banking system from time to time.

The COVID-19 pandemic that began in early 2020, as well as Operation "Guardian of the Walls" in May 2021, emphasized the importance of the banks' functional continuity and business continuity and also led to the acceleration of processes and innovation to ensure their stability and that they meet the desired service targets.

The Banking Supervision Department has focused on promoting the preparations for an emergency in the banking system and on its own involvement in a national emergency. Thus, alongside the response to the COVID-19 pandemic, the Banking Supervision Department has been involved in the following activities, among others:

- An examination of the banking corporations' business continuity in order to evaluate the preparedness of the banking system for an emergency. This was done according to a specification written by the Banking Supervision Department. The findings of the examination point to a satisfactory level

Alongside dealing with the COVID-19 crisis, the Banking Supervision Department focused on promoting emergency preparedness of the banking system and of the Banking Supervision Department, and the integration of the Banking Supervision Department in the preparation for national emergency events.

of preparedness for an emergency in the banking system, which is reflected in, among other things, the fulfilment of most of the directives. Specific and system-wide lacunae were communicated to the banks.

- The formulation of a framework for the banking system's preparedness in the case of an earthquake, based on the national reference scenario. This involves a description of possible events and developments that are expected to cause an operational and/or business-related negative impact to the banking system. The preparatory framework was distributed among the banking corporations as a basis for planning their preparedness and their response to a scenario of this type.
- Formalization of a work procedure between the banking system and the Emergency Division in the Ministry of Economy with respect to essential workers. Human resources are an integral part of the corporation's ability to maintain business continuity in an emergency. In various types of emergencies, the availability of workers may be compromised for various reasons, such as the callup of reserve soldiers, restrictions on movement, etc. The goal of the procedure is to help clarify the status of essential workers in an emergency with the goal of maintaining business processes that are essential to the public.
- Participation in various emergency simulation exercises—In February 2021, the Banking Supervision Department participated in a simulation exercise called Agam 21, which was organized by the Currency Department of the Bank of Israel. It examined the functioning of the banking system with regard to the providing of cash during an earthquake. At the end of 2022, there will be a national exercise that will also center around an earthquake event.
- An audit by the National Emergency Authority examined the functioning of the Bank of Israel and the Banking Supervision Department (the financial authority) in an emergency involving the Bank of Israel and the banking system. The audit team found that the Bank of Israel and the Banking Supervision Department in its function as regulator are well-prepared to ensure the functional continuity of the Bank of Israel and the banking system in various emergency situations, including the achievement of targets and maintenance of financial services and the support of national service objectives.
- Essential facilities—The Banking Supervision Department, as the financial authority, has worked to have the banks and other essential suppliers approved as essential enterprises.

The activity of the Banking Supervision Department in emergency situations during 2021

The COVID-19 pandemic—During 2021, there were three outbreaks of the COVID-19 pandemic. Following an increase in infection, the government decided to take various steps in response, including tighter restrictions on movement in the public domain and the reducing of customer reception hours in public places and places of business. Nonetheless, and since the banking system provides essential services, the Banking Supervision Department issued various exemptions and instructions with the goal of maintaining the health of bank employees and the health of the public. These included a reduction in the activity of the branches and changes in the branches' hours of business, as well as the provision of services in the branches by appointment and the availability of service in the branch.

Operation Guardian of the Walls—In May 2021, Israel launched a military campaign in the Gaza Strip that was accompanied by violence and social disorder in the mixed cities within Israel. As part of managing the event, the Banking Supervision Department instructed the banking system as to the work format to be maintained during the operation, and in particular the activity in the branches, in order to comply with the policy of the Home Front Command at that time. At the conclusion of the operation, the Banking Supervision Department was part of the process to examine the lessons to be learned.

7. THE CREDIT CARD COMPANIES

The rapid recovery of the economy and of private consumption in particular following the pandemic were reflected in a substantial increase in the volume of acquiring by the credit card companies in Israel, an increase in transactions abroad, and an increase in credit provided by the credit card companies. Yet at the same time, the environment in which the credit card companies operate is changing rapidly. The increased competition in the core activities of the credit card companies (payments, issuance and clearing of credit) is being felt by various market players, with varying levels of intensity. Furthermore, there are developments in regulation and technology, structural changes and changes in consumer preferences and behavior that are having an impact on the business activity of credit card companies and in their business results.

The structure and trends in assets and liabilities, profitability and capital adequacy

The balance sheet

The total balance sheet of the credit card companies contracted in 2021, which is mainly explained by the start of daily basis clearing.

The total balance sheet of the credit card companies was approximately NIS 51.1 billion, a decline of about 10 percent relative to the end of 2020, when the total balance sheet was about NIS 56.5 billion (Table 20). The contraction of the balance sheet in 2021 is explained primarily by the directive issued by the Commissioner of Competition on July 1, 2021 regarding the transition to monetary clearing on a daily basis between an issuer and an acquirer (herein: **daily basis clearing**). In compliance with the directive, the banks began transferring the proceeds from transactions to the credit card companies with which they have a joint issuing arrangement on a daily basis, so that it could be transferred to the acquirers. Accordingly, the introduction of daily basis clearing affected the balance sheet as follows (Table 20): a decrease on the assets side which was the result of the reduction in accounts receivable on credit cards guaranteed by the banks, part of which was offset by the growth in cash balances and bank deposits; a decrease on the liabilities side that was the result of the lower average usage of companies' bank credit lines, that is, a reduction in credit from the banks.

The balance sheet contracted despite the growth in core activities of the credit card companies in 2021: the volume of transactions carried out by credit card and cleared by the credit card companies, as well as growth in the interest-bearing credit portfolio.

The decrease in the total balance sheet resulting from daily basis clearing was offset by growth in the credit card companies' core activities (Table 20). On the assets side, there was an increase in the rate of growth of accounts receivable on credit cards guaranteed by the credit card companies[101], which can be explained by both the natural increase in private consumption and the continuing increase in preference among consumers to carry out payments using credit cards rather than other means of payment (Figure 1.57). In addition, interest-bearing credit also grew, as described later in this section, which was part of the credit card companies' strategy to expand this activity. On the liabilities side, there was an increase in accounts payable due to credit account activity, which was the result of an increase in the volume of the companies' volume of clearing relative to the previous year.[102]

Profitability

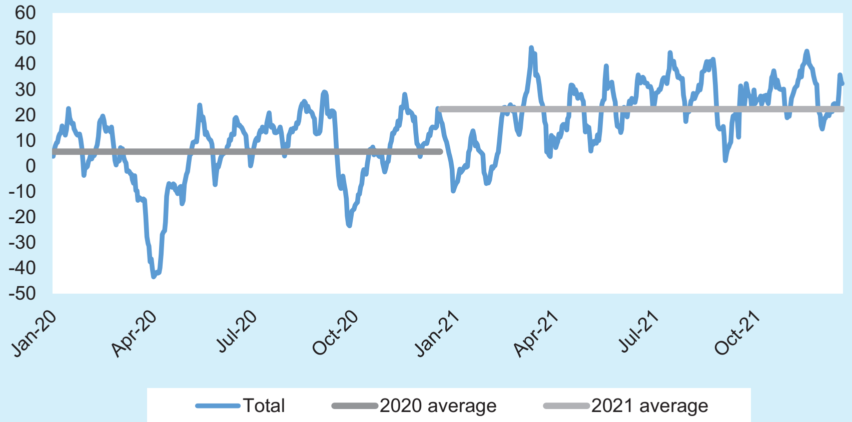
The economic recovery and the adjustment to life in the shadow of the coronavirus crisis had a positive effect on the profitability of the credit card companies. Their net profit during 2021 was about NIS 0.7 billion, which reflects a rapid rate of growth (about 142 percent) relative to 2020, which was adversely affected by the pandemic due to the large increase in the credit loss provisions, among other things (Figure 1.58). The significant growth in net profit in 2021 led to an

[101] These amounts are the result of transactions using non-bank credit cards.
[102] These amounts are mainly liabilities owned to businesses as part of the clearance activity.

improvement in the return on equity for all of the credit companies, which stood at about 11.5 percent at the end of 2021, compared to about 5.6 percent at the end of 2020 (Figure 1.59). Note that the profitability of the credit card companies in the years before the pandemic was affected by events of a one-off nature in the case of some of the credit card companies (such as grants to employees as a result of the sale of a company, the signing of new operating agreements, etc.). An analysis of the credit card companies' main income components appears later in this section.

The volume of credit card activity grew in 2021.

Figure 1.57
Change in Credit Card Expenditures, Equivalized to Activity Days, January 2020–December 2021 (percent)



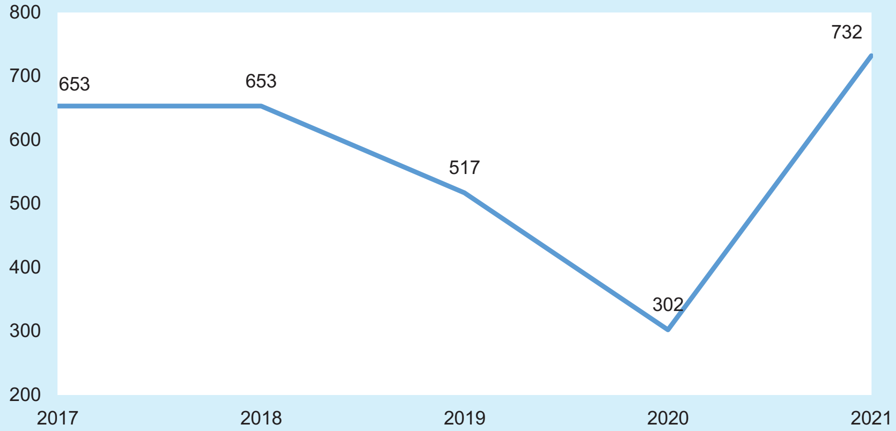
SOURCE: Based on data from SHVA and Bank of Israel calculations.

Capital adequacy

During 2021, the Tier 1 Capital Ratio increased by about 1.2 percentage points to about 13.9 percent at the end of the year (Figure 1.60), which encompassed all of the credit card companies. The source of this increase is the growth in total Tier 1 Capital by a rate of 13.2 percent during 2021 (compared to a decline of about 1 percent during 2020), which is explained by, among other things, the increase in net profit during 2021. The growth in the Tier 1 Capital Ratio occurred despite the increase of about 3.5 percent in total risk assets, particularly credit risk assets, and in spite of the distribution of dividends by some of the companies at a rate of about 25 percent of total net profit during the period.

Credit card companies' net profit increased, and is the highest in recent years. This follows the direct impact of the COVID-19 crisis in 2020.

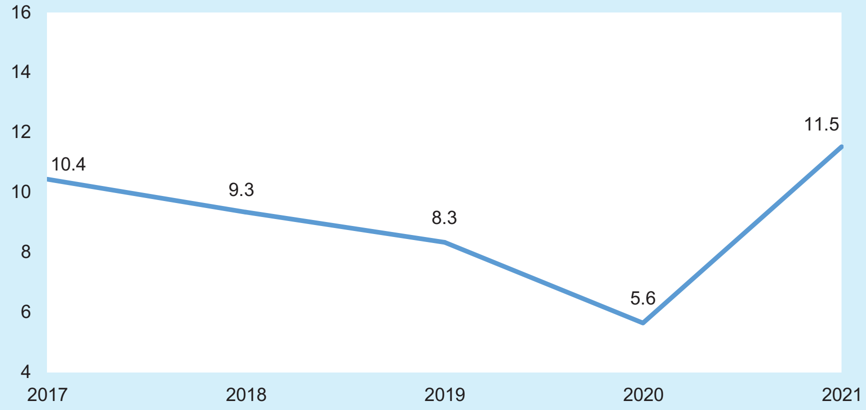
Figure 1.58
Credit Card Companies' Net Profit Attributed to Shareholders, 2017–2021 (NIS million)



SOURCE: Based on the credit card companies' published financial statements.

Return on equity increased in 2021, after deciling gradually in recent years.

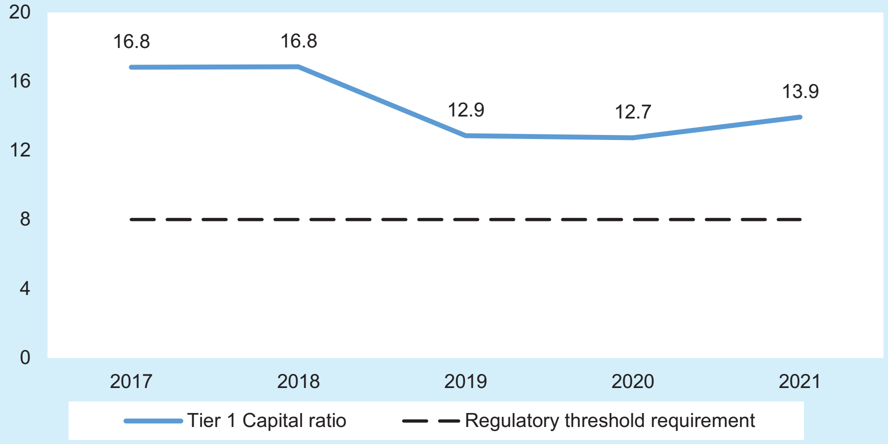
Figure 1.59
Credit Card Companies' Return on Equity, 2017–2021 (percent)



SOURCE: Based on the credit card companies' published financial statements.

The Tier 1 Capital ratio recovered in 2021, with all credit card companies above the regulatory threshold requirement.

Figure 1.60
Credit Card Companies' Tier 1 Capital Ratio, 2017–2021 (percent)



SOURCE: Based on the credit card companies' published financial statements.

Credit card activity

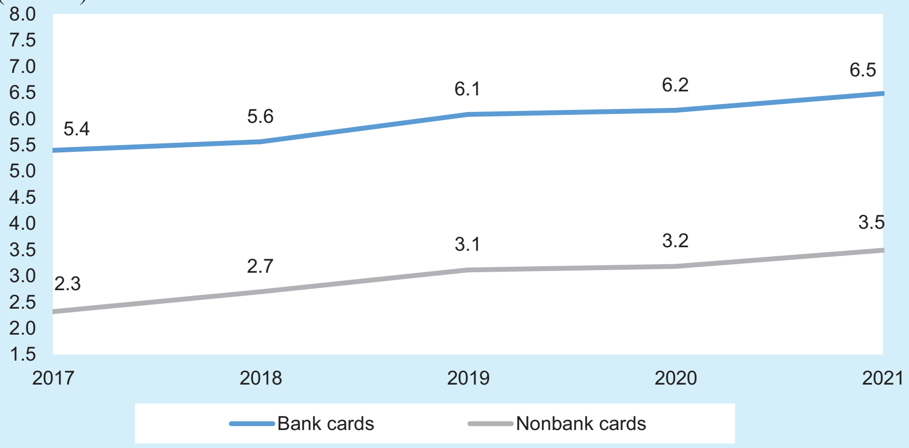
Credit card activity constitutes the main income source of the credit card companies. The number of active credit cards has grown consistently in recent years and as of the end of 2021, it had reached about 10 million. The growth in the number of credit cards occurred in both bank credit cards and non-bank credit cards (Figure 1.61), which increased in 2021 by about 5 percent and 10 percent, respectively. The more rapid increase in non-bank credit cards was also accompanied by a more rapid increase in the volume of transactions carried out using non-bank credit cards (Figure 1.62) although about 75 percent of credit card transactions are still carried out using bank credit cards. The rapid rates of growth in the case of non-bank cards, with respect to both number of cards and volume of transactions, may be the result of a number of developments, including: efforts by the credit card companies to expand their customer base and their total income from issuance activity; customer preferences; and the implementation of the Strum reform which reduced the credit card credit lines of Bank Hapoalim and Bank Leumi.[103]

The number of both bank cards and nonbank cards increased relative to 2020. The more rapid increase in the number of nonbank cards comes together with faster growth in the volume of transactions carried out via nonbank cards, though about 75 percent of credit card transactions are still with bank cards.

[103] According to the Law for Increasing Competition and Reducing Concentration in the Banking Market in Israel (amendments – 2017 [the Law]). The Law states that, from January 31, 2021 until January 31, 2024, the total credit card credit lines of a large bank's customers will not exceed 55 percent of total credit lines as of 2015, which is liable to reduce the total credit lines of the large banks, in the case that customers whose credit card credit lines were reduced in size—as part of the reform—were issued a non-bank credit card in order to obtain additional credit beyond their bank credit card credit line.

The number of active cards has grown consistently in recent years, while nonbank cards grew more rapidly than bank cards in 2021.

Figure 1.61
Active Cards Issued by Credit Card Companies, December 2017–December 2021
(million)



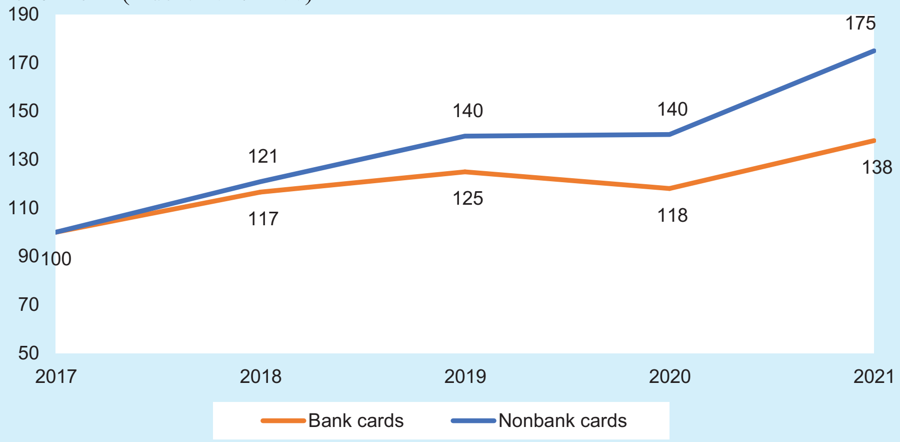
SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

Most of the revenue growth at credit card companies is due to the economy's recovery, which led to an increase in activity, as well as due to growth in transactions abroad, compared to 2020.

The total income of the credit card companies from credit card transactions in 2021 was about NIS 4.3 billion, an increase of about 15 percent relative to 2020 when income was particularly low due to the effect of the pandemic on the volume of acquiring. This income is made up of income from credit card holders (income from issuance) and fees paid by merchants (income from acquiring). The total income from issuance in 2021 stood at about NIS 2.1 billion, compared to NIS 1.7 billion in 2020 (an increase of about 23 percent; Figure 1.63). The main part of the increase was the result of the economic recovery, which resulted in an increased volume of activity and the growth of transactions abroad. Total income from clearance in 2021 stood at about NIS 2.2 billion, as compared to NIS 2 billion in 2020 (an increase of about 9 percent; Figure 1.63) which was in spite of the continuing gradual decline in the average clearing fee in recent years (Figure 1.64).

The volume of transactions using nonbank credit cards grew very rapidly in 2021, but the volume of transactions using bank cards remains the more dominant of the two.

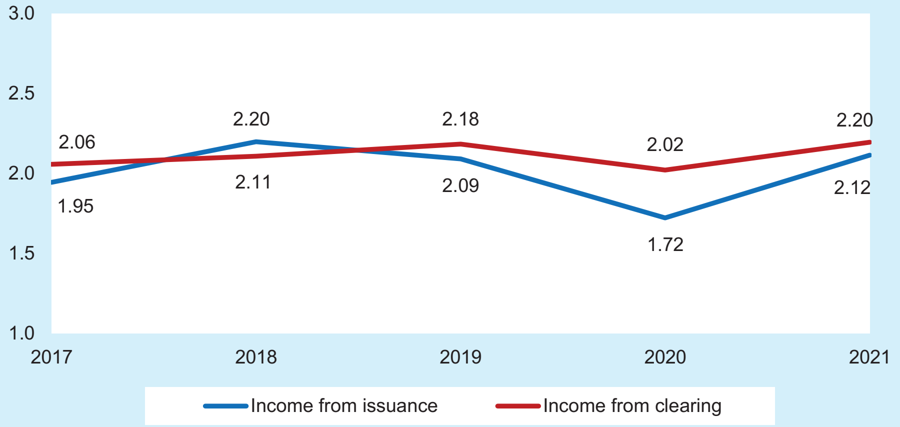
Figure 1.62
Development of the Volume of Bank and Nonbank Credit Card Transactions, 2017–2021 (index: 2017=100)



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

The economic recovery in 2021 also led to a recovery in the volume of credit card companies' income from issuance and clearing activity.

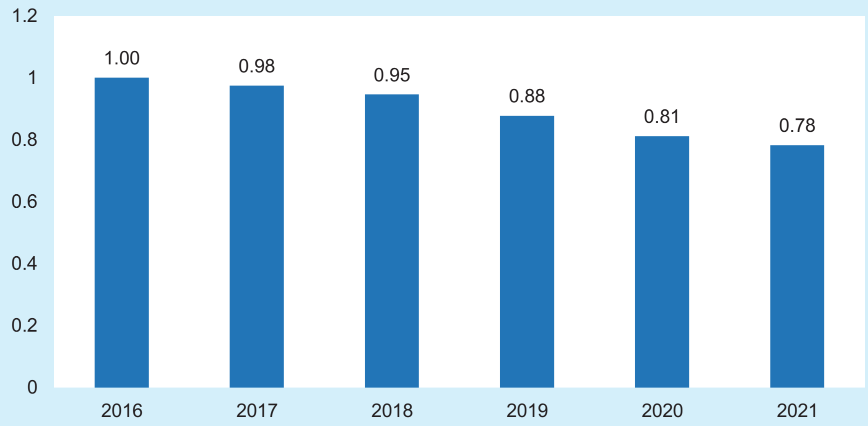
Figure 1.63
Development of Income Components from Credit Card Transactions, December 2017–December 2021 (NIS billion)



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

The downward trend in the average clearing fee continued in 2021.

Figure 1.64
Total Average Clearing Fees in Israel, December 2016–December 2021 (percent)



SOURCE: Based on the credit card companies' published financial statements.

Credit

Credit to individuals

The balance of credit to private individuals increased significantly during 2021, both among credit card companies and in the total banking system (including credit card companies).

Total credit to individuals[104] grew by about 11.5 percent in 2021 (to about NIS 1.7 billion) relative to 2020, during which it declined by about 3.2 percent as a result of the pandemic and the economic slowdown (Figure 1.65). For purposes of comparison, the rate of growth of other consumer credit in the banking system was about 3.9 percent[105], an increase of about NIS 4.1 billion. This represents a significant increase, with respect to both the rate of increase and the amount, which occurred both among the credit card companies and in the banking system as a whole (including the credit card companies). Credit provided to individuals by the credit card companies includes a variety of credit products, which primarily include loans, revolving credit,[106] car loans, and credit transactions.

[104] In this analysis, credit to individuals relates to interest-bearing credit provided by the credit card companies to individuals.

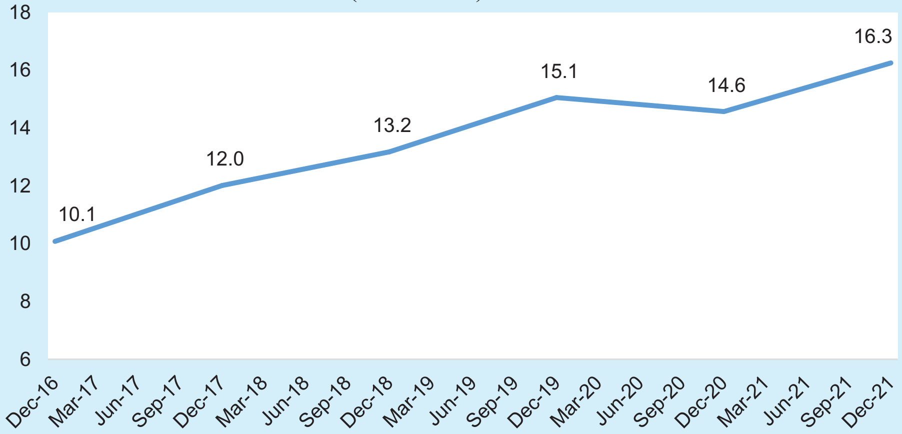
[105] According to the supervisory segments of activity, without housing and without credit cards. Other consumer credit in the banking system is parallel to credit to individuals provided by the credit card companies.

[106] Revolving credit: A credit line is predetermined for use by a cardholder. On the monthly payment date, the cardholder can choose to pay only part of the debit and the unpaid balance is deferred to the following month. The customer pays interest on the deferral of payment; hence it is "revolving credit".

The main part of the increase is due to credit to individuals, which explains about 60 percent, where both revolving credit and car loans also experienced growth, such that they account for 28 percent and 12 percent, respectively, of the total increase in the portfolio of credit to individuals.

The credit card companies' credit portfolio resumed its growth in 2021, following negative growth in 2020.

Figure 1.65
Development of Total Credit to Individuals, Total Credit Card Companies, December 2016–December 2021 (NIS billion)



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

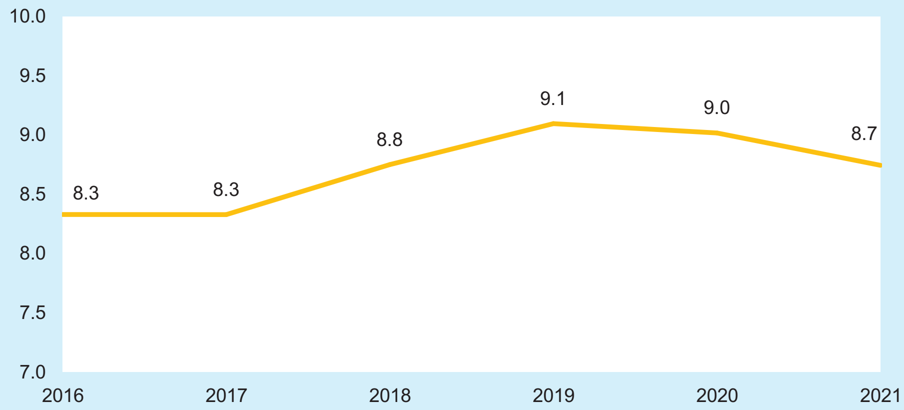
In 2021, the average interest rate on credit to individuals provided by the credit card companies was about 8.7 percent, which has been on a downward trend over the past two years (Figure 1.66). This is higher than the parallel rate among the banks, where the main difference between the credit card companies and the banking system, in this context, can be explained by the following: asymmetry of information (although this gap has narrowed in part due to the increased use of the credit data system by the credit card companies); differences in the cost of raising capital; differences in the type of credit and in the type of customer, as reflected in the quality indices of the credit card companies' credit portfolio compared to those of the banking system's credit portfolio, which is characterized by a higher credit loss rate (Figure 1.67).

During 2021, there was a recovery in the main credit quality indices of the credit card companies, particularly in comparison to 2020, which was characterized by increased provisions as a result of the pandemic. The rate of the credit loss allowance within total credit to individuals at the end of 2021 was in the vicinity of the rate prior to the pandemic and fell relative to the rate of 4.7 percent at the end of 2020 (Figure 1.67).

There was also a significant improvement in the net charge-off rate within the total consumer credit portfolio during 2021, which stood at about 0.8 percent. This is about half the rate at the end of 2019, which was prior to the onset of the pandemic.

The average interest rate among credit card companies has declined in recent years.

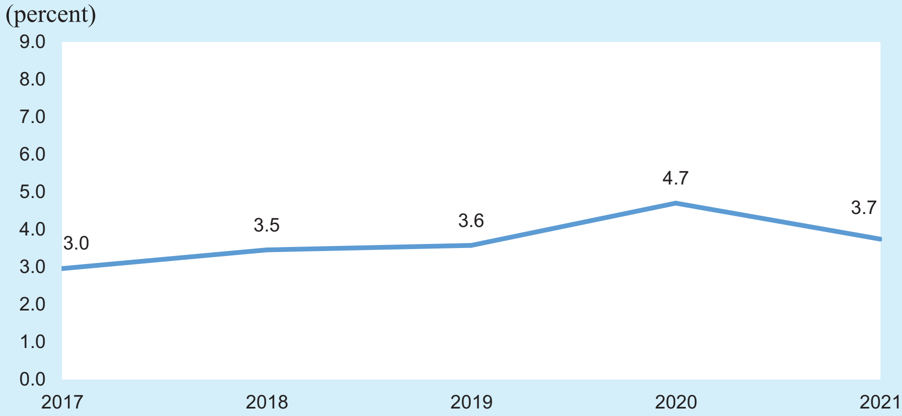
Figure 1.66
Average Annual Interest Rate in the Credit Portfolio to Individuals, Total Credit Card Companies, December 2016–December 2021 (percent)



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

The loan loss allowance as a share of total credit to individuals recoverd, although it is higher than before the crisis.

Figure 1.67
Loan Loss Allowance in Respect of Individuals as a Share of Total Credit to Individuals, Total Credit Card Companies, December 2017–December 2021 (percent)



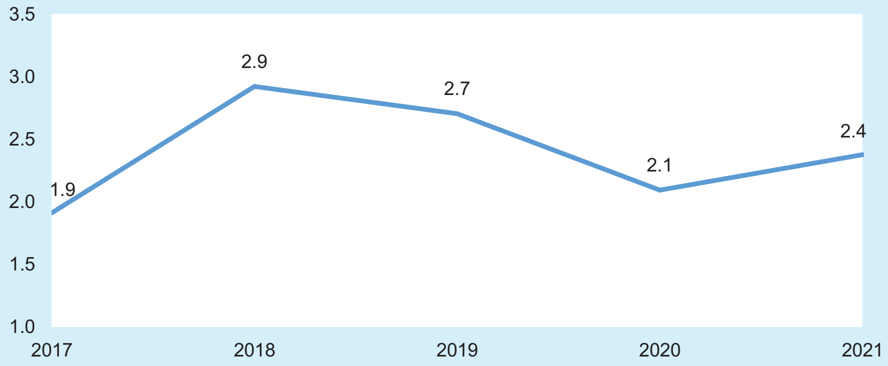
SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

Commercial credit

The providing of commercial credit remains at low levels relative to the rest of the components of the credit portfolio, although the years prior to the pandemic were characterized by relatively high rates of growth of this component. Most of the commercial credit provided by the credit card companies is to businesses that carry out acquiring with the company. In 2021, the portfolio of commercial credit grew by about 14 percent, reaching about NIS 2.4 billion at the end of the year. This encompassed all of the credit card companies (Figure 1.68).

The credit card companies' commercial credit portfolio grew in 2021, but its volume at the end of the year remained lower than at the end of 2019.

Figure 1.68
Development of the Credit Card Companies' Commercial Credit Portfolio, December 2017–December 2021 (NIS billion)



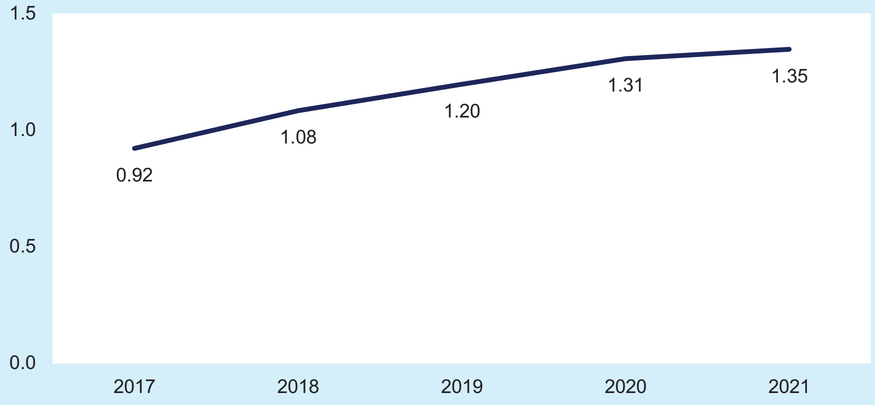
SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

Interest income from credit

The increase in the size of the credit card companies' credit portfolio (credit to individuals and commercial credit) led to consistent growth in net interest income, where the rate of growth in this type of income was relatively low at the end of 2021 and stood at about NIS 1.3 billion, an increase of only about 3 percent relative to 2020 (Figure 1.69). An examination of the quantity and price effects on interest income and expenses in 2021 relative to 2020 shows that the quantity effect was positive while the price effect was negative.

The credit card companies' net interest income grew consistently in recent years, but grew at a relatively low rate of about 3 percent in 2021.

Figure 1.69
Development of the Credit Card Companies' Net Interest Income, December 2017–December 2021 (NIS billion)



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

Table 1.1
Principle banking system indices, 2013–21

	Common Equity Tier 1 capital ratio[a] (percent)	Leverage ratio[b] (percent)	ROE (percent)	Efficiency ratio[c]	Liquidity coverage ratio[d,h] (percent)	Rate of change in balance-sheet credit to the public (percent)	Ratio of bank credit to GDP (percent)	Ratio of credit to deposits (percent)	Annual loan loss provision to total credit to the public (percent)	Herfindahl-Hirschman Concentration Index (HHI)[e,h]	Average yield spread between bonds of the banks and government bonds[f,h] (percentage points)	Ratio of market value to book value[g,h] (MV/BV)
2013	9.4		8.6	69.3		1.1	81.5	0.88	0.25	0.201	0.9	0.84
2014	9.3		7.1	72.8		3.2	80.3	0.85	0.16	0.204	0.9	0.77
2015	9.7[i]	6.3	9.0	67.0	113	4.4	80.0	0.83	0.11	0.204	0.9	0.69
2016	10.7	6.5	8.1	66.9	138[i]	2.6	78.1	0.81	0.10	0.203	0.8	0.83
2017	10.9	6.7	8.7	65.1	126	3.5	77.5	0.81	0.14	0.202	0.7	0.91
2018	10.8	6.8	8.4	64.9	129	3.8	76.7	0.82	0.22	0.207	0.9	0.95
2019	11.2	6.9	7.8	61.5	126	4.3	75.6	0.84	0.29	0.203	0.6	0.69
2020	11.1	6.2	5.9	58.3	137	7.5	82.2	0.75	0.68	0.202	0.6	0.90
2021	10.9	5.8	13.9	54.7	125	13.6	84.2	0.73	-0.25	0.208	0.7	1.16
2020-2021 average	11.0	6.0	9.9	56.5	131.0	10.5	83.2	0.7	0.2	0.2	0.7	1.0

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

[b] Calculated in accordance with Proper Conduct of Banking Business Directive 218.

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

[d] The LCR, developed by the Basel Committee to enhance the short-term resilience of banking corporations' liquidity profiles, indicates the quantity of HQLA (High Quality Liquid Assets) that corporations should hold in order to withstand a significant stress scenario that lasts thirty calendar days. The LCR is composed of two elements. The first, in the numerator, is the inventory of HQLA (High Quality Liquid Assets), which is comprised of two levels of assets. Level 1 includes high quality assets that may be held in unlimited amounts, and Level 2 is composed of assets that are limited to a maximum aggregate holding of 40 percent of the HQLA inventory. (This level is divided into two sublevels: 2A and 2B. At the latter level, the share of assets that may be held is limited to 15 percent.) The second element, in the denominator, 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.

[e] The Herfindal-Hirschman index of industry concentration is based on a standalone calculation of total credit at each bank, and not on a consolidated basis: $\sum_{i=1}^{n}\left(\frac{y_i}{y}\right)^2 =$ where yi = the output of bank i (credit to the public, net) and y = the industry's output.

[f] Average for December of that year.

[g] 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.

[h] Calculated for the entire banking system.

Table 1.2

Distribution of the holdings of bank shares and dividends distributed, total banking system[a], 2020–21

	Holdings by parties at interest as of March 31, 2022	Rate of holdings by the public as of March 31, 2022[b]	Dividends distributed in 2021	Distributed dividends net of holdings by parties at interest	Dividends as a share of net profit
	(percent)		(NIS million)		(percent)
Hapoalim	8.0	92.0	1,479	1,361	30
Leumi	0.0	100.0	1,997	1,997	33
Mizrahi-Tefahot	41.7	58.3	1,236	721	39
Discount	0.0	100.0	144	144	5
First Int'l.	48.4	51.6	545	281	39
B. of Jerusalem	86.6	13.4	15	2	10
Total system	**14.8**	**85.2**	**5,416**	**4,506**	**29**

[a] By bank.

[b] Including holdings through institutional investors.

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

Table 1.3

Main items in consolidated profit and loss statements, total banking system, 2019–21

(NIS millon, at current prices)

	Leumi					Hapoalim					Discount				
	2019	2020	2021	2020–2021a verage	% change in 2020–2021 average compared with 2019	2019	2020	2021	2020–2021a verage	% change in 2020–2021 average compared with 2019	2019	2020	2021	2020–2021a verage	% change in 2020–2021 average compared with 2019
Interest income	11,437	10,175	11,672	10,924	-4.5	11,920	10,260	11,684	10,972	-8.0	7,567	6,987	7,491	7,239	-4.3
Interest expenses	2,596	1,452	1,326	1,389	-46.5	2,601	1,463	1,917	1,690	-35.0	1,674	1,089	962	1,026	-38.7
Net interest income	**8,841**	**8,723**	**10,346**	**9,535**	**7.8**	**9,319**	**8,797**	**9,767**	**9,282**	**-0.4**	**5,893**	**5,898**	**6,529**	**6,214**	**5.4**
Loan loss provisions	609	2,552	-812	870	42.9	1,276	1,943	-1,220	362	-71.7	690	1,718	-693	513	-25.7
Net interest income after loan loss provisions	**8,232**	**6,171**	**11,158**	**8,665**	**5.3**	**8,043**	**6,854**	**10,987**	**8,921**	**10.9**	**5,203**	**4,180**	**7,222**	**5,701**	**9.6**
Noninterest income	**5,081**	**4,366**	**5,511**	**4,939**	**-2.8**	**3,889**	**4,379**	**4,625**	**4,502**	**15.8**	**3,771**	**4,007**	**3,962**	**3,985**	**5.7**
of which: Noninterest financing income	1,686	1,026	1,714	1,370	-18.7	559	1,088	1,081	1,085	94.0	742	1,142	765	954	28.5
of which: Stocks[a]	475	232	841	537	12.9	297	73	612	343	15.3	123	231	398	315	155.7
Bonds[b]	337	428	213	321	-4.9	225	169	202	186	-17.6	158	495	109	302	91.1
Activity in derivative instruments[c]	-1,112	-1,420	-1,303	-1,362	22.4	-1,260	-1,037	-1,430	-1,234	-2.1	-846	-1,001	-807	-904	6.9
Exchange rate differentials	1,971	1,786	1,962	1,874	-4.9	1,288	1,862	1,697	1,780	38.2	1,300	1,414	1,065	1,240	-4.7
of which: Fees	3,225	3,281	3,506	3,394	5.2	3,240	3,155	3,355	3,255	0.5	2,972	2,826	3,125	2,976	0.1
Total operating and other expenses	**7,908**	**7,046**	**7,428**	**7,237**	**-8.5**	**8,776**	**7,501**	**7,803**	**7,652**	**-12.8**	**6,299**	**6,681**	**6,858**	**6,770**	**7.5**
of which: salaries and related expenses	4,325	3,742	4,242	3,992	-7.7	4,108	3,836	4,333	4,085	-0.6	3,343	3,242	3,468	3,355	0.4
Pre-tax profit	**5,405**	**3,491**	**9,241**	**6,366**	**17.8**	**3,156**	**3,732**	**7,809**	**5,771**	**82.8**	**2,675**	**1,506**	**4,326**	**2,916**	**9.0**
Provision for tax on profits	1,830	1,356	3,275	2,316	26.5	1,681	1,590	2,958	2,274	35.3	932	549	1,516	1,033	10.8
After tax profit	**3,575**	**2,135**	**5,966**	**4,051**	**13.3**	**1,475**	**2,142**	**4,851**	**3,497**	**137.1**	**1,743**	**957**	**2,810**	**1,884**	**8.1**
Net profit attributed to shareholders	**3,522**	**2,102**	**6,028**	**4,065**	**15.4**	**1,799**	**2,056**	**4,914**	**3,485**	**93.7**	**1,702**	**975**	**2,773**	**1,874**	**10.1**
Total pre-tax ROE (percent)	**15.04**	**9.47**	**23.00**	**16.52**		**8.10**	**9.71**	**18.76**	**14.41**		**14.77**	**7.88**	**21.22**	**14.76**	
Total after-tax ROE (percent)	**9.80**	**5.70**	**15.00**	**10.55**		**4.62**	**5.35**	**11.80**	**8.71**		**9.40**	**5.10**	**13.60**	**9.49**	
Total ROA (percent)	**0.76**	**0.41**	**0.99**	**0.73**		**0.39**	**0.41**	**0.83**	**0.64**		**0.68**	**0.35**	**0.88**	**0.63**	

Table 1.3 (cont'd.)
Main items in consolidated profit and loss statements, total banking system, 2019–21
(NIS millon, at current prices)

	Mizrahi-Tefahot[d]					First Int'l					Total banking system				
	2019	2020	2021	2020–2021a verage	% change in 2020–2021 average compared with 2019	2019	2020	2021	2020–2021a verage	% change in 2020–2021 average compared with 2019	2019	2020	2021	2020–2021a verage	% change in 2020–2021 average compared with 2019
Interest income	7,711	7,528	10,557	9,043	17.3	3,085	2,878	3,150	3,014	-2.3	43,266	38,350	45,183	41,766	-3.5
Interest expenses	2,371	1,708	2,872	2,290	-3.4	483	241	356	299	-38.2	10,097	6,054	7,608	6,831	-32.3
Net interest income	**5,340**	**5,820**	**7,685**	**6,753**	**26.5**	**2,602**	**2,637**	**2,794**	**2,716**	**4.4**	**33,169**	**32,296**	**37,575**	**34,935**	**5.3**
Loan loss provisions	364	1,050	-278	386	6.0	138	464	-216	124	-10.1	3,154	7,829	-3,278	2,276	-27.8
Net interest income after loan loss provisions	**4,976**	**4,770**	**7,963**	**6,367**	**27.9**	**2,464**	**2,173**	**3,010**	**2,592**	**5.2**	**30,015**	**24,466**	**40,853**	**32,660**	**8.8**
Noninterest income	**1,966**	**2,113**	**2,635**	**2,374**	**20.8**	**1,520**	**1,523**	**1,756**	**1,640**	**7.9**	**16,782**	**16,557**	**18,650**	**17,603**	**4.9**
of which: Noninterest financing income	357	221	401	311	-12.9	225	148	303	226	0.2	3,628	3,699	4,309	4,004	10.4
of which: Stocks[a]	58	51	139	95	63.8	71	-2	233	116	62.7	1,064	587	2,223	1,405	32.1
Bonds[b]	46	133	34	84	81.5	12	28	21	25	104.2	840	1,257	579	918	9.3
Activity in derivative instruments[c]	-1,014	-883	-896	-890	-12.3	-419	-672	-440	-556	32.7	-4,825	-5,014	-4,878	-4,946	2.5
Exchange rate differentials	1,267	920	1,124	1,022	-19.3	561	794	489	642	14.3	6,580	6,778	6,340	6,559	-0.3
of which: Fees	1,535	1,671	1,947	1,809	17.9	1,286	1,371	1,444	1,408	9.4	12,633	12,399	13,480	12,939	2.4
Total operating and other expenses	**3,988**	**4,279**	**5,568**	**4,924**	**23.5**	**2,654**	**2,569**	**2,652**	**2,611**	**-1.6**	**30,891**	**28,484**	**30,761**	**29,622**	**-4.1**
of which: salaries and related expenses	2,562	2,644	3,536	3,090	20.6	1,601	1,532	1,601	1,567	-2.2	16,501	15,181	17,387	16,284	-1.3
Pre-tax profit	**2,954**	**2,604**	**5,030**	**3,817**	**29.2**	**1,330**	**1,127**	**2,114**	**1,621**	**21.8**	**15,906**	**12,540**	**28,742**	**20,641**	**29.8**
Provision for tax on profits	1,029	903	1,730	1,317	27.9	478	368	728	548	14.6	6,085	4,796	10,285	7,540	23.9
After tax profit	**1,925**	**1,701**	**3,300**	**2,501**	**29.9**	**852**	**759**	**1,386**	**1,073**	**25.9**	**9,821**	**7,744**	**18,457**	**13,101**	**33.4**
Net profit attributed to shareholders	**1,842**	**1,610**	**3,188**	**2,399**	**30.2**	**865**	**750**	**1,405**	**1,078**	**24.6**	**9,981**	**7,543**	**18,452**	**12,998**	**30.2**
Total pre-tax ROE (percent)	**19.08**	**15.37**	**24.93**	**20.56**		**16.14**	**12.92**	**22.12**	**17.73**		**13.23**	**9.87**	**21.65**	**15.89**	
Total after-tax ROE (percent)	**11.90**	**9.50**	**15.80**	**12.92**		**10.50**	**8.60**	**14.70**	**11.79**		**8.30**	**5.94**	**13.90**	**10.01**	
Total ROA (percent)	**0.69**	**0.51**	**0.85**	**0.69**		**0.63**	**0.49**	**0.81**	**0.66**		**0.61**	**0.42**	**0.89**	**0.67**	

[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.
[d] Union Bank merged with Mizrahi-Tefahot in the second half of 2020. Therefore, the profit and loss data presented for December 2020 include the data for Union Bank for the fourth quarter of 2020.
SOURCE: Based on published financial statements.

Table 1.4

The effect of quantity[a] and price[b] on interest income and expenses, total banking system, 2020–21

(change compared with the same period the year before, NIS million)

2021	Quantity effect			Price effect			Net change		
	Assets side	Liabilities side	Net quantity effect	Assets side	Liabilitie s side	Net price effect	Assets side	Liabilitie s side	Contribution to net interest income
Credit to the public (assets) / deposits of the public (liablities) in Israel	3,928	451	3,477	3,323	-120	3,443	7,250	331	6,919
Credit to the public (assets) / deposits of the public (liablities) abroad	22	4	18	-190	-366	176	-168	-362	194
Total credit to the public / deposits of the public	**3,950**	**455**	**3,495**	**3,133**	**-486**	**3,619**	**7,082**	**-31**	**7,113**
Other interest-bearing assets / liabilities in Israel	564	492	72	-668	1,128	-1,796	-104	1,620	-1,724
Other interest-bearing assets / liabilities abroad	33	-11	44	-178	-24	-154	-145	-35	-110
Total other interest-bearing assets / liabilities	**597**	**481**	**116**	**-846**	**1,104**	**-1,950**	**-249**	**1,585**	**-1,834**
Total interest income / expenses	**4,547**	**936**	**3,611**	**2,287**	**618**	**1,669**	**6,833**	**1,554**	**5,280**

2020	Quantity effect			Price effect			Net change		
	Assets side	Liabilities side	Net quantity effect	Assets side	Liabilitie s side	Net price effect	Assets side	Liabilitie s side	Contribution to net interest income
Credit to the public (assets) / deposits of the public (liablities) in Israel	1,861	355	1,507	-3,679	-2,574	-1,105	-1,818	-2,220	402
Credit to the public (assets) / deposits of the public (liablities) abroad	-62	2	-64	-774	-595	-179	-836	-593	-243
Total credit to the public / deposits of the public	**1,799**	**357**	**1,443**	**-4,453**	**-3,169**	**-1,284**	**-2,654**	**-2,813**	**159**
Other interest-bearing assets / liabilities in Israel	624	139	485	-1,671	-1,153	-519	-1,047	-1,014	-34
Other interest-bearing assets / liabilities abroad	27	-36	63	-411	-21	-390	-384	-57	-327
Total other interest-bearing assets / liabilities	**651**	**103**	**548**	**-2,082**	**-1,174**	**-909**	**-1,431**	**-1,071**	**-361**
Total interest income / expenses	**2,450**	**460**	**1,990**	**-6,535**	**-4,343**	**-2,193**	**-4,085**	**-3,883**	**-202**

[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 1,000.

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, total banking system, December 2020 to December 2021

(NIS million, percent, in annual terms)

December 2021	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	1,168,356	42,318	3.62	Deposits of the public	1,048,024	-4,403	-0.42	3.20
Deposits at banks	23,681	120	0.51	Deposits from banks	22,687	-50	-0.22	0.29
Deposits at central banks	437,999	434	0.10	Deposits from central banks	29,464	-18	-0.06	0.04
Bonds	218,664	2,127	0.97	Bonds	85,962	-3,101	-3.61	(2.63)
Other assets[a]	16,645	184	1.11	Other liabilities[a]	4,968	-36	-0.72	0.38
Total interest-bearing assets	1,865,345	45,183	2.42	Total interest-bearing liabilities	1,191,105	-7,608	-0.64	1.78
Net yield on interest-bearing assets (net interest margin)[b]	1,865,345	37,575	2.01					

December 2020	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	1,060,726	35,809	3.38	Deposits of the public	943,100	-4,526	-0.48	2.90
Deposits at banks	26,459	195	0.74	Deposits from banks	17,707	-83	-0.47	0.27
Deposits at central banks	292,573	408	0.14	Deposits from central banks	5,826	-7	-0.12	0.02
Bonds	214,049	2,401	1.12	Bonds	93,989	-1,494	-1.59	(0.47)
Other assets[a]	13,804	193	1.40	Other liabilities[a]	3,956	-36	-0.91	0.49
Total interest-bearing assets	1,601,729	38,350	2.39	Total interest-bearing liabilities	1,064,577	-6,171	-0.58	1.81
Net yield on interest-bearing assets (net interest margin)[b]	1,601,729	32,179	2.01					

[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
Unit output cost[a] and efficiency ratio[b] of the banking corporations in Israel[c], 2017–21
(percent)

	Year	Leumi	Hapoalim	Discount	Mizrahi-Tefahot[d,e]	First International	**Total banking system**
Unit output cost	2017	1.89	1.80	2.58	1.54	1.98	**1.93**
	2018	1.83	1.96	2.67	1.76	2.09	**2.02**
	2019	1.70	1.90	2.52	1.50	1.93	**1.86**
	2020	1.38	1.50	2.41	1.35	1.66	**1.60**
	2021	1.23	1.32	2.18	1.48	1.52	**1.48**
Efficiency ratio	2017	62.85	64.57	68.33	60.18	69.48	**65.09**
	2018	60.58	65.05	68.16	63.64	68.37	**64.91**
	2019	56.80	66.44	65.18	54.59	64.39	**61.54**
	2020	53.83	56.93	67.45	53.94	61.75	**58.30**
	2021	46.84	54.22	65.37	53.95	58.29	**54.71**

[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 Leumi group do not include the Leumi Card group.
[d] The merger with Union Bank in the fourth quarter of 2020 biased the unit output cost for 2020 downward.
[e] Starting with the annual report for 2020, data on the Mizrahi-Tefahot group include Union Bank.
SOURCE: Based on published financial statements.

Table 1.7

Expenses in Respect of Employees[a], Total Banking System, 2002–21

(reported amounts[b], 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)
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	48,787	11,505	236	5,868	356	17,373	120
2015	47,648	11,964	251	4,966	355	16,929	104
2016	45,810	11,255	246	5,211	359	16,466	114
2017	43,138	11,244	261	5,283	383	16,526	122
2018	40,866	11,474	281	5,319	411	16,793	130
2019	39,793	11,037	277	5,081	405	16,118	128
2020	37,696	10,124	269	5,056	403	15,181	134
2021	37,031	11,932	322	5,455	470	17,387	147
				Change from previous year (percent)			
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	2.5	1.5	-1.0	173.0	166.3	-66.8	-67.7
2015	-2.3	4.0	6.5	-2.6	-0.2	-15.4	-13.4
2016	-3.9	-5.9	-2.1	-2.7	1.2	4.9	9.1
2017	-5.8	-0.1	6.1	0.4	6.6	1.4	7.7
2018	-5.3	2.0	7.7	1.6	7.3	0.7	6.3
2019	-2.6	-3.8	-1.2	-4.0	-1.4	-4.5	-1.9
2020	-5.3	-8.3	-3.2	-5.8	-0.6	-0.5	5.0
2021	-1.8	17.9	20.0	14.5	16.6	7.9	9.8

[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 1.8

Number of employee posts and expenses by annual wage level, total banking system, 2020 and 2021

	2020		2021		Rate of change from	
	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
Annual wage level of active employees at offices in Israel (NIS thousand)						
Up to 60	18	327	10	278	-47.2	-15.1
60–120	1,969	196,303	1,733	167,694	-12.0	-14.6
120–240	12,529	2,324,825	9,011	1,743,135	-28.1	-25.0
240–360	10,595	3,130,966	10,480	3,147,354	-1.1	0.5
360–600	9,373	4,204,763	12,016	5,540,757	28.2	31.8
600–1,000	2,419	1,673,374	3,585	2,596,917	48.2	55.2
Above 1,000	309	428,038	629	906,381	103.4	111.8
Wage and associated payment components attributed to active employees at offices in Israel	**37,212**	**11,958,596**	**37,463**	**14,102,516**	**0.7**	**17.9**
of which : Expenses for manpower workers, annual wage levels (NIS thousand)	2,319	934,458	2,139	872,590	-7.7	-6.6
Up to 120	259	28,113	253	28,736	-2.4	2.2
Above 120	2,059	906,345	1,886	843,854	-8.4	-6.9
Wage and associated payment components not attributed to active employees at offices in Israel		2,747,444		3,221,236		
Bank employees at offices abroad	1,608	1,112,806	1,573	1,104,907	-2.2	-0.7
Wage expenses capitalized to assets	-1,703	-822,477	-1,699	-861,051	-0.2	4.7
Total	**37,117**	**14,996,369**	**37,337**	**17,567,608**	**0.6**	**17.1**

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

Table 1.9
Distribution of credit risk exposure, December 2020 and December 2021

	Leumi		Hapoalim		Discount		Mizrahi-Tefahot		First Int'l.		B. of Jerusalem		Total banking system	
	Dec-20	Dec-21	Dec-20	Dec-21	Dec-20	Dec-21	Dec-20	Dec-21	Dec-20	Dec-21	Dec-20	Dec-21	Dec-20	Dec-21
	(percent)													
Sovereigns	33.8	36.5	33.1	35.2	25.6	27.3	26.2	25.9	41.9	40.8	20.1	20.3	31.5	33.1
Non-central government public sector en	2.3	2.2	1.0	1.1	3.5	3.3	0.5	0.7	0.5	0.7	0.0	0.3	1.6	1.6
Banks	3.3	3.1	2.3	1.6	3.6	2.3	1.2	1.2	2.1	1.5	0.7	1.5	2.5	2.1
Securities firms	0.3	0.3	0.0	0.4	0.0	0.1	0.2	0.2	0.0	0.8	0.0	0.1	0.1	0.3
Corporates	21.4	21.1	20.2	19.8	34.2	32.9	15.6	16.1	19.6	19.4	12.7	10.6	21.6	21.3
Retail exposure to individuals	6.5	5.7	8.8	7.6	9.7	9.2	6.5	6.2	13.1	12.8	0.0	0.0	8.2	7.4
Loans to small businesses	2.8	2.4	1.7	1.4	4.4	4.1	3.6	3.1	2.9	2.7	10.0	8.7	2.9	2.6
Secured by residential property	16.2	15.6	17.5	16.9	14.5	16.1	42.0	42.9	16.5	17.7	0.9	0.8	21.4	21.0
Secured by commercial real estate	10.3	10.7	12.5	13.3	0.9	1.3	1.8	1.5	1.3	1.3	50.3	52.7	7.1	8.0
Past due loans	0.7	0.4	0.5	0.3	0.5	0.6	0.7	0.6	0.4	0.3	1.3	1.4	0.6	0.4
Other assets	2.6	2.0	2.4	2.4	3.1	2.9	1.6	1.5	1.7	1.9	3.9	3.7	2.4	2.2

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

Table 1.10
Average risk weight by credit risk exposure, December 2020 and December 2021

	Leumi		Hapoalim		Discount		Mizrahi-Tefahot		First Int'l.		B. of Jerusalem		Total banking system	
	Dec-20	Dec-21	Dec-20	Dec-21	Dec-20	Dec-21	Dec-20	Dec-21	Dec-20	Dec-21	Dec-20	Dec-21	Dec-20	Dec-21
	(percent)													
Sovereigns	1.7	1.4	1.1	0.2	0.2	0.2	0.14	0.09	0.0	0.0	0.3	0.0	0.0	0.0
Non-central government public sector en	30.4	33.3	32.2	16.1	21.1	21.7	17.8	19.0	20.0	20.0	0.0	20.0	0.0	24.8
Banks	21.9	25.8	27.5	20.4	20.5	20.7	27.1	26.2	20.0	20.1	25.5	21.4	23.5	23.4
Securities firms	20.0	27.2	0.0	20.0	0.0	20.1	19.8	20.1	0.0	20.0	0.0	100.0	0.0	22.5
Corporates	91.7	92.3	95.5	94.3	92.8	91.4	92.0	91.9	97.1	97.6	99.1	98.0	93.5	93.0
Retail exposure to individuals	75.0	75.0	75.0	75.0	75.1	75.1	75.0	75.0	75.0	75.0	71.0	0.0	0.0	0.0
Loans to small businesses	75.0	75.0	75.0	75.0	75.1	75.0	75.0	75.0	75.0	75.0	75.4	75.3	75.0	75.0
Secured by residential property	54.4	54.2	54.3	53.9	53.2	53.1	52.6	52.7	51.2	50.8	75.0	75.0	53.4	53.3
Secured by commercial real estate	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	54.7	56.7	97.6	97.8
Past due loans	127.6	117.5	130.7	128.7	131.5	129.0	124.5	126.8	128.6	128.6	130.4	138.1	128.4	125.5
Other assets	80.0	83.5	80.7	84.9	77.7	84.0	61.7	65.5	78.6	82.8	67.5	66.2	77.2	81.6
Total	50.7	49.0	53.1	51.0	55.6	54.3	48.2	48.1	43.1	43.5	52.9	52.3	51.0	49.8

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

Table 1.11

Distribution of capital and capital ratios[a] in the banking system, December 2020 and December 2021

	Leumi		Hapoalim		Discount		Mizrahi-Tefahot		First Int'l.		B. of Jerusalem		Total banking system	
	Dec-20	Dec-21	Dec-20	Dec-21	Dec-20	Dec-21	Dec-20	Dec-21	Dec-20	Dec-21	Dec-20	Dec-21	Dec-20	Dec-21
	(NIS million)													
Equity[b]	38,095	42,052	39,899	42,747	19,727	22,148	19,669	21,729	9,535	10,437	1,000	1,127	127,925	140,240
Tier 1 capital[c]	39,262	43,117	40,070	42,772	19,707	21,839	20,137	21,969	9,369	10,199	989	1,121	129,534	141,017
Additional Tier 1 capital[c]	0	0	488	244	356	178	0	0	0	0	0	0	844	422
Tier 2 capital[c]	12,297	10,148	10,221	12,490	5,170	6,971	7,176	7,914	2,749	1,891	345	363	37,958	39,777
Capital base	51,559	53,265	50,779	55,506	25,233	28,988	27,313	29,883	12,118	12,090	1,334	1,484	168,336	181,216
Total balance sheet	556,035	656,454	539,602	638,781	293,969	335,088	360,140	392,271	167,778	180,470	14,900	16,837	1,932,424	2,219,901
Credit risk	303,356	346,602	321,149	363,588	175,080	196,200	185,392	202,611	76,203	81,660	8,456	9,393	1,069,636	1,200,054
Market risks	5,313	5,592	3,447	4,097	3,337	3,738	2,228	2,268	883	683	18	85	15,226	16,463
Operational risk	22,182	22,582	23,166	22,595	14,815	15,383	12,864	13,831	6,729	6,645	961	987	80,717	82,023
Total weighted items	330,851	374,776	347,762	390,280	193,232	215,321	200,484	218,710	83,815	88,988	9,435	10,466	1,165,579	1,298,541
	(percent)													
Tier 1 capital ratio	**11.9**	**11.5**	**11.5**	**11.0**	**10.2**	**10.1**	**10.0**	**10.0**	**11.2**	**11.5**	**10.5**	**10.7**	**11.1**	**10.9**
Total capital adequacy ratio	**15.6**	**14.2**	**14.6**	**14.2**	**13.1**	**13.5**	**13.6**	**13.7**	**14.5**	**13.6**	**14.1**	**14.2**	**14.4**	**14.0**
Minimum required Tier 1 capital ratio[d]	9.2	9.2	9.2	9.2	8.2	8.2	8.7	8.6	8.3	8.2	8.8	8.6		
Minimum required total capital ratio[d]	12.5	12.5	12.5	12.5	11.5	11.5	11.5	11.5	11.8	11.5	12.3	11.5		

[a] The banking corporations allocate capital in accordance with the Basel III rules and according to the transition directives.
[b] Including minority shareholders' rights, according to the groups' balance sheets.
[c] After deductions.
[d] Including capital requirements at a rate that reflects 1 percent of outstanding housing loans to the reporting date, implemented gradually at equal quarterly rates from April 1, 2015 until January 1, 2017.
SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

Table 1.12
Total balance sheet of the Israeli banking system[a], 2019–21

	In current prices			Rate of change during	Rate of change during	Distribution		
	2019	2020	2021	2020	2021	2019	2020	2021
		(NIS million)		(Percent)			(Percent)	
Assets								
Cash and deposits at banks	282,636	465,351	602,506	64.6	29.5	17.4	24.1	27.1
Of which:								
Cash[b]	266,696	443,737	577,796	66.4	30.2	94.4	95.4	95.9
Deposits at commercial banks	22,847	21,614	24,711	-5.4	14.3	8.1	4.6	4.1
Securities	203,634	237,824	232,798	16.8	-2.1	12.6	12.3	10.5
Of which:								
Securities provided as collateral to lenders	11,008	33,271	51,918	202.2	56.0	5.4	14.0	22.3
At fair value	195,654	210,306	202,763	7.5	-3.6	96.1	88.4	87.1
Securities borrowed or bought under reverse repurchase agreements	2,248	4,672	7,084	107.8	51.6	0.1	0.2	0.3
Credit to the public	**1,072,405**	**1,152,361**	**1,309,284**	**7.5**	**13.6**	**66.2**	**59.6**	**59.0**
Allowance for credit losses	13,294	19,097	15,950	43.7	-16.5	0.8	1.0	0.7
Net credit to the public	1,059,112	1,133,263	1,293,334	7.0	14.1	65.3	58.6	58.3
Of which:								
Unindexed local currency	765,086	823,399	951,048	7.6	15.5	72.2	72.7	73.5
Local currency indexed to the CPI	181,136	190,326	208,993	5.1	9.8	17.1	16.8	16.2
Indexed to or denominated in foreign currency	111,176	116,597	128,479	4.9	10.2	10.5	10.3	9.9
Of which: In dollars	88,402	92,174	104,385	4.3	13.2	79.5	79.1	81.2
Nonmonetary items	1,714	2,941	4,814	71.6	63.7	0.2	0.3	0.4
Credit to governments	7,925	7,567	6,861	-4.5	-9.3	0.5	0.4	0.3
Investments in subsidiary and affiliated companies	2,614	2,366	3,210	-9.5	35.7	0.2	0.1	0.1
Premises and equipment	11,466	12,117	12,523	5.7	3.3	0.7	0.6	0.6
Intangible assets	515	690	685	34.0	-0.7	0.0	0.0	0.0
Assets in respect of derivative instruments	30,330	42,983	37,899	41.7	-11.8	1.9	2.2	1.7
Other assets	20,465	25,590	23,002	25.0	-10.1	1.3	1.3	1.0
Total assets	**1,620,944**	**1,932,424**	**2,219,901**	**19.2**	**14.9**	**100**	**100**	**100**
Liabilities and equity								
Deposits of the public	**1,278,663**	**1,545,972**	**1,797,073**	**20.9**	**16.2**	**78.9**	**80.0**	**81.0**
Of which:								
Unindexed local currency	898,567	1,124,650	1,289,478	25.2	14.7	70.3	72.7	71.8
Local currency indexed to the CPI	50,999	48,515	55,583	-4.9	14.6	4.0	3.1	3.1
Indexed to or denominated in foreign currency	326,384	369,062	445,975	13.1	20.8	25.5	23.9	24.8
Of which: In dollars	278,539	319,161	394,413	14.6	23.6	85.3	86.5	88.4
Deposits from banks	18,078	41,774	61,948	131.1	48.3	1.1	2.2	2.8
Deposits from governments	1,563	1,842	2,439	17.8	32.4	0.1	0.1	0.1
Securities lent or sold under repurchase agreements	472	772	5,708	63.6	639.4	0.0	0.0	0.3
Bonds and subordinated notes	99,207	89,555	100,093	-9.7	11.8	6.1	4.6	4.5
Liabilities in respect of derivative instruments	32,352	49,306	42,019	52.4	-14.8	2.0	2.6	1.9
Other liabilities	70,631	75,279	70,382	6.6	-6.5	4.4	3.9	3.2
Of which: Allowance for credit losses in respect of off-balance-sheet credit instruments	1,512	1,752	1,729	15.9	-1.3	2.1	2.3	2.5
Total liabilities	**1,500,966**	**1,804,499**	**2,079,661**	**20.2**	**15.2**	**92.6**	**93.4**	**93.7**
Minority interest	2,151	2,261	2,512	5.1	11.1	0.1	0.1	0.1
Shareholders equity	116,866	125,664	136,601	7.5	8.7	7.2	6.5	6.2
Total equity	119,979	127,925	140,240	6.6	9.6	7.4	6.6	6.3
Total liabilities and equity	**1,620,944**	**1,932,424**	**2,219,901**	**19.2**	**14.9**	**100**	**100**	**100**

[a] On a consolidated basis. Includes the five banking groups (Leumi, Hapoalim, Discount, First International, and Mizrahi-Tefahot), Union Bank (prior to its merger with Mizrahi-Tefahot), and Bank of Jerusalem.

[b] Including deposits at the Bank of Israel.

SOURCE: Based on published financial statements.

Table 1.13

Total securities portfolio of the banking system, December 2020 and December 2021

		Bank Leumi				Bank Hapoalim				Bank Discount			
		December 2020		December 2021		December 2020		December 2021		December 2020		December 2021	
		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)
Securities	Of the Israeli government	41,884	45.4	30,280	34.8	49,549	68.9	39,328	55.3	29,860	69.8	27,204	62.0
	Of foreign governments	20,116	21.8	26,512	30.5	10,564	14.7	21,445	30.2	862	2.0	3,580	8.2
	Of Israeli financial institutions	392	0.4	342	0.4	425	0.6	312	0.4	138	0.3	122	0.3
	Of foreign financial institutions	8,959	9.7	8,329	9.6	5,058	7.0	3,531	5.0	475	1.1	517	1.2
	Asset-backed or mortgage-backed securities[a]	9,341	10.1	9,532	11.0	-	-	-	-	8,004	18.7	8,190	18.7
	Other - Israeli	278	0.3	691	0.8	-	-	-	-	556	1.3	553	1.3
	Other - foreign	6,931	7.5	6,882	7.9	3,904	5.4	2,839	4.0	1,961	4.6	2,084	4.8
	Stocks	4,396	4.8	4,359	5.0	2,385	3.3	3,650	5.1	1,093	2.6	1,619	3.7
	Total securities, all types	**92,297**	**100**	**86,927**	**100**	**71,885**	**100**	**71,105**	**100**	**42,785**	**100**	**43,869**	**100**

		Mizrahi-Tefahot				First International				Total system[b]			
		December 2020		December 2021		December 2020		December 2021		December 2020		December 2021	
		value	Distribution	value	Distribution	value	Distribution	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)
Securities	Of the Israeli government	14,455	83.6	10,421	69.3	10,519	80.3	12,200	80.8	146,558	61.6	119,911	51.5
	Of foreign governments	451	2.6	2,035	13.5	1,312	10.0	1,342	8.9	33,305	14.0	54,951	23.6
	Of Israeli financial institutions	622	3.6	601	4.0	158	1.2	138	0.9	1,769	0.7	1,557	0.7
	Of foreign financial institutions	227	1.3	177	1.2	239	1.8	244	1.6	14,958	6.3	12,798	5.5
	Asset-backed or mortgage-backed securities[a]	33	0.2	6	0.0	-	-	-	-	17,378	7.3	17,728	7.6
	Other - Israeli	735	4.3	765	5.1	477	3.6	363	2.4	2,101	0.9	2,481	1.1
	Other - foreign	321	1.9	302	2.0	93	0.7	72	0.5	13,051	5.5	12,193	5.2
	Stocks	446	2.6	726	4.8	307	2.3	732	4.9	8,706	3.7	11,179	4.8
	Total securities, all types	**17,290**	**100**	**15,033**	**100**	**13,105**	**100**	**15,091**	**100**	**237,824**	**100**	**232,798**	**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 data for Union Bank prior to its merger with Mizrahi-Tefahot.

SOURCE: Based on published financial statements.

Table 1.14
Transactions in off-balance-sheet financial instruments where the par value reflects credit risk, total banking system, 2019–21

	End of year balance			Rate of change during 2020	Rate of change during 2021	Distribution		
	2019	2020	2021			2019	2020	2021
	(NIS million)			(percent)		(percent)		
Documentary credit	2,828	3,634	5,590	28.5	53.8	0.5	0.6	0.9
Credit guarantees	17,670	17,163	19,485	-2.9	13.5	3.4	3.1	3.0
Guarantees for home purchases	66,840	68,026	101,716	1.8	49.5	13.0	12.1	15.7
Other guarantees and liabilities	70,275	67,317	74,204	-4.2	10.2	14.0	12.1	11.6
Unutilized credit card facilities	78,887	83,675	73,949	6.1	-11.6	15.3	14.9	11.4
Unutilized CLA and other credit facilities in demand accounts	97,555	108,822	104,494	11.5	-4.0	18.9	19.4	16.2
Irrevocable commitments to provide credit that has not yet been extended	119,094	145,390	190,181	22.1	30.8	23.1	25.9	29.4
Commitments to issue guarantees	60,825	68,327	77,121	12.3	12.9	11.8	12.2	11.9
Total	**513,973**	**562,354**	**646,739**	**9.4**	**15.0**	**100.0**	**100.0**	**100.0**

SOURCE: Based on published financial statements.

Table 1.15

Credit and spreads by supervisory activity segment, household sector[a], total banking system, December 2020 and December 2021

Balance of credit to the end of the reporting period

	Housing				Credit cards				Other consumer				Total household sector			
	Dec-20	Dec-21	Difference	Rate of change	Dec-20	Dec-21	Difference	Rate of change	Dec-20	Dec-21	Difference	Rate of change	Dec-20	Dec-21	Difference	Rate of change
	(NIS million)			(percent)	(NIS million)			(percent)	(NIS million)			(percent)	(NIS million)			(percent)
Leumi	90,236	103,610	13,374	14.82	4,083	4,072	-11	(0.27)	22,346	24,060	1,714	7.67	116,665	131,742	15,077	12.92
Hapoalim	99,443	115,127	15,684	15.77	4,723	4,715	-8	(0.17)	29,213	30,130	917	3.14	133,379	149,972	16,593	12.44
Discount	42,507	53,716	11,209	26.37	16,080	15,508	-572	(3.56)	14,397	14,851	454	3.15	72,984	84,075	11,091	15.20
Mizrahi-Tefahot	156,364	175,626	19,262	12.32	4,262	4,653	391	9.17	21,751	21,672	-79	(0.36)	182,377	201,951	19,574	10.73
First Int'l.	28,336	32,260	3,924	13.85	3,493	3,911	418	11.97	17,928	18,806	878	4.90	49,757	54,977	5,220	10.49
Total banking system	424,828	489,448	64,620	15.21	32,641	32,859	218	0.67	107,019	110,894	3,876	3.62	564,488	633,201	68,713	12.17

Spread from credit activity

	Housing				Credit cards				Other consumer				Total household sector			
	Dec-20	Dec-21	Difference	Rate of change	Dec-20	Dec-21	Difference	Rate of change	Dec-20	Dec-21	Difference	Rate of change	Dec-20	Dec-21	Difference	Rate of change
	(percent)				(percent)				(percent)				(percent)			
Leumi	1.15	1.18	0.03	2.56	1.49	1.37	(0.11)	(7.70)	5.23	4.73	(0.50)	(9.60)	1.96	1.85	(0.11)	(5.48)
Hapoalim	1.05	1.10	0.05	4.40	0.48	0.39	(0.09)	(18.29)	5.60	5.37	(0.24)	(4.20)	2.12	1.96	(0.16)	(7.55)
Discount	1.16	1.20	0.04	3.07	3.38	3.67	0.29	8.64	4.70	4.58	(0.11)	(2.44)	2.42	2.31	(0.10)	(4.28)
Mizrahi-Tefahot	1.28	1.30	0.02	1.57	0.86	0.92	0.06	6.58	4.64	4.42	(0.22)	(4.70)	1.64	1.64	0.00	0.10
First Int'l.	1.39	1.42	0.03	2.37	0.46	0.29	(0.17)	(37.63)	3.85	3.66	(0.19)	(5.01)	2.26	2.15	(0.11)	(4.98)
Total banking system	1.21	1.24	0.03	2.55	2.21	2.29	0.09	3.87	4.97	4.67	(0.30)	(6.03)	2.00	1.91	(0.09)	(4.70)

[a] Excluding private banking.

SOURCE: Based on published financial statements.

Table 1.16

Credit quality[a,b] by principal segments, total banking system, December 2014–2021

(percent)

	Year	Leumi	Hapoalim	Discount	Mizrahi-Tefahot	International	banking system
Commercial credit							
Weight of commercial credit	2014	56.63	60.10	65.51	25.28	51.37	52.75
	2015	54.81	59.38	64.57	23.94	49.67	51.40
	2016	55.66	57.88	62.84	23.12	49.24	50.52
	2017	57.70	58.89	61.81	23.55	47.94	50.95
	2018	59.01	56.52	61.94	25.10	47.04	50.91
	2019	60.65	56.86	61.23	24.34	46.81	51.13
	2020	61.22	56.71	61.38	27.10	46.16	51.08
	2021	62.09	58.09	60.46	26.66	46.31	51.66
Loan loss provisions as a share of total commercial credit	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
	2020	1.14	0.68	1.00	0.94	0.81	0.93
	2021	-0.29	-0.27	-0.41	-0.12	-0.45	-0.30
Impaired credit as a share of total commercial credit	2014	3.18	3.47	3.36	1.87	1.87	3.10
	2015	2.62	2.76	3.45	1.85	1.86	2.69
	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	1.68
	2020	1.97	1.84	1.65	2.24	0.91	1.82
	2021	1.19	1.43	1.20	1.68	0.75	1.28
Loan loss allowance as a share of total impaired commercial credit	2014	62.06	52.33	52.41	76.60	79.82	57.93
	2015	66.47	69.63	52.26	84.69	73.34	65.80
	2016	63.89	88.97	53.47	107.19	103.09	72.68
	2017	67.63	125.88	68.81	99.68	105.37	85.91
	2018	95.34	122.33	100.20	70.33	133.24	102.45
	2019	100.18	95.43	101.72	66.70	98.55	94.43
	2020	106.88	137.91	133.81	77.97	209.04	120.81
	2021	129.48	133.94	132.61	86.47	169.10	127.15
Housing credit							
Weight of housing credit	2014	29.58	21.08	16.70	64.63	26.15	31.34
	2015	30.86	21.60	16.87	65.97	27.30	32.32
	2016	29.81	22.36	18.03	66.55	27.81	32.83
	2017	28.75	24.18	19.15	66.02	28.13	33.44
	2018	28.47	28.41	19.71	64.83	28.56	34.41
	2019	29.54	30.14	20.31	65.69	28.80	35.44
	2020	30.07	32.29	22.16	63.15	30.72	36.91
	2021	29.85	32.18	24.95	64.26	31.55	37.42
Loan loss provisions as a share of total housing credit	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
	2020	0.19	0.32	0.16	0.18	0.14	0.21
	2021	-0.14	-0.20	0.01	-0.08	-0.02	-0.10
Impaired credit and credit 90 days or more past due as a share of total housing credit	2014	1.01	1.27	2.06	0.98	1.28	1.20
	2015	0.92	1.04	1.48	0.90	0.91	1.01
	2016	0.91	0.96	1.13	0.74	0.69	0.88
	2017	0.93	0.91	0.98	0.89	0.68	0.92
	2018	1.07	0.78	0.94	0.98	0.76	0.95
	2019	0.98	0.77	0.95	1.09	0.73	0.97
	2020	0.80	0.63	0.73	0.75	0.55	0.73
	2021	0.59	0.49	0.50	0.72	0.50	0.61
Loan loss allowance as a share of total housing credit 90 days or more past due	2014	66.67	53.97	61.76	66.03	56.41	60.28
	2015	68.13	61.83	53.73	64.23	65.38	62.12
	2016	65.79	61.72	57.53	72.10	76.67	64.92
	2017	62.33	66.89	63.12	58.82	73.72	60.90
	2018	55.57	67.09	60.32	51.52	64.32	56.18
	2019	56.27	64.36	58.64	45.66	65.05	53.32
	2020	88.33	121.09	82.69	80.10	105.13	90.40
	2021	80.30	93.67	95.20	63.61	98.76	77.34

Table 1.16 (cont'd)
(percent)

	Year	Leumi	Hapoalim	Discount	Mizrahi-Tefahot	First International	Total banking system
Other private credit							
Weight of other private credit	2014	13.79	18.82	17.79	10.09	22.48	15.92
	2015	14.33	19.01	18.56	10.09	23.03	16.28
	2016	14.53	19.76	19.13	10.32	22.94	16.65
	2017	13.55	16.93	19.04	10.44	23.93	15.62
	2018	12.52	15.07	18.35	10.08	24.40	14.68
	2019	9.81	13.00	18.46	9.98	24.39	13.43
	2020	8.71	11.00	16.46	9.75	23.13	12.01
	2021	8.06	9.73	14.59	9.08	22.14	10.92
Loan loss provisions as a share of total other private credit	2014	1.01	0.65	0.52	0.62	0.69	0.74
	2015	0.81	0.33	0.29	0.34	0.23	0.46
	2016	1.19	0.74	0.76	0.52	0.26	0.79
	2017	0.52	1.20	1.10	0.65	0.32	0.85
	2018	0.65	1.06	1.11	0.54	0.30	0.82
	2019	0.48	0.49	0.92	0.49	0.32	0.59
	2020	1.03	1.32	1.43	0.56	0.36	1.06
	2021	-0.16	-1.22	-0.55	-0.23	0.01	-0.53
Impaired loans and loans 90 days or more past due as a share of total other private credit	2014	0.79	1.53	0.63	0.63	0.78	1.03
	2015	0.62	1.46	0.52	0.61	0.63	0.92
	2016	0.73	1.54	0.55	0.54	0.69	0.97
	2017	1.34	1.86	0.57	0.49	0.58	1.15
	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
	2020	1.52	2.39	0.93	0.50	0.81	1.31
	2021	1.50	2.06	0.88	0.46	0.72	1.19
Loan loss allowance as a share of total impaired other private credit and private credit 90 days or more past due[c]	2014	215.30	112.31	275.91	190.43	172.13	159.10
	2015	267.52	100.64	299.20	184.85	195.28	161.67
	2016	280.07	105.46	290.00	205.21	186.29	170.37
	2017	142.77	105.19	323.93	253.76	223.01	153.69
	2018	165.45	106.11	272.97	250.50	209.68	160.24
	2019	172.63	87.22	263.49	240.00	153.49	147.85
	2020	193.48	116.81	304.75	263.33	176.74	185.73
	2021	169.69	82.98	253.24	208.77	194.44	153.64

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

[b] In annual terms.

SOURCE: Banking Supervision Department based on published financial statements.

Table 1.17

Credit and spreads by supervisory activity segment, business sector[a,b], total banking system, December 2020 and December 2021

Balance of credit to the end of the reporting period

	Small and micro businesses				Medium businesses				Large businesses				Total business sector			
	Dec-20	Dec-21	Difference	Rate of change	Dec-20	Dec-21	Difference	Rate of change	Dec-20	Dec-21	Difference	Rate of change	Dec-20	Dec-21	Difference	Rate of change
	(NIS million)			(percent)	(NIS million)			(percent)	(NIS million)			(percent)	(NIS million)			(percent)
Leumi	50,658	57,527	6,869	13.56	29,502	34,534	5,032	17.06	77,154	93,927	16,773	21.74	157,314	185,988	28,674	18.23
Hapoalim	54,407	60,258	5,851	10.75	30,866	38,269	7,403	23.98	71,325	89,436	18,111	25.39	156,598	187,963	31,365	20.03
Discount	36,439	39,091	2,652	7.28	12,865	14,770	1,905	14.81	45,687	50,393	4,706	10.30	94,991	104,254	9,263	9.75
Mizrahi-Tefahot	29,514	30,744	1,230	4.17	9,660	10,066	406	4.20	20,169	23,574	3,405	16.88	59,343	64,384	5,041	8.49
First Int'l.	18,876	21,044	2,168	11.49	5,385	6,101	716	13.30	16,724	18,571	1,847	11.04	40,985	45,716	4,731	11.54
Total banking system	191,057	209,939	18,883	9.88	88,702	104,076	15,374	17.33	231,059	275,901	44,842	19.41	510,818	589,916	79,098	15.48

Spread from credit activity

	Small and micro businesses				Medium businesses				Large businesses				Total business sector			
	Dec-20	Dec-21	Difference	Rate of change	Dec-20	Dec-21	Difference	Rate of change	Dec-20	Dec-21	Difference	Rate of change	Dec-20	Dec-21	Difference	Rate of change
	(NIS million)			(percent)	(NIS million)			(percent)	(NIS million)			(percent)	(NIS million)			(percent)
Leumi	3.36	3.13	(0.23)	(6.91)	2.35	2.35	(0.00)	(0.10)	1.92	1.88	(0.03)	(1.74)	2.48	2.37	(0.11)	(4.38)
Hapoalim	3.60	3.44	(0.16)	(4.54)	2.43	2.32	(0.11)	(4.71)	1.59	1.61	0.03	1.69	2.46	2.37	(0.09)	(3.63)
Discount	3.73	3.62	(0.11)	(2.86)	2.58	2.58	(0.01)	(0.22)	1.85	1.81	(0.04)	(2.23)	2.69	2.61	(0.09)	(3.30)
Mizrahi-Tefahot	4.30	3.88	(0.42)	(9.68)	3.21	3.18	(0.03)	(0.79)	2.48	2.35	(0.13)	(5.32)	3.45	3.25	(0.20)	(5.73)
First Int'l.	3.26	3.02	(0.25)	(7.59)	2.65	2.58	(0.07)	(2.57)	1.70	1.67	(0.03)	(1.53)	2.51	2.41	(0.10)	(3.91)
Total banking system	3.61	3.41	(0.20)	(5.63)	2.52	2.47	(0.05)	(2.07)	1.83	1.81	(0.02)	(1.30)	2.62	2.52	(0.10)	(3.93)

[a] Small and micro businesses - business turnover of less than NIS 50 million; Medium businesses - turnover of NIS 50-250 million; Large businesses - turnover of NIS 250 or more.

[b] The data relate to activity in Israel and do not include financial institutions, the financial management segment, "other", or adjustments.

SOURCE: Based on published financial statements.

Table 1.18
Outstanding credit to the public, by principal industries, total banking system, 2020 and 2021

	Total balance of credit risk[a]					Balance-sheet credit[b] (debts)			
	Balance		Distribution of credit to the public		Change in credit[c]	Balance		Distribution of credit to the public	
	2020	2021	2020	2021	2021	2020	2021	2020	2021
	(NIS million)		(percent)		(percent)	(NIS million)		(percent)	
Borrower activity in Israel	1,534,127	1,736,820	91.0	91.0	13.2	1,070,974	1,217,527	92.9	93.0
Business sector	835,779	962,814	49.6	50.5	15.2	510,186	587,419	44.3	44.9
Agriculture	8,731	9,331	0.5	0.5	6.9	6,931	7,638	0.6	0.6
Manufacturing	97,019	100,896	5.8	5.3	4.0	54,068	56,093	4.7	4.3
Mining and quarrying	3,845	4,031	0.2	0.2	4.8	2,625	2,097	0.2	0.2
Construction and real estate	312,804	383,236	18.6	20.1	22.5	174,946	219,531	15.2	16.8
Of which: Construction	222,576	277,428	13.2	14.5	24.6	99,066	131,792	8.6	10.1
Real estate	90,228	105,808	5.4	5.5	17.3	75,880	87,740	6.6	6.7
Electricity and water	28,409	37,890	1.7	2.0	33.4	15,647	21,473	1.4	1.6
Commerce	114,855	119,215	6.8	6.2	3.8	85,109	87,565	7.4	6.7
Tourism	2,154	1,727	0.1	0.1	-19.8	17,727	18,178	1.5	1.4
Transport and storage	26,621	30,799	1.6	1.6	15.7	19,580	22,719	1.7	1.7
Communications and computer services	17,289	18,629	1.0	1.0	7.8	10,360	11,458	0.9	0.9
Financial services	125,861	153,325	7.5	8.0	21.8	65,081	78,560	5.6	6.0
Other business services	43,519	46,171	2.6	2.4	6.1	29,042	31,820	2.5	2.4
Public and community services	35,943	37,678	2.1	2.0	4.8	29,069	30,286	2.5	2.3
Private individuals	698,348	774,006	41.4	40.6	10.8	560,788	630,109	48.7	48.1
Of which: Housing loans	461,031	538,450	27.3	28.2	16.8	424,243	488,828	36.8	37.3
Nonhousing loans	237,317	235,556	14.1	12.3	-0.7	136,545	141,281	11.8	10.8
Borrowers' activity abroad	152,088	170,847	9.0	9.0	12.3	81,387	91,757	7.1	7.0
Total	1,686,215	1,907,667	100.0	100.0	13.1	1,152,361	1,309,284	100.0	100.0

[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.

SOURCE: Banking Supervision Department based on published financial statements.

Table 1.19
Indices of credit portfolio quality of the total banking system, 2016–21
(percent)

	Year	Leumi	Hapoalim	Discount	Mizrahi-Tefahot	First International	Total banking system
Loan loss provision as a share of total balance-sheet credit to the public	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
	2020	0.85	0.63	0.89	0.42	0.50	0.68
	2021[a]	-0.23	-0.34	-0.32	-0.10	-0.21	-0.25
Net write-offs as a share of total balance-sheet credit to the public	2016	0.03	0.19	0.27	0.09	0.09	0.13
	2017	0.15	0.21	0.39	0.09	0.17	0.20
	2018	0.09	0.19	0.25	0.11	0.16	0.16
	2019	0.23	0.12	0.22	0.11	0.09	0.16
	2020	0.18	0.09	0.19	0.11	0.10	0.13
	2021[a]	-0.03	-0.06	0.03	0.05	-0.01	-0.01
Allowance for credit losses as a share of total balance-sheet credit to the public	2016	1.32	1.50	1.50	0.83	1.08	1.28
	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
	2020	1.76	2.00	1.95	0.98	1.38	1.66
	2021	1.30	1.43	1.41	0.77	1.05	1.22
Problematic loans as a share of total balance-sheet credit to the public	2016	2.90	2.89	3.55	1.44	2.29	2.67
	2017	2.71	2.37	2.80	1.39	1.78	2.29
	2018	2.45	2.30	2.23	1.52	1.89	2.14
	2019	1.96	3.06	2.56	1.78	1.86	2.32
	2020	2.87	3.41	3.90	1.50	2.16	2.83
	2021	1.85	2.26	2.91	1.25	1.68	1.99
Impaired loans and nonimpaired loans 90 days or more past due as a share of total balance-sheet credit to the public	2016	1.75	1.84	2.37	0.95	1.02	1.66
	2017	1.60	1.31	1.68	1.02	0.92	1.37
	2018	1.34	1.23	1.24	1.23	0.83	1.24
	2019	1.23	1.80	1.25	1.36	1.08	1.41
	2020	1.61	1.52	1.36	1.18	0.86	1.39
	2021	1.12	1.20	1.00	0.98	0.73	1.06
Allowance for credit losses as a share of impaired loans and nonimpaired loans more than 90 days past due	2016	75.02	81.56	63.38	87.74	106.14	77.17
	2017	74.02	103.16	83.21	79.83	112.18	86.16
	2018	92.17	106.49	109.96	65.16	122.25	95.14
	2019	94.79	87.90	110.12	60.23	97.08	88.07
	2020	109.46	131.08	143.55	83.09	160.83	119.26
	2021	115.99	118.85	140.81	78.85	144.24	114.76
Impaired loans and nonimpaired loans more than 90 days past due, net, as a share of total equity	2016	3.71	2.63	8.54	1.58	-0.67	3.52
	2017	3.40	-0.31	2.73	2.74	-1.17	1.71
	2018	0.85	-0.61	-1.20	5.74	-1.95	0.54
	2019	0.52	1.70	-1.24	6.97	0.33	1.53
	2020	-1.21	-3.65	-5.95	2.63	-5.28	-2.45
	2021	-1.49	-1.90	-4.10	2.72	-3.30	-1.49

[a] In annual terms.

SOURCE: Banking Supervision Department based on published financial statements.

Table 1.20
Main balance sheet items of Israeli credit card companies, 2019–21

	Balance			Rate of change, 2020 vs 2019	Rate of change, 2021 vs 2020	Distribution		
	2019	2020	2021			2019	2020	2021
	(NIS million)			(percent)	(percent)	(percent)		
Assets								
Cash and deposits at banks	447	753	5,046	68.5	570.1	0.8	1.3	9.9
Receivables in respect of credit card activity, net	54,927	53,109	43,119	-3.3	-18.8	95.6	94.0	84.4
of which : Receivables balance in respect of credit cards	35,815	35,234	23,728	-1.6	-32.7	62.3	62.4	46.5
of which : Guaranteed by the banks	26,627	25,915	12,247	-2.7	-52.7	46.3	45.9	24.0
Guaranteed by the credit card companies	9,188	9,319	11,481	1.4	23.2	16.0	16.5	22.5
Credit	17,763	16,668	18,632	-6.2	11.8	30.9	29.5	36.5
Total assets	**57,469**	**56,475**	**51,065**	**-1.7**	**-9.6**	**100.0**	**100.0**	**100.0**
Liabilities								
Credit from banking corporations	14,562	13,264	4,688	-8.9	-64.7	28.2	26.1	10.5
Payables in respect of credit card activity	32,897	33,608	36,825	2.2	9.6	63.6	66.2	82.6
Total liabilities	**51,719**	**50,751**	**44,603**	**-1.9**	**-12.1**	**100.0**	**100.0**	**100.0**
Equity attributed to shareholders of the credit card companies	**5,750**	**5,724**	**6,462**	**-0.5**	**12.9**	**100.0**	**100.0**	**100.0**

SOURCE: Based on published financial statements.

Box 1.1: Macroeconomic stress testing of the banking system in 2021

- As is the accepted practice worldwide, the Banking Supervision Department again carried out a macroeconomic stress test of the banking system in 2021, based on a uniform scenario.
- The stress scenario involved a global shock, reflected in a drastic economic slowdown and declines in markets in Israel and other countries, alongside an increase in the interest rate in Israel and worldwide due to high inflation. It is important to emphasize that the scenario does not represent any sort of forecast, but rather is a hypothetical scenario intended to evaluate the resilience of the banks and their focal points of vulnerability.
- The test was conducted under the "dynamic balance sheet" assumption, such that it also examines the effect of an increase in the credit portfolio and in the public's deposits. This assumption has opposing effects, since it works toward an increase in interest income as a result of the growth in credit, while in contrast the increase in credit works to increase the quantity of risk assets, which constitutes one of the main factors affecting the capital ratios over the course of the test.
- The results of the stress test indicate that the banking system is expected to maintain its resilience and its stability even in this scenario. None of the banks decline to below the minimum capital ratio required in a stress test by the Banking Supervision Department (Tier 1 Capital Ratio of 6.5 percent).
- The policy to strengthen capital adopted by the Banking Supervision Department in recent years has supported the ability of the banks to absorb shocks and maintain their stability even in a stress scenario.
- The results of the stress test indicate that an increase in the inflation rate and the interest rate bring about an increase in net interest income in the banking system, as a result of the surplus of CPI-indexed assets over CPI-indexed liabilities. In contrast, this increase creates pressure on borrowers, including mortgage holders, which as a result leads to credit losses in the bank credit portfolio.
- As in previous scenarios, the credit losses were the main threat to the capital ratios, where high rates of credit loss provisions were recorded for all parts of the economy in this scenario.
- The Banking Supervision Department, like other supervisory authorities worldwide, will in the future carry out a climate-related stress test to examine the banking system's preparedness for these risks and to identify the focal points of vulnerability.

As is common practice worldwide, the Banking Supervision Department again this year[1] carried out a macroeconomic stress test of the banking system, based on a uniform scenario.[2] In this context, the banks estimate the results of the test based on a variety of commonly used methods (bottom-up). At the same time, the economists of the Banking Supervision Department tests the banks and the banking system as a whole using a uniform method (top-down). The process is meant to contribute to the understanding of the focal points of risk to which the banking system and each of the individual banks are exposed, and thus it assists in evaluating the strength and resilience of the system and ensuring that capital levels are sufficient.

[1] The Banking Supervision Department has been conducting stress tests since 2012.
[2] The test is based on a uniform scenario and its goal is to evaluate whether the banks can absorb the losses resulting from an extreme macroeconomic event by means of ensuring a sufficient level of capital and without endangering their stability and the funds of depositors.

The Banking Supervision Department has expanded the stress tests to include the credit card companies as well, and this is the second year in which the stress scenario includes them too, while making the relevant modifications to fit the characteristics of their activity.

The stress scenario was constructed during the second half of 2021, when the consequences of the COVID-19 crisis were still a source of uncertainty and volatility worldwide. The results indicate that the banking system is expected to remain resilient and stable, **while maintaining reasonable capital ratios over the course of the scenario.**

The test is based on macroeconomic scenarios that were constructed together with the Bank of Israel's Research Department (Figure 1): a **baseline scenario**, which reflects the expected path of the economy and is based on the assessments of the Bank of Israel's Research Department, the macro forecast of international organizations regarding global developments, and other assessments of economic developments in Israel and worldwide. The **stress scenario this year** reflects a slowdown of economic activity and declines in stock and bond markets in Israel and worldwide. In the scenario, the Bank of Israel, like other central banks, raises the interest rate due to high inflation, and in parallel, there is a sharp decline in real estate prices. The slowdown in economic activity worldwide works to reduce the demand for the services of Israeli high tech companies and to reduce exports, which together with the declines in the markets leads to a sharp depreciation in the shekel against the dollar. The slowdown in the activity of the high tech sector is reflected in an economic slowdown and leads to an increase in unemployment in the sector and in the other sectors as well. The developments as a whole also lead to a sharp decline in Israel's credit rating. In addition, it was assumed that structural changes in the business environment are working to intensify competition for the public's deposits, in the providing of credit to the public and in the payments domain. This competitive environment works toward an increase in the interest rate on the public's deposits and the erosion of spreads in the banking system. **It is important to emphasize that the scenarios do not constitute any sort of forecast, but rather are meant to evaluate the resilience of the banks in a macroeconomic crisis.**

In 2021, as in 2020, the **stress scenario assumed a dynamic balance sheet (changes in the banks' balance sheet according to the scenario's development), which assesses the effect of developments in the credit portfolio and in the public's deposits over the course of the scenario.**[3] To this end, models were developed that forecast the path of growth in credit[4] and deposits (Figure 2), which rely on a machine-learning model[5] developed in cooperation with the Bank of Israel's Information and Statistics Department. As in the case of the macroeconomic scenarios, the **path of growth in credit and deposits in the scenarios do not constitute forecasts but rather are only hypothetical.**

The shift to a dynamic balance sheet is based on the understanding that stress events also have significant consequences for the development of the banks' balance sheets, thus creating additional

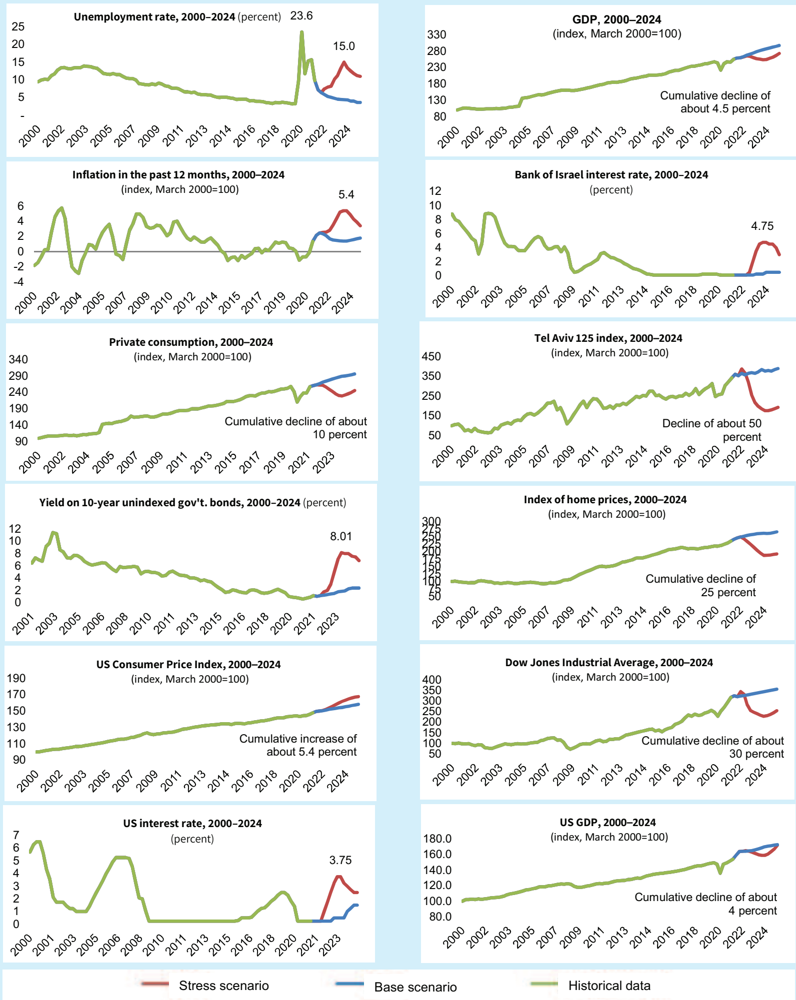
[3] Until 2020, the stress test was carried out under the assumption of a static balance sheet, according to which the bank's balance sheets remain unchanged during the scenario, with respect to both the quantity of credit and the public's deposits.

[4] Models were developed to evaluate the development of credit in each of the main sectors of the economy: construction and real estate, businesses other than construction and real estate, housing, consumer credit and activity abroad.

[5] Use was made of machine learning models because the correlation between the development of credit and the public's deposits on the one hand and macroeconomic variables on the other hand are non-linear and it is difficult to estimate these correlations using traditional models.

The stress scenario includes a sharp increase in the interest rate, inflation, and unemployment, alongside significant declines in housing prices and in the capital markets.

Figure 1
Main Historical Macroeconomic Data and their Development According to the Scenarios

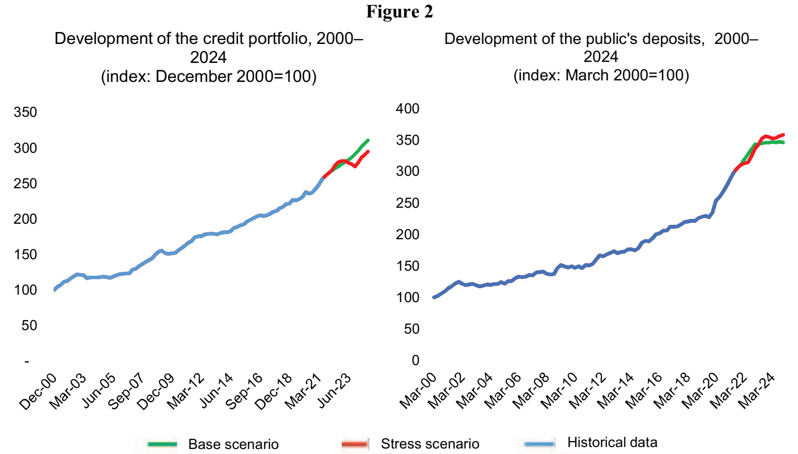


SOURCE: Historical data - Based on Central Bureau of Statistics, Tel Aviv Stock Exchange; Scenario data - Bank of Israel.

risk for the banks that are not estimated under the assumption of a static balance sheet (under which the balance sheet remains fixed over the course of the scenario). This assumption has opposing effects, since it works to increase interest income due to the growth in credit yet in contrast the growth in credit works to increase the banks' risk assets, which is one of the main factors affecting the Tier 1 Capital Ratio.

The credit portfolio and the public's deposits increase throughout the stress scenario.

Figure 2



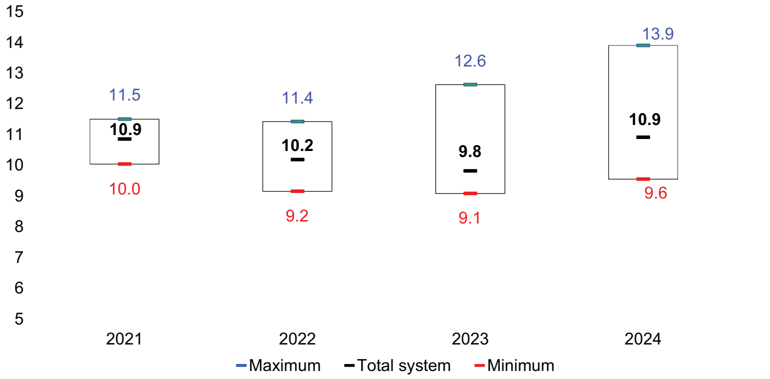
SOURCE: Banking Supervision Department calculations.

The results

The results of the stress test this year indicate that the banking system in Israel is stable and has sufficient capital to withstand a major shock, as described by the scenario. This is in spite of the severity of the scenario. Thus, **none of the banks decline to below the minimum level of capital required in the stress scenario by the Banking Supervision Department (a Tier 1 Capital Ratio of 6.5 percent).** The average Tier 1 Capital Ratio declines in the stress scenario by 1.3 percentage points, from a rate of 10.9 percent in 2021 to about 9.6 percent during 2023 (at the peak of the scenario; Figure 3). This decline is relative large in comparison to scenarios carried out in recent years[6] (between 0.5 and 0.9 percentage points). With respect to specific outcomes, there is variation among the banks, which is the result of differences in their starting capital ratio, the mix of their asset portfolios, and the quality of their credit portfolio.

No banking corporation falls below the Banking Supervision Department's minimum capital requirement level in the stress scenario.

Figure 3
Development of the Tier 1 Capital Ratio in the System Throughout the Stress Scenario (percent)



SOURCE: Banking Supervision Department calculations.

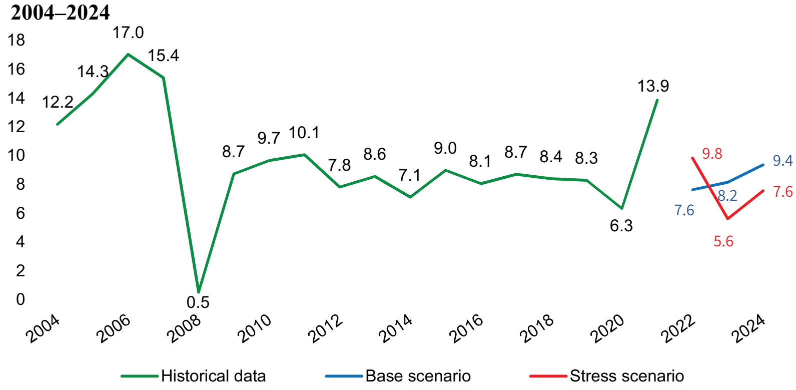
The stability of the banks over the course of the scenario is the result of the capital reinforcement policy adopted by the Banking Supervision Department in recent years. Furthermore, the path of the scenario, which includes high rates of inflation and interest, works to increase net interest income in the banking

[6] In comparison to scenarios carried out during the period 2017–20.

system due to a surplus of CPI-indexed assets over CPI-indexed liabilities in the banking system (for further details, see the section on business results). Nonetheless, this increase puts pressure on borrowers, including mortgage holders, and therefore leads to an increase in credit losses in the housing portfolio, alongside substantial losses in the rest of the economy's sectors. Nonetheless, the profitability of the system is maintained over the course of the scenario, as reflected in the return on equity (ROE; Figure 4).

The return on equity rates are high, even during the entire stress scenario.

Figure 4
Return on Equity (ROE) by Stress Scenario, Total Banking System
2004–2024

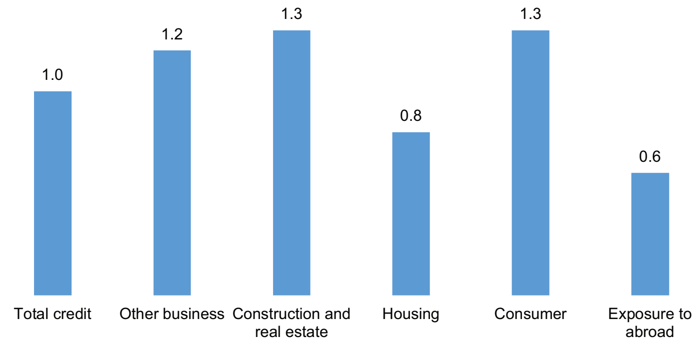


SOURCE: Banking Supervision Department calculations.

As in past scenarios, credit losses **are the main factor affecting the capital ratios**, where high rates of credit loss provisions are recorded in all sectors. The average rate of the credit loss provisions during the course of the scenario is 1 percent, which is similar to the scenarios in recent years, in which the average rate ranged from 0.8 percent to 1.2 percent. Furthermore, it appears that over the course of the scenario there is a gap between the distribution of the credit portfolio and that of the credit losses. The main losses in the scenario are the result of "Other businesses" (excluding construction and real estate)—approximately 34 percent of the total losses originate in this type of credit, even though its share of the credit portfolio is only about 27.5 percent (Figure 5), which reflects an average loss rate over the course of the scenario of 1.2 percent (Figure 5). There are also high rates of losses in the construction and real estate sector, which reach a level of 1.3 percent and are the result of, among other things, the increase in credit risk in this sector (for further details, see Box 1.8 in this survey). With respect to the housing portfolio, which accounts for 38 percent of the total credit portfolio, its weight within total losses is 30 percent over the course of the scenario (Figure 6). This gap originates in the low level of risk of housing credit relative to other sectors, which is the result of the measures adopted by the Banking Supervision Department over the years to mitigate the various risks. Nonetheless, it appears that the risk in the housing credit portfolio has increased in recent years, with the increase in the share of variable interest rate loans and in the portfolio's average PTI (for further details, see the section on credit). Relative to past scenarios, this is reflected in slightly higher loss rates. In the consumer credit portfolio, there are high rates of provisions (1.3 percent on average over the course of the scenario), but its weight in the total provisions is relatively low (about 13 percent) due to its low share of the credit portfolio. Another channel that threatens the capital ratio is the increase in bond yields, which works to reduce the value of the available-for-sale portfolio and to erode equity capital by way of total profit.

Loan-Loss Provisions rates are high in all segments.

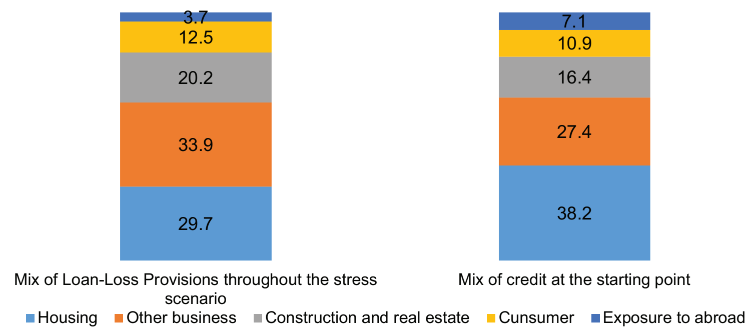
Figure 5
Average Loan-Loss Provision Rates in the Primary Segments Throughout the Stress Scenario (percent)



SOURCE:Banking Supervision Department calculations.

Housing credit as a share of total losses is lower than it is as a share of the total credit portfolio.

Figure 6
Distribution of Loan-Loss Provisions in the Stress Scenario vs Distribution of the Credit Portfolio by Primary Segment (percent)



SOURCE: Banking Supervision Department calculations.

A climate-related stress test

The Banking Supervision Department, like other supervisory authorities worldwide, will in the future carry out a climate-related stress test to evaluate the preparedness of the banking system for these risks and to identify focal points of vulnerability.[7] Climate stress tests relate to various risks (and first and foremost transition risk and physical risk) that have a significantly longer horizon (decades). Therefore, the Bank of Israel and the Banking Supervision Department are making the necessary preparations by gathering data from various sources, developing a predictive long-term model, and creating tools to analyze the scenarios (for further details on climate risk, see Box 1.2 in this survey).

[7] For further details, see the survey by the NGFS with respect to climate stress tests carried out by various supervisory authorities worldwide. "Scenarios in Action: A progress report on global supervisory and central bank climate scenario exercises", NGFS, October 2021.

Box 1.2: Analysis of the banking system's exposure to climate transition risk

- **There has been increasing global awareness of the existence and scope of climate risk in recent years. Against the background of climate events around the world and in view of the scientific data on climate risk and the urgency of dealing with it, there is growing concern about risks deriving from climate change. The banking system, among many other entities, is exposed to significant environmental risks, including climate risk.**
- **Against the background of the climate crisis, this box presents an analysis of the banking system's extent of exposure to large borrowers[1] that emit large amounts of greenhouse gases (in terms of CO_2[2] equivalents), which is liable to involve risks related to the transition to a net zero-emission economy.[3] This analysis is carried out by cross-referencing two separate databases: the database of emissions by large manufacturing facilities, which is maintained by the Ministry of Environmental Protection, and the database of large credit exposures, which is based on the banks' reporting to the Banking Supervision Department. The cross-referencing of these databases constitutes only an initial and partial analysis of the extent of the banking system's exposure to risks related to the climate crisis, since the databases encompass only about one-quarter of the bank credit portfolio and about 60 percent of total greenhouse gas emissions in Israel (Figure 1), and therefore they do not provide a full picture of the extent of the risk. The borrowers included in the analysis account for about 89 percent of the total emissions recorded in the Ministry of Environmental Protection database.**
- **The analysis indicates that the total level of gross credit risk[4] (herein, the level of credit risk) for large borrowers with a high level of CO_2-equivalent emissions[5] (herein: polluting borrowers) was about NIS 19.1 billion as of the end of 2020, which reflects an**

[1] According to the Reporting to Banking Supervision Directive for Large Credit Exposures (system D810), the minimum level of liability for reporting to the system is NIS 20 million.

[2] CO2-equivalent emissions: A carbon dioxide equivalent or CO2 equivalent, abbreviated as CO2-eq, is a metric measure used to compare the emissions of various greenhouse gases on the basis of their global-warming potential (GWP), by converting amounts of other gases to the equivalent amount of carbon dioxide with the same global warming potential. Carbon dioxide equivalents are commonly expressed in millions of metric tons of carbon dioxide equivalents. (European Environment Agency - Glossary, based on: IPCC Third Assessment Report, 2001).

[3] For evidence, see the Paris Agreement, the international agreement on climate change that was approved at the climate conference in Paris in December 2015. The agreement includes, among other things, a commitment to adopt measures to reduce greenhouse gas emissions with the goal of limiting global warming according to targets defined in the agreement. The agreement was adopted by many countries worldwide, including Israel (April 2016), and went into effect in November 2016.

[4] Total balance sheet and off-balance-sheet credit after write-offs and before credit loss allowance and before deductions.

[5] In this box, borrowers with high CO2-equivalent emission levels were defined as borrowers whose emission levels meet the minimum threshold criteria for reporting to the Ministry of Environmental Protection database. However, for a significant proportion of these companies there are no accurate data regarding the level of emissions. In consultation with the managers of the database, we assumed that the average CO2-equivalent emissions of a company with a low emission level is 500 tons per year for the calculation.

increase of about 57 percent relative to the end of 2019, when total credit risk of this type was about NIS 12.2 billion. The level at the end of 2020 also accounts for about 6 percent of the total credit risk due to large borrowers[6] in the banking system, a high level relative to the previous two years in which it stood at about 3.8 percent on average.[7]

- **The initial analysis also indicates that according to the government decisions approved during 2021 with respect to emission pricing[8], the level of taxation that will be imposed on polluting borrowers will be about NIS 7 billion (Table 1), which makes up about 37 percent of the total credit risk due to those borrowers.**

1. GENERAL BACKGROUND

In recent years, there has been increasing awareness of the existence and scope of environmental risk and the many challenges facing the financial system in general and the banking system in particular that arise in the management of this risk. Environmental risks deal with the exposure to threats that may result from environmental events or processes, including climate change. According to the Intergovernmental Panel on Climate Change (IPCC), scientists are detecting changes in the climate throughout the globe, many of which are unprecedented, particularly the rising average global temperature. According to a report by the IPCC in 2021[9], greenhouse gas emissions from human activity are responsible for about 1.1°C of the global increase in temperature since the period prior to the Industrial Revolution. Even in the most optimistic scenario of a rapid and immediate reduction in greenhouse gas emissions, the average future temperature will rise by about 1.5°C during the next 20 years. According to the Bank for International Settlements, such an increase will reduce global GDP by 8 percent by the year 2100.[10]

Overall, the banking system is exposed to climate risk through two main channels: physical risk and transition risk.

Physical risk is the result of exposure to acute climatic phenomena, such as heat waves, floods, fires, etc.,[11] as well as chronic climatic phenomena that develop over time[12], such as desertification

[6] This box analyzes only large borrowers that are companies and registered corporations (with a private company ID number), unless expressly stated otherwise.

[7] Note that at this stage, it is difficult to compare the rate of the Israeli banking system's exposure to credit of this type to the parallel rates of exposure in other countries in view of the limited data and its limited disclosure. However, it appears that with the entry of uniform standards for the disclosure of climate information, comparative analyses from an international perspective will become more feasible.

[8] According to Government Decision 286 from August 1st, 2021. For further details see: https://www.gov.il/he/Departments/policies/dec286_2021 [Hebrew]

[9] The IPCC is an entity established in 1988 by the UN and the World Meteorological Organization in order to evaluate the scientific knowledge on climate change and make it accessible to policy makers.

[10] The Regulatory Response to Climate Risks: Some Challenges, Rodrigo Coelho and Fernando Restoy, FSI Briefs, No 16, BIS, February 2022.

[11] Also called acute physical risks.

[12] Also called chronic physical risks.

and rising sea levels. Physical risk is liable to threaten the banking system through its effect on the value of borrowers' collateral, the functioning of the economy and labor productivity, which may lead to an increase in the probability of an adverse impact on the repayment ability of businesses and individuals. Nonetheless, physical risk is not examined in this box, in view of the currently limited data for assessing this type of risk.

With the goal of reducing to the extent possible the scope of the possible adverse impact from the realization of environmental risks, and even of creating economic opportunities through adjustments that could result in positive benefits (such as the economy expanding activity in sectors that are driving the transition to comply with the targets of a net emission-free economy), there is a global effort to adopt adaptive measures[13] to accomplish the transition to a greener economy. Various countries and organizations are also carrying out processes to mitigate emissions[14], with the goal of halting climate change through the reduction or even elimination of greenhouse gas emissions and the transition to a greener economy. This transition on its own constitutes an economic risk referred as "transition risk". This box relates to transition risk in the context of the Israeli banking system. The adverse impact in this case is liable to result from the cumulative effects of changes in government policy (such as carbon taxation or waste taxation), in technology (for example, a shift to green technology) and in consumer and investor conduct (for example, the effect of preferring goods or producers that do not harm the environment, which is liable to reflect the realization of reputation risk). These are liable to erode economic activity in various industries, and in turn to threaten the repayment ability of borrowers in those industries and the value of some of the banks' exposures along with the collateral that underlies them.[15] The main component of transition risk examined in this box is the taxation of greenhouse gas emissions, which in the future will be imposed on the economy[16] as part of Israel's international commitment to the global effort to reduce greenhouse gas emissions.[17]

The box presents an analysis of the exposure of the banking system's credit portfolio to transition risk. In the case of a bank, this risk can be the result of financing the activity of a company that will be adversely affected by the transformation of the economy to meet targets for CO_2-equivalent emission levels (herein: emissions). This is liable to affect the company's repayment ability and, depending on the sensitivity and extent of the bank's exposure to these borrowers, could even lead to a stability-related impact on the bank.

The Banking Supervision Department attributes great importance to the optimal management of environmental and climate risk in the financial context and to the mitigation efforts. It is active

[13] Adaptation involves processes of adjustment to the existing or expected effects of climate factors, in a way that mitigates the possible harm and/or exploits beneficial opportunities. For a full definition, see the IMF site.

[14] Mitigation involves human intervention to reduce and even eliminate greenhouse gas emissions. Examples include: (1) more efficient use of fossil fuels in industrial processes; (2) a shift to renewable energy; (3) improving the insulation of buildings; (4) expanding the scope of forestation in order to absorb emissions. For a full definition, see the IMF site.

[15] The Regulatory Response to Climate Risks: Some Challenges, Rodrigo Coelho and Fernando Restoy, FSI Briefs, No 16, BIS, February 2022.

[16] See footnote 8.

[17] For further details on Israel's share of total global emissions, see Chapter 7 of the Bank of Israel Annual Report 2021.

in this context as part of its role in maintaining the stability of the banking system. The Banking Supervision Department is currently operating in a variety of channels to deal with this issue and to formulate a comprehensive response to the management of climate risk. This includes adopting measures on a number of levels, such as disclosure obligations and a policy to monitor global developments. The main channels in which the Banking Supervision Department are working in order to deal with the emerging risks include: (1) formulation of up-to-date and comprehensive regulation that will be based on accepted international guidelines, with modifications to fit Israel's situation; (2) as part of the regulatory process, the Banking Supervision Department is maintaining a dialogue with the banks, with the goal of communicating supervisory expectations and evaluating their implementation; (3) formulation and execution of a uniform climate stress scenario (planned for 2022–23, when the analysis described in this box could become an initial basis for the execution of the stress tests); (4) participation in overall policy making by the government; (5) continued monitoring of publications, developments and regulatory measures worldwide; and finally (6) creation of a requirement to disclose quantitative and qualitative information on the main risks and their management, including environmental risk (for further details on the Banking Supervision Department's activity in this area, see Chapter 3 of this survey, as well as Box 2.1 in Israel's Banking System—2020).

The analysis presented in this box constitutes another step in the efforts to formulate and assimilate tools for the management of climate risk and was made possible by combining two separate databases: the record of emissions by industrial facilities which is maintained by the Ministry of Environmental Protection (for further details, see the appendix) and the database of large credit exposures, which is based on the banks' reporting to the Banking Supervision Department. Nonetheless, in view of the constraints on access to quantitative business information on environmental issues, which constitute a major challenge in the current management of environmental risks, it is not yet possible to obtain a full picture on the extent of the banks' exposure to climate risk in general and to polluting companies in particular (as described in Figure 1).[18]

It is important to note that the analysis in this box constitutes only a partial picture of the total credit allocated by the banking system to borrowers exposed to environmental transition risk (which can include: (1) borrowers whose business activity generates emissions, although their total liability does not exceed the threshold for reporting to the Large Credit Exposure System, which as mentioned, is analyzed in this box; (2) borrowers whose business activity does not necessarily cause pollution directly, although they make use of or are dependent on polluting industries for their business operations and therefore are indirectly exposed to transition risk, as will be explained below).

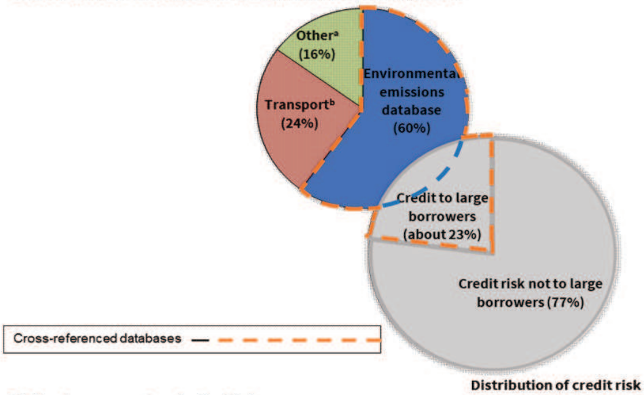
On the credit side, the analysis does not include credit that is not reported as part of large credit exposures, such that the polluting activity financed by business credit that does not exceed the

[18] The breakdown of greenhouse gas emissions in Israel is based on the emissions inventory appearing on the UN website: https://unfccc.int/documents/370343.

reporting threshold—as in the case of credit to households as well—is not included in the analysis.[19] In light of the explanations below, we assume that the analysis constitutes an underestimation of the banking system's degree of exposure to transition risks.

The data cross-referenced from total credit risk and from total greenhouse gas emissions in Israel provide only a partial picture of the volume of credit that the banking system has allocated to environmental risk.

Figure 1
Distribution of Greenhouse Gas Emissions in Israel (percent)



Findings from cross-referencing the databases

Credit to large and polluting borrowers as a share of outstanding credit to large borrowers	6%
Emissions from borrowers included in the analysis as a share of total emissions reported to environmental emissions database	89%

[a] Industries included in "other": agriculture, aircraft and seacraft entering and exiting Israel.
[b] Transport includes: vehicles, trains, and internal maritime shipping and air travel.
SOURCE: Based on itemized reports to the Ministry of Environmental Protection and the Banking Supervision Department.

[19] Nor does the reporting include large borrowers without an active company number, such as municipalities and borrower groups.

2. ANALYSIS OF CREDIT RISK OF POLLUTING BORROWERS

In an effort to estimate the extent of the banking system's exposure to polluting borrowers, the following describes the trend in credit allocated to them by the banking system.

At the end of 2020, total credit risk attributed to large borrowers in the banking system was approximately NIS 346 billion. Of this, total credit risk due to polluting borrowers was about NIS 19.1 billion. The development of credit risk from 2019 to 2020 was also examined in the analysis. While total credit to large borrowers grew by about 15.3 percent (from about NIS 300 billion to NIS 346 billion), total credit to those defined as polluters increased by about 57 percent (from NIS 12.2 billion to NIS 19.1 billion).

Thus, while the share of large polluting borrowers was about 3.8 percent on average of the total large borrowers in the banking system in 2018–19, that figure grew to about 6 percent in 2020.

In an examination of the degree of concentration in the credit provided to large polluting borrowers, the proportion of credit risk to the 10 and 20 largest borrowers among the polluting companies was calculated. Thus, the total credit risk was about NIS 12.7 billion for the 10 largest borrowers and NIS 16.9 billion for the 20 largest, which constitutes about 67 percent and 88 percent of the total credit risk to large polluting borrowers, respectively. As the absolute majority of credit to polluting borrowers is accounted for by a relatively small number of borrowers, it can be concluded that this credit is characterized by a relatively high level of concentration.

An examination of the growth in credit to polluting borrowers by industry shows that electricity and gas supply, chemicals production and petroleum products production were a major component of the growth in credit to polluting borrowers during 2020. This is in spite of the moderate reduction in credit to other industries (such as mining and quarrying and civil engineering projects).

More than 80 percent of the emissions originates from large polluting borrowers in the electricity, gas, steam and air conditioning (cooling) supply industry (herein, the electricity and gas supply industry; Figure 2), while the share of credit to this industry within total credit to polluting borrowers is about 38 percent. In contrast, among industries classified as "Other", about 28 percent of the total credit to polluting borrowers finances only about 0.7 percent of the total emissions of polluting borrowers.

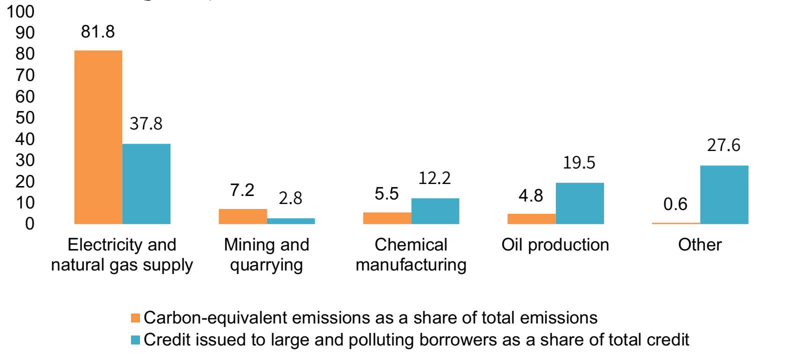
Pursuant to the aforementioned and in an attempt to estimate the extent to which credit provided by the banking system to polluting companies finances high emissions, we looked at the emission intensity[20], namely the ratio of total CO_2-equivalent emissions by polluting companies to the amount of credit provided to them (namely, what quantity of emissions are financed by each unit of credit).[21] This calculation was carried out under the assumption that there is variance in credit to polluting borrowers with respect to the sensitivity of credit to transition risk. In general, we assume that the greater the emission intensity, the greater will be the exposure to transition risk. This is because the channels of realization of transition risk for each level of credit to polluting borrowers is likely to cause greater harm to borrowers with higher emission intensity levels. (For example, in the scenario of a tax on emissions, the more polluting a borrower's activity is, the

[20] This ratio reflects total CO2-equivalent emissions (in tons) for every million shekels of credit allocated by the banking system to companies characterized by high emissions. For example, if the ratio is 5,000, then for each million shekels of credit provided there are 5,000 tons of emissions annually.

[21] In tons and millions of shekels.

The electricity and natural gas supply industry accounts for more than 80 percent of emissions among large polluting borrowers.

Figure 2
Credit to the Industry as a Share of Total Credit to Large and Polluting Borrowers, Compared to the Industries Share of Total CO_2 Equivalent Emissions, 2020 (percent)



SOURCE: Based on itemized reports to the Ministry of Environmental Protection and the Banking Supervision Department.

higher will be its tax payments and the greater the adverse effect on that borrower will be). In view of the aforementioned, the ratio of emissions to credit should serve as an indicator of the sensitivity of credit to transition risk in certain sectors and the extent to which they will be required to modify their business models in order to maintain sustainable profitability.

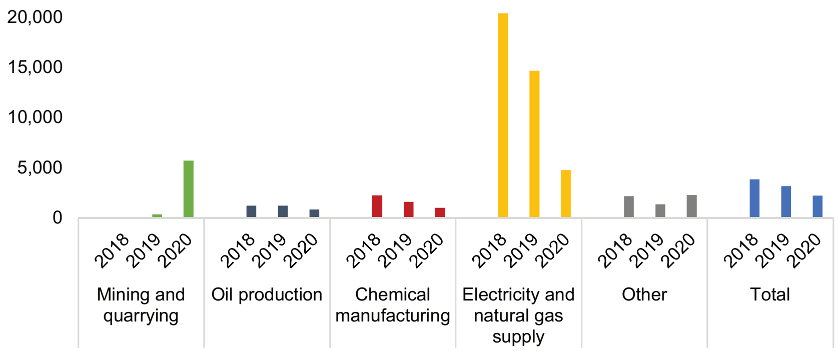
This analysis shows that the mining and quarrying industry had the highest emissions to credit ratio in 2020 (Figure 3), while the electricity and gas supply industry had the most intensive emissions on average during the period 2018–20, although the ratio for this industry has declined over the years due to the faster growth in its credit than in its total emissions.

From an overall perspective of the total commercial credit portfolio (which includes commercial credit to large borrowers and other commercial credit), it was found that a relatively small proportion of the commercial credit portfolio is exposed directly to emissions-intensive industries. Nonetheless, it is important to note that although certain industries are not directly emissions-intensive, that does not necessarily mean that their operations are not dependent on polluting industries, and therefore they may be exposed indirectly to transition risk.[22] According to this approach, the manner of reporting emissions by companies in the economy should include the emissions for which the companies are responsible all along the supply chain, in order to

[22] EBA/Rep/2021/11, Mapping climate risk: Main findings from the EU-wide pilot exercise, May 2021.

The electricity and natural gas supply industry's intensity of emissions is the highest, but there was a decline in this industry between 2018 and 2020, due to the more rapid growth of credit than of emissions.

Figure 3
Intensity of CO_2 Equivalent Emissions[a] by Large and Polluting Borrowers, by Industry, 2018–2020 (percent)



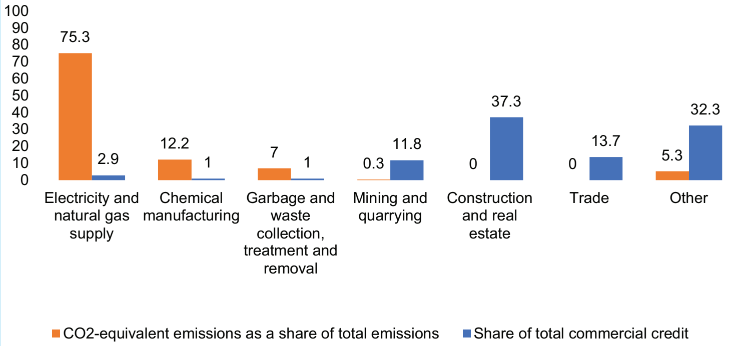
[a] Tons of CO2-equivalent emissions per million shekels of credit.
SOURCE: Based on itemized reports to the Ministry of Environmental Protection and the Banking Supervision Department.

reflect the external effects of their activity, as recommended in the professional literature,[23] and the reporting should reflect the total volume of emissions resulting from the companies' activity. However, this box, which analyzes the direct emissions of companies (Scope 1 emissions),[24] found that while two industries, namely chemicals and electricity and gas, alone account for about 87 percent of CO_2-equivalent emissions from the industries presented, their weight in commercial credit is only 4 percent (Figure 4). In contrast, the construction and real estate industry and the trade industry, which constitute more than half of total commercial credit (NIS 428 billion), do not have any weight in total CO_2-equivalent emissions.

23 According to the NGFS, the emissions produced by the economy are divided into three different scopes:
Scope 1: direct emissions that originate from sources under the ownership or control of the company;
Scope 2: indirect emissions that originate in the purchase of polluting raw materials (including electricity, energy, heating/cooling, etc.);
Scope 3: indirect emissions that are not included in Scope 2 and occur along the company's supply chains or as a consequence of using the companies' goods or services.
For a further discussion, see the NGFS Technical Document, December 2021.
24 See Footnote 23.

The electricity and natural gas supply industry accounts for more than 75 percent of total emissions reported to the environmental emissions database. Credit to this industry accounts for about 3 percent of total commercial credit in the banking system.

Figure 4
Credit to the Industry as a Share of Total Commercial Credit in the Banking System, Compared to the Industry's Share of Total CO2-Equivalent Emissions, 2020 (percent)



1) "Other" industries include industries that account for up to 0.3 percent of total CO_2-equivalent emissions.
2) In view of the different classifications of industries between the databases, the distributions presented are approximations.
SOURCE: Based on itemized reports to the Ministry of Environmental Protection and the Banking Supervision Department.

Construction and real estate is an example of an industry which according to the Ministry of Environmental Protection database does not directly pollute, but which is reliant on the business activity of emission-intensive industries. Thus, from the perspective of externalities, it should be taken into account that the economy's transition to meet targets that are in line with a low CO_2-equivalent emissions policy is liable to be accompanied by shocks and externalities that will spill over to these industries as well.[25]

3. ANALYSIS OF THE EFFECT OF A CO_2-EQUIVALENT EMISSION TAX ON LARGE POLLUTING BORROWERS

As part of the effort to monitor the extent of exposure to climate risk in general and to transition risk in particular, this box presents an initial analysis of the banking system's total exposure to polluting borrowers who are most exposed to the risk of the transition to a zero-emissions economy. Accordingly, an analysis of this type can serve as a starting point for stress tests of climate change. Although there is a high level of

[25] Slide 35, NGFS (2021), "NGFS Climate Scenarios for central banks and supervisors," https://www.ngfs.net/en/ngfs-climate-scenarios-central-banks-andsupervisors june-2021

uncertainty in the realization of the risk of transition to a zero-emission economy, there is an understanding that it will be realized with some probability. One of the channels of transition risk with a relatively high likelihood of realization is an emissions tax imposed on polluting companies. For purposes of illustration and with the goal of estimating the size of the tax to be imposed and its implications, two scenarios were examined for the size of the average annual tax. Each scenario calculated not only the absolute level of the tax collected from polluting borrowers but also the rate of that tax within total credit risk, which provides an estimate of the possible effect on the profits of polluting companies. Scenario 1, which is based on the "green book" published by the Ministry of Environmental Protection to evaluate and measure external costs,[26] assumes that the total tax to be imposed will be about NIS 167 per ton of CO_2-equivalent emissions, so as to appropriately capture the negative externalities originating from polluting activity. In this context, the total tax on polluting borrowers will total NIS 7 billion (Table 1), which constitutes about 37 percent of the credit risk due to those borrowers.[27] However, and as noted above, the electricity and gas industry constitutes the main channel for emissions in the economy and in order to formulate a clearer picture regarding the effect of the tax on the other industries in the economy, a calculation without the electricity and gas industry is also presented. Thus, net of this industry, the total tax declines significantly to about NIS 1.1 billion, and to about 10.7 percent of the total credit risk due to polluting borrowers without the electricity and gas industry. According to Scenario 2, which assumes a higher tax (similar to the tax currently imposed by the EU of €100 per ton),[28] the total tax for the total system, and the system without the electricity and gas industry, increases to NIS 14.6 billion and NIS 2.6 billion, respectively, which make up about 76.1 percent and 22.2 percent of total credit risk, respectively.

APPENDIX: THE DATABASES

1. The emissions database: This is a database of facilities that produce carbon emissions (or carbon-equivalent emissions). The data are reported to the Ministry of Environmental Protection and are made available annually to the public based on the Law for the Protection of the Environment. The database includes data on emissions into the environment, the flow of waste from sewage treatment plants, and the movement of waste for treatment or disposal. According to the Ministry of Environmental Protection's sources, the share of emissions from manufacturers that report to this database within total emissions from Israeli manufacturing is more than 60 percent. In the reporting framework, there is a range of emissions that do not reach the threshold for reporting but which represent relatively low volumes of emissions. Subject to the recommendation of the database management, it was assumed that these emissions would be calculated as 500 tons of CO_2-equivalent emissions per year (herein: polluting companies).

[26] For further details on the evaluation and measurement of externalities, see the "green book" of the Ministry of Environmental Protection, in accordance with the government decision on this issue (for further details, see Footnote 8 in this box).

[27] The total annual carbon tax was calculated by multiplying the total carbon-equivalent emissions of all polluting companies (in tons) by the tax per ton (in NIS). The average total tax per polluting company was calculated as the total annual carbon tax divided by the number of polluting companies on which the tax is imposed.

[28] Based on data presented on the site of EU ETS Emissions Trading Systems.

Table 1: Annual Carbon Tax – 2020				
	Scenario 1 – NIS 167 per ton		Scenario 2 – NIS 346 (€100) per ton	
	Total system	Net of electricity and gas	Total system	Net of electricity and gas
Total tax (NIS million)	7,032	1,278	14,561	2,647
Ratio of total tax to total credit risk of polluting borrowers	37 percent	10.7 percent	76.1 percent	22.2 percent
Total average tax per company (in NIS million)[1]	24.1	4.6	50.0	9.5
1 See Footnote 26.				

2. Database of large credit exposures: This database is maintained by the Ministry of Justice and is managed by the Bank of Israel based on data reported based on Directive D810 of the Reporting to Banking Supervision Directives. This database includes specific data on the total exposure of the banks to the largest borrowers in the banking system, where the minimum level of exposure for reporting purposes is NIS 20 million. The database contains individual data on large borrowers. In addition to the direct exposure to large borrowers that are characterized by high CO_2-equivalent emissions, account should also be taken of the exposure to contagion risk. To the extent that the resilience of certain companies is adversely affected, supply chains and other areas in the economy are liable to be affected as well.

Box 1.3: Implementation of accounting standards for current expected credit losses (CECL) and the implications for Israel

- **As part of the lessons learned from the global financial crisis in 2008–09, it became clear that banks worldwide did not have sufficient buffers against credit losses that were realized, since the allowances made did not sufficiently reflect expected future risks. Therefore, it was decided to change accepted accounting standards for banks worldwide to ensure that allowances would sufficiently reflect the expected losses in the credit portfolio, using a forward-looking approach.**
- **In view of the importance attributed by the Banking Supervision Department to applying lessons learned from crises and the adoption of accepted international standards, the Banking Supervision Department has instructed the banking corporations to adopt the new guidance, adopted in the US, for Current Expected Credit Losses (CECL) starting from January 2022.**
- **The adoption of the new guidance is intended to strengthen the resilience of Israeli banking corporations in times of financial crisis, with the goal of maintaining the confidence of the public in the banking system.**
- **Up-to-date information published by the banking corporations shows that the allowance for credit losses is expected to increase moderately on the date of initial implementation. Since the effect of the transition on capital adequacy will be spread out over three years, no major effect is expected on that date.**

BACKGROUND

The allowance for credit losses is intended to serve as a buffer to absorb expected losses from credit to the public and thus to maintain the stability of the banks and their ability to continue providing credit, even in times of crisis, during which credit losses will be realized, and also to better reflect their financial position.

During the global financial crisis of 2008–09, it was demonstrated that following a prolonged period of healthy economic conditions, and as a result of insufficient attention to risk expectations, the allowance for credit losses of many of the banks worldwide had declined significantly and had reached a low point soon before the onset of the crisis. As a result, the allowance for credit losses of many banks worldwide were not sufficient to absorb the credit losses that were realized in the financial crisis, and many of them failed or remained without any ability to continue providing credit, during a period in which the public was in particular need of it.[1]

Against this background, and as part of the lessons learned from the financial crisis, it was decided that new reporting guidance would be established with the goal of strengthening the resilience of the banking systems worldwide in the face of financial crises and improving the quality of information reported on their financial position. In this way, the ability of the banking system to continue providing credit to the public during a crisis would be strengthened, as would the public's confidence in the banking system.

[1] OCC - John C. Dugan - "Loan Loss Provisioning and Pro-cyclicality", March 2009.

The main goals of the new guidance

The new guidance[2] is intended to strengthen the resilience of the banking corporations and to improve the quality of banks' financial statements, by earlier recognition of forward-looking and prudent credit loss allowance, which reduces procyclical characteristics of loan-loss provisions and supports a more rapid response by the banks to a deterioration of borrowers' credit quality, as well as strengthening the connection between the manner in which credit risk is managed and the manner in which this risk is reflected in the banking corporations' financial reports.

US authorities' references indicate that the new guidance, which was implemented at the start of 2020, was implemented as intended during the COVID-19 crisis. The changes in credit loss allowances during the pandemic were in line with the changing evaluation of risk in the credit portfolio, and improved the ability of US banks to deal with future threats. Furthermore, better information was provided in the banks' financial statements.

The main changes expected in the banking corporations' financial reports

- Credit loss allowances will be determined according to the bank's estimation of expected losses over the lifetime of the credit, rather than estimating incurred losses as of the date of the report.
- The aforementioned calculation of expected losses will take into account historical losses and the uncertainty implicit in the realization of these losses, and greater use will be made of forward-looking information, based on, among other things, reasonable forecasts of future economic events.
- Each banking corporation will calculate its credit loss allowance in accordance with the methods that it decides are consistent with its risk management. To this end, certain minimum requirements that were established according to Banking Supervision Department directives were cancelled, including the method of minimum allowance according to the extent of arrears, which was applied for housing loans.
- There will be improved consistency between the measurement of credit losses in debt securities and the measurement of these losses in the credit portfolios.
- The guidance for classifying and writing off housing loans in arrears were revised and rules were determined for removing housing loans in arrears for an extended period from Tier 1 Capital.
- The disclosure of credit to the public will be expanded, such that the reports to the public will include main credit quality indicators; the effect of the credit origination date on the credit quality of the credit portfolio will be made clear; and a broader disclosure of the credit portfolio's term to final repayment will be included.

The Banking Supervision Department's approach

One of the basic principles underlying the activity of the Banking Supervision Department is that a high degree of transparency in the banking corporations' public financial reports is essential in order to

[2] The rules include: (a) rules published in the US in June 2016 by the Financial Accounting Standards Board in the US (ASU 2016-13); (b) clarifications by authorities in the US regarding the application of the new rules; and (c) directives of the Basel Committee that relate to these rules.

ensure the stability of the banking system and to maintain a high level of public confidence in the banking system. Therefore, the Banking Supervision Department has for many years imposed a stringent system of accounting and reporting directives on the banking system, which is based on the reporting principles prevailing in the US. The Banking Supervision Department strives to achieve a goal in which the banking corporations' financial reports prudently and appropriately reflect their financial position, and provide the public with disclosure of relevant and up-to-date developments. Accordingly, the Banking Supervision Department considers it important that the banking corporations adopt adequate and prudent methods for calculating credit loss allowances.

As part of the adoption of the new guidance, the Banking Supervision Department published directives, FAQs, and translations of the relevant documents. It also held discussions with the banking corporations and their accountants with respect to the main issues and challenges in the implementation of the new guidance and provided support for the preparations to implement the new guidance. A major challenge for the banking corporations was that the new guidance requires banking corporations to exercise a considerable amount of discretion in order for them to implement the new guidance in a way that is most appropriate to their circumstances, abilities and method of risk management.

Implementation of the new guidance in Israel

The new guidance was implemented by the banking corporations starting in January 2022, while the credit card companies will be implementing them starting from January 2023. The initial implementation date was determined to allow sufficient time for the banking corporations to prepare properly and to learn from the experience accumulated from the implementation in the US, and to allow an organized and well-monitored parallel run of the new measurements methods of the allowance for credit losses and their internal controls.

Each banking corporation chose the most appropriate allowance method for the portfolio's measurement in each of its main portfolios (commercial, housing, and consumer), according to the circumstances and character of the portfolio, the available data, and the way in which the banking corporation manages risk.

Based on the monitoring activities conducted by the Banking Supervision Department, it was found that following the implementation of the new guidance, there will be greater variation in methods for calculating the allowance in the banking corporations and they will become more aligned with the risk management systems used by each bank. This includes methods based on the internal rating of credit risk used by banking corporations for risk management that take into account the probability of default by borrowers and the expected loss given default. These methods will become more common in the banking corporations, primarily in order to calculate the allowances for consumer and housing credit.

Furthermore, each banking corporation has developed methods for calculating the required qualitative adjustments under the new guidance. These adjustments are tailored specifically to the allowance method chosen by the bank, so that its calculation will take into account the limitations of the selected allowance method and qualitative factors that it does not take into account. In addition, each banking corporation chose a comprehensive process for examining the appropriateness of its credit loss allowance, including reasonableness checks and appropriate controls that are designed to ensure that the allowance is reasonable.

The expected effect of adopting the new guidance by the banks in Israel

According to the disclosure included in the banking corporations' financial statements for 2021, the allowance for credit losses is expected to grow due to the adoption of the new guidance on January 1st, 2022 by about NIS 1.6 billion, an increase of about 0.12 percent of the allowance for credit losses relative to total credit to the public. The aforementioned increase is primarily the result of the increase in the allowances for the commercial credit portfolio and for the consumer credit portfolio, alongside a moderate reduction in the allowance for the housing loan portfolio.

The effect of the guidance's adoption by the Israeli banking corporations is relatively moderate. This is a result of, among other things, the activity of the Banking Supervision Department during the coronavirus crisis, which led to an increase in expected credit losses, as well as the consistent policy adopted by the Banking Supervision Department over the years to require a conservative and prudent implementation of the rules according to the then-existing allowance method.

Following is an additional estimation of the effect of the initial adoption of the new guidance on the rates of allowance for credit losses relative to total credit to the public for the largest banking corporations in Israel:

	System	Hapoalim	Leumi	Discount	Mizrahi Tefahot	First Int'l	Jerusalem
December 31, 2021 (existing rules)	1.35%	1.65%	1.43%	1.52%	0.85%	1.13%	0.96%
January 1, 2022 (CECL)	1.47%	1.79%	1.61%	1.59%	0.96%	1.19%	0.89%
Difference	**0.12%**	**0.14%**	**0.17%**	**0.07%**	**0.11%**	**0.06%**	**-0.06%**

SOURCE: Based on the banking corporations' financial statements for 2021.

As noted, the methods of calculating credit loss allowances are expected to reflect better the levels of risk in the credit portfolio and developments in those levels. It will also allow for an earlier response to a deterioration in the quality of credit and in the quality of underwriting. Weaknesses in credit underwriting during prosperous economic periods will be reflected by recording larger credit loss provisions at the time of underwriting, such that when these weaknesses are realized in the form of credit losses and write-offs, there need to revise the allowances and provisions for credit losses will be more moderate.

The Banking Supervision Department will continue to monitor the adoption of the new guidance by the banking corporations in order to ensure the continued improvement of credit loss allowance methods and of information provided on the banks' financial position, with the goal of reinforcing the banking corporations' resilience to crises in the future.

Box 1.4: The Net Stable Funding Ratio

- **The Net Stable Funding Ratio (NSFR) was developed by the Basel Committee as part of the lessons learned from the global financial crisis that began in 2007, and aims to improve the stability of the banking system's funding profile in the long term/run. This, by requiring that the funding of a bank's activity be based primarily on relatively stable and long-term sources of financing.**
- **The NSFR was adopted in Israel in 2021. It did not result in a significant change to the profile of the banking corporations' activity.**
- **The banking corporations reported the NSFR for the first time in the financial statements for 2021 and all of them had a NSFR that exceeded 100 percent.**

Background

The global financial crisis in 2007–08 increased the awareness of liquidity's importance in the orderly functioning of the financial markets and the banking sector. The period prior to the crisis was characterized by a prosperity in the capital markets and easily accessible financing; however, the rapid turnaround in market conditions impaired the ability of the banks to raise funding, increased their uncertainty regarding the continued availability of funding sources and even negatively impacted the ability of some of the banks to meet their obligations. The banking system in various countries experienced a major crisis, which forced the central banks to take measures in support of the functioning of the financial markets, and in certain cases even to provide assistance to individual banks and financial institutions.

In response to the global financial crisis, the Basel Committee (herein: the Committee) published, in 2008, a document of guidelines for the proper management and supervision of liquidity risk.[1] The Committee also strengthened the framework for the management of liquidity risk by developing two standards: a minimum standard for liquidity risk and a minimum standard for funding risk. These standards were meant to achieve two separate but complementary objectives. The first is intended to promote the resilience of a bank's liquidity profile in the short term, by means of a requirement from banks to hold a sufficient amount of **High-Quality Liquid Assets (HQLA)**, thus allowing them to survive a major stress scenario that lasts 30 days. To this end, the Committee developed the **Liquidity Coverage Ratio** (LCR).[2] This ratio was gradually adopted in Israel starting from April 1st, 2015 (and was fully implemented by January 1st, 2017). The second objective is to reduce the risk in raising liquidity (funding) in the long term, by means of a requirement from banks finance their activity using sufficiently stable sources of funding. This reduces the risk of a possible crisis in the bank's ability to obtain funding in the future. In order to achieve this second objective, the Committee developed the **Net Stable Funding Ratio** (NSFR)[3], which is the subject of this box.

1 Principles for Liquidity Risk Management and Supervision https//:www.bis.org/publ/bcbs144.htm.
2 See Basel III: The liquidity coverage ratio and tools for monitoring liquidity risk, https//:www.bis.org/basel_framework/standard/LCR.htm.
3 https//:www.bis.org/basel_framework/standard/NSF.htm.

In order to maintain an NSFR equal to or exceeding one, a bank must maintain a stable funding profile in accordance with the composition of their balance-sheet and off-balance-sheet assets and activities. The goal is to reduce the risk that possible disruptions in the bank's regular sources of funding (for example, raising funds from the capital market) will erode its liquidity position and thus increase its risk of default, which will lead to a broader systemic scenario. The NSFR prevents overreliance on short-term wholesale funding even if it is inexpensive and accessible in some periods; encourages a more precise assessment of **funding risk;** and promotes the individual bank's funding stability and that of the banking system as a whole.

The Committee set the NSFR application date on January 1st, 2018. In Israel, it was adopted on December 31st, 2021. Information on the dates of adoption for other selected countries is presented below.

The structure of the ratio and its components

The NSFR is defined as the **available amount of stable funding** divided by the **required amount of stable funding**. This ratio should be equal to at least 100 percent.

$$\frac{\textbf{Available amount of stable funding}}{\textbf{Required amount of stable funding}} \geq 100\%$$

Available amount of stable funding is the portion of capital and of liabilities that can be relied on as a source of funding for a time horizon of one year or more (the time horizon of the NSFR). Each instrument (capital or liabilities) is assigned an available stable funding coefficient that reflects the expectation that it will remain on the balance sheet and thus, to what extent it can be used by the bank to finance its long-term assets. The available stable funding coefficient (a uniform regulatory coefficient) is influenced by the instrument's remaining term to maturity (in general the contractual period), the type of instrument, and the counterparty. The bank's total available stable funding is the sum of the products of each category of liabilities and capital multiplied by the relevant available stable funding coefficient.

Required amount of stable funding is the total assets (including off-balance-sheet exposures) that a bank is expected to have to finance over the time horizon of a year or more and thus must hold available stable funding against it. A required stable funding coefficient is assigned to each balance sheet asset, which reflects the extent to which the asset is expected to remain on the bank's balance sheet in the long term and therefore the bank will have to fund it. The required stable funding coefficient (a uniform regulatory coefficient) is influenced by the asset's term to redemption (in general the contractual period), the type of the asset and the counterparty and involves an assumption that the bank will continue to extend credit in the future. For example, long-term funding is not required against a liquid asset or against an asset with a short maturity; a risky asset will require larger long-term funding than a less risky asset (given an identical maturity). In addition, off-balance sheet liabilities are assigned a required stable funding coefficient according to the type of liability. The total required stable funding is the sum of the products of each category of assets multiplied by the relevant required stable funding coefficient, plus the sum of each off-balance-sheet exposure multiplied by the relevant required stable funding coefficient.

Classification of capital and liabilities according to the required stable funding coefficient (main categories):

100 percent	95 percent	90 percent	50 percent	0 percent
• Regulatory capital before adjustments and deductions. • Liabilities with residual maturity of one year or more.	• Stable deposits of retail customers and small businesses with residual maturity of up to one year.[4]	• Less stable deposits of retail customers and small businesses with residual maturity of up to one year.	• Funding from banks and central banks with residual maturity of 6 to 12 months. • Funding from wholesale customers and also from sovereigns and public sector entities with residual maturity of up to one year. • Operational deposits	• Liabilities and capital not included in the other categories. • Liabilities without a defined maturity date (apart from two exceptions: minority rights and deferred taxes). • Net liabilities due to derivatives.

Classification of **balance-sheet assets** according to the required stable funding coefficient (main categories):

0 percent	5 percent	10 percent	15 percent
• Cash • Reserves at central banks; • Debts of central banks with residual maturity of up to six months.	• Level 1 liquid assets[5]	• Loans to financial institutions that are secured by Level 1 liquid assets.	• Loans to financial institutions with residual maturity of up to 6 months; • Level 2a liquid assets.

[4] With regard to the net stable funding ratio, a period of up to one year does not include a period of exactly one year and similarly, a period of up to 6 months does not include exactly 6 months.

[5] As defined in the liquidity coverage ratio directive. Examples of Level 1 liquid assets: cash, deposits at the Bank of Israel, Israel government bonds.

50 percent	65 percent	85 percent	100 percent
• Level 2b liquid assets. • Loans to financial institutions and central banks with residual maturity of 6 to 12 months. • Operational deposits with others. • Assets with residual maturity of up to one year that were not included in previous categories.	• Housing loans with residual maturity of one year or more and a risk weight of 35 percent. • Other loans with residual maturity of one year or more and a risk weight of up to 35 percent (inclusive).	• Assets placed as initial margin or as collateral for a default fund. • Loans with residual maturity of a year or more that were not included in previous categories (apart from financial institutions). • Securities with residual maturity of more than one year and exchange-traded shares.	• Assets due to derivatives. • Assets without a defined maturity. • Assets not included in previous categories. • 5 percent of liabilities due to derivatives.
Required stable funding coefficient on undrawn portion of **off-balance-sheet credit exposures:**			
1 percent	3 percent	5 percent	To be decided on by the bank
• Guarantees for homebuyers, in case the home was delivered to the buyer.	• Guarantees for homebuyers, in case the home that has not yet been delivered to the buyer.	• Committed and uncommitted credit and liquidity facilities. Obligations related to trade financing. • Guarantees and other letters of credit.	• Non-contractual funding obligations.

The main differences between the two regulatory liquidity ratios that apply to the banks

- The assumptions underlying the **NSFR** reflect normal business situation, while the assumptions of the **LCR** reflect a combination of idiosyncratic and systemic stress scenario (a combined scenario).
- The NSFR is a structural ratio based on on-balance-sheet and off-balance-sheet balances. The LCR in part reflects a cash flow (denominator) and in part balances (the stock of HQLA).

Adoption in Israel

Proper Conduct of Banking Business Directive number 222 (herein Directive 222) was published in June 2020. The directive adopted the NSFR in Israel, and went into effect on **December 31, 2021.** Therefore, the banking corporations in Israel were required to comply with this ratio for the first time at the end of 2021 and to report it for the first time in their annual financial reports.

The adjustments that were made to the Committee's standard were meant to modify the NSFR according to the characteristics of the Israeli banking system and the manner in which the LCR was adopted in Israel.

Unlike the LCR, the NSFR requirement applies only on a consolidated basis and only on the basis of all currencies. Nonetheless, the directive includes qualitative requirements to monitor the NSFR on the basis of legal entities and significant currencies.

Proportionate application

According to the trend in banking regulation in Israel and worldwide, Directive 222 would be implemented in a proportionate manner. Thus, in light of their risk characteristics and their activity's size, foreign bank, a new bank as defined in Proper Conduct of Banking Business Directive 480 and acquirers are exempt from maintaining the NSFR, as defined in Directive 222, subject to their meeting of certain conditions.

Adoption in other countries

	EU[6]	**US**[7]	**Australia**[8]	**Hong Kong**[9]
				
Adoption date	June 2021	July 2021	January 2018	January 2018
Proportionate implementation	Banks that are defined as small and non-complex are likely to be subject to a more simply calculated ratio.	The banks are classified into a number of categories (according to assets size and wholesale funding size). The largest banks are required to comply fully with the ratio; other large banks are required to comply with a reduced ratio (85 percent or 70 percent) and the rest are not required to comply with the ratio.	The banks are divided into two categories: the largest banks are required to comply with the ratio (LCR ADIs, a level to be decided on by the supervisory authority).	The banks are divided into two main categories: the large banks (Category 1) must fully comply with the ratio. Other banks, according to the decision of the supervisory authority, must comply with a simpler ratio (Core Funding Ratio) at a rate of 75 percent.

The NSFR data as of December 31st, 2021 indicate that the banks are complying with the minimal required ratio and even exceeding it.

	Total banking system	Leumi	Hapoalim	Mizrahi-Tefahot	Discount	First International	Jerusalem
Available amount of stable funding	1,383,989	379,338	389,924	259,631	226,437	115,045	13,614
Required amount of stable funding	1,053,608	290,290	277,447	218,447	178,661	78,505	10,258
Net Stable Funding Ratio	**131%**	**131%**	**141%**	**119%**	**127%**	**147%**	**133%**

*Data Source: Financial Reports for 2021, data in NIS billions, on a consolidated basis Overall, the banks in Israel have not had to make any major changes in their balance sheets in order to meet the NSFR requirement, since their

[6] As part of Regulation (EU) 2019/876.

[7] Parallel publications by regulators: FDIC: CFR 12 part 329, Federal Reserve: CFR 12 part 249, OCC: CFR 12 Part 50.

[8] Prudential Standard APS 210 Liquidity (APS 210) and Prudential Practice Guide APG 210 Liquidity (APG 210)

[9] As part of Rules Cap. 155Q Banking (Liquidity).

funding profile is consistent with the goals of the ratio, namely the funding of credit activity is primarily from public's deposits rather than interbank financing or capital markets funding.

The average NSFR of the banks in Israel is slightly higher than the average for a sample group of banks in other countries (data from the survey of implementation of Basel III that is published by the Basel Committee)

	Average NSFR according to the BIS survey of implementation[10]	
	Group I	Group II
June 30, 2021	125 percent	130 percent
December 31, 2020	123 percent	126 percent

[10] Group I includes banks with Tier 1 Capital of greater than €3 billon and international activity (total of 103 banks); Group II includes the rest (54 banks). See https//: www.bis.org/bcbs/publ/d531.htm

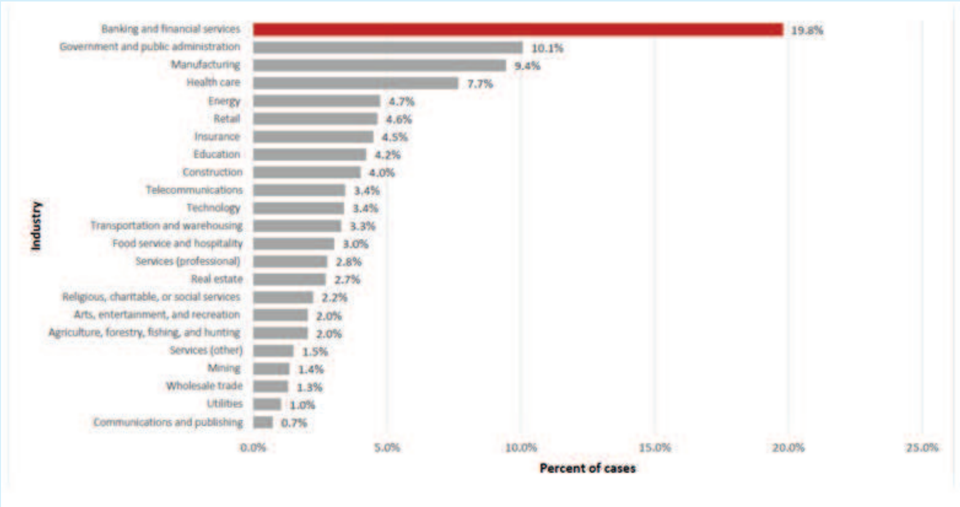
Box 1.5: Review of banking system activity to prevent, detect and respond to fraud

- **The Banking Supervision Department has recently completed a systemic on-site examination of the internal control of fraud risk, with the goal of strengthening and improving the ability of the banks to prevent the realization of this risk or at least to minimize damage.**
- **International data show that every organization is subject to the risk of fraud committed by its workers, managers or related third parties, and the banking and financial bodies are exposed to an even greater extent. Even though there has not been any instance of significant fraud in Israel for close to two decades, financial bodies in other countries have experienced major fraud events in recent years, and the risk of a major fraud event always exists.**
- **The on-site examination process carried out by the Banking Supervision Department was aimed at assessing the banks' preparedness to deal with this type of risk. It was accomplished by examining corporate governance in risk management; the arrangements and processes that exist in the bank and that include various functions and entities; entity level controls; and the control environment.**
- **The evaluation showed that the banking system in Israel is endeavoring to assimilate an organizational culture of zero tolerance for fraud and is investing a large amount of resources in the prevention and early detection of fraud and in the response to the outcomes of fraud that may in any case occur. Nonetheless, the examination process identified areas in which the banks need to further reinforce risk management and internal control.**
- **Risk management in the banks is essentially managed according to three lines of defense. The evaluation showed that overall, internal control is proactive and produces significant added value in risk management. However, there were also areas in which governance needs to be strengthened in order to make it more comprehensive and active. Thus, for example, it was found that information presented to management and the board of directors on this subject is not always complete and is not sufficiently assimilated and analyzed, thus making it difficult to identify focal points of risk or possible failures in internal control. Furthermore, entity level controls, such as mechanisms for detecting irregularities, are not operating effectively enough in some of the banks. There is non-uniformity in the approach to dealing with worker irregularities, and the proportion of complaints that are discovered through a tip received from a worker or anonymously is low relative to other countries. The principle of rotation and uninterrupted absences is adhered to; however, insufficient emphasis is placed on the controls that are part of these processes, which are meant to increase the likelihood of detecting fraud.**
- **As a result of the process that was carried out, the Banking Supervision Department clarified to the banks that they must implement a proactive program, with the goal of conveying organizational messages, providing guidance to managers and employees and training employees involved in risk management and control. In addition, they need to adopt effective standards that have been widely adopted abroad. The Banking Supervision Department has emphasized that it intends to require the implementation of the latest COSO framework which constitutes the international standard in this context, in those banks that have not yet done so on a voluntary basis.**

1. INTRODUCTION

Every organization is subject to the risk of fraud carried out by its employees, its managers or related third parties. Fraud is liable to harm the organization itself, its customers, third parties and public interests. The banks are no exception in this context and international data even shows that the banking and finance industry worldwide suffers from a high level of occupational fraud relative to other industries (Figure 1).

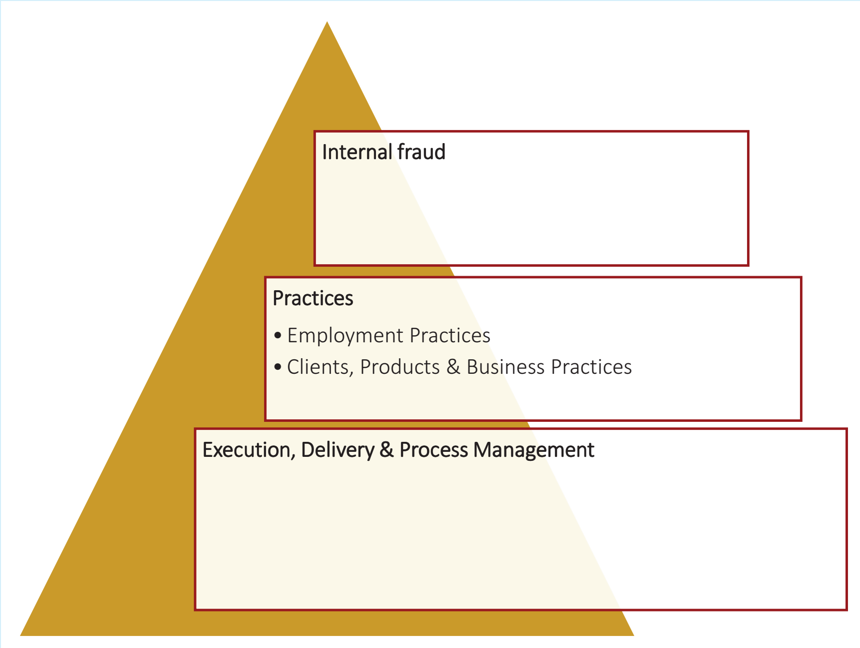
Figure 1: Rate of fraud according to industry; based on an international survey



Source: Report to the Nations, 2020 Global Study on Occupational Fraud and Abuse, Association of Certified Fraud Examiners (ACFE, AICPA, IIA).

Some of the operational risks in every organization—banks included—are the result of the organizations being operated by human beings. Fraud is the most extreme risk that derives from the human factor; it is an action that is intended to harm the assets of the bank, its customers or some other public interest. Alongside the intended harm, there may exist unsuitable work practices and human error. Figure 2 illustrates the classification of failure events that are the result of the human factor, according to the directives of the Basel Committee.

Figure 2: Operational failure events related to the human factor



Source: Banking Supervision Department; on the basis of the Basel directives which were adopted through the Proper Conduct of Banking Business Directives.

The banking system in Israel invests a great deal of resources in the prevention and early detection of fraud and in dealing with the results of that fraud when it occurs. During the last almost two decades, there has not been any major case of fraud with which the banks had trouble dealing. Nonetheless, financial entities in other countries have experienced major fraud events even in the last decade.[1] Thus, the banking system needs to remain alert for the possibility of major fraud and needs to maintain appropriate monitoring and control systems. Therefore, the Banking Supervision Department has recently completed on-site examination processes that were intended to evaluate the risk management framework and the internal control environment in the banks.[2] As part of these processes, areas were identified in which the banks need to continue their efforts to strengthen risk management and internal control.

[1] For example, the Wirecard affair in Germany, the Wells Fargo affair in the US and foreign banks that have manipulated the LIBOR market.
[2] The Banking Supervision Department does not carry out investigative auditing nor examination that is intended to identity potential fraud. The responsibility for control and prevention and identification of fraud is that of the banks themselves and in particular their senior managers.

The first section of this survey briefly describes the main directives that apply to the banking system in this context. The second section presents the main requirements imposed on the banking system as a result of the findings of the on-site examination process carried out by the Banking Supervision Department.

The information in the survey applies to the entire system and does not characterize any specific bank. In addition to this survey, the Banking Supervision Department is implementing an individualized examination process in each of the banks and is conveying specific findings and requirements to them and then monitoring compliance.

2. MAIN REQUIREMENTS THAT APPLY TO THE BANKING SYSTEM

Corporate governance and the risk management framework

The banks are required to manage fraud risk according to an approach consisting of three lines of defense, as in the case of other types of risk. Each line of defense and its related positions plays a specific role in risk management (see Figure 3 below).[3]

On the first line of defense, the managers of the business departments have the main responsibility for risk management.[4] The second and third lines of defense have only supplementary roles:[5] in the second line of defense, independent functions,[6] that do not have to report to any business departments apart from the CEO, supplement the activity of the first line of defense, by means of integration of the risk and independent reporting to the management and board of directors. In the third line of defense, the bank's internal control enjoys even greater independence than other gatekeepers. Thus, the Head of Internal Control does not report, whether directly or indirectly, to the bank's CEO, but rather is the supervisory arm of the board of directors.

There are many organizational units that take part in risk management and therefore it is highly important that their activity be systematic and coordinated and that the areas of responsibility and authority of each of the units be clear. This clarity is in most cases achieved by means of clear policy documents,[7] structured reporting channels, training and guidance, setting of appropriate objectives for participants and actual compliance with policy. The goal of the on-site examination was to assess risk management in the three lines of defense, such that the responsibility for risk management has been defined for each of the participants in each line of defense; authority has been assigned appropriately; and sufficient resources have been allocated. Finally, the Banking Supervision Department examined the methodology for risk management and the leading processes.

3 The aforementioned requirements are included in Directive 310 on "Risk Management", Directive 350 on "Operational Risk Management" and other directives that relate to specific activities or specific functions.
4 Departments such as banking, business, customer assets, international, etc.
5 Section 4(a) of Directive 310 on "Risk Management".
6 Officers such as the chief risk manager, chief accountant, legal counsel and compliance officer.
7 Policy for the management of operational risk and fraud risk in particular, internal control policy, etc.

Internal control framework

The internal control of the banks was examined by the Banking Supervision Department according to the **COSO** internal control framework, an initiative for fighting fraud jointly implemented by the AICPA, the Institute of Internal Auditors, and other accounting associations in the US.[8] Currently, COSO constitutes a comprehensive and complete international standard that combines corporate governance, risk management and internal control. Special emphasis is placed on **entity level controls**, i.e., broad organizational processes that can prevent some instances of fraud or assist in their detection within a reasonable amount of time,[9] and the **control environment**, namely an organizational culture of discipline and deterrence aimed at eliminating improper behavior. COSO's standard for internal control is accepted by leading regulators worldwide. The banks and credit card companies in Israel are required to meet the COSO standard based on the directives related to financial reporting, which impose parts of the American SOX directives on the banks.[10] As a result, the internal control framework of a banking corporation must relate to an array of risks with potential impact—whether direct or indirect—on its financial reports and including the risk of fraud.

Identifying and reporting fraud

Due to the importance of public confidence in the banking system, a legal obligation was imposed on the banking corporations to report every plausible suspicion of fraud to the Banking Supervision Department.[11] The Banking Supervision Department for its part verifies the completeness of the bank's response to fraud (investigation of fraud, prevention of negative impact on customers, learning the lessons for internal control and informing the relevant authorities, according to the circumstances)[12] and also annually reports data to the Knesset and the public, including frauds that have occurred in the banking system.[13] The responsibility for the accuracy and integrity of the data on fraud and the response to it is that of the banking corporations themselves. The Banking Ordinance places direct responsibility on the banking corporation, and even greater personal responsibility on the CEO of the banking corporation, for the accuracy of the reporting.[14] The purpose of this is to achieve transparency with respect to the situation in the banking system and to ensure that there is no harm to customers as a result of a fraud event.

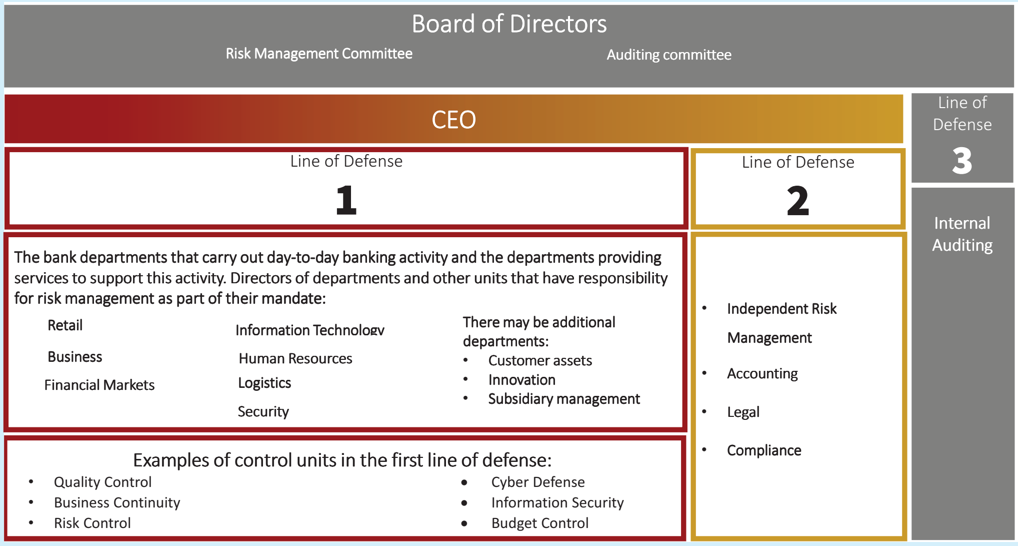
[8] COSO Internal Control—Integrated Framework.
[9] The intention here is to entity level controls, such as rotation, uninterrupted absences, a hotline for reporting, etc. (see below), as opposed to specific controls that are included in each of the work processes.
[10] According to the directives of the Banking Supervision Department, banks and credit card companies are subject to the SOX directives to a greater extent than other public companies.
[11] Section 8d1 of the Banking Ordinance and Proper Conduct of Banking Business Directive 351 on "Fraud by Employees and Office Holders."
[12] The Israel Police when there is a reasonable suspicion of a criminal act having been committed; the Israel Securities Authority; the Israel Tax Authority; etc.
[13] Paragraph 8d2 of the Banking Ordinance.
[14] Paragraph 8e1 of the Banking Ordinance. Currently, a bank is required to report fraud to the Banking Supervision Department, as defined in paragraph 8d1 of the Banking Ordinance, according to the Proper Conduct of Banking Business Directive 351 on "Fraud by Employees and Officeholders." The directive relates separately to the reporting of major events. The Directive for Reporting to the Banking Supervision Department 808 on "Fraud by Employees and Office Holders" regulates the format of the reporting. The obligation to report to the Banking Supervision Department according to Directive 351 is imposed alongside the obligation to report outlier events according to Directive 301 on the "Board of Directors" (see paragraphs 9 and 62 (c) of Directive 301).

HIGHLIGHTS OF THE ON-SITE EXAMINATION PROCESS

Corporate governance and the risk management framework

Overall, the banking system manages its risk, including the risk of fraud, using three lines of defense. However, various banks are being called upon, to varying degrees, to improve and strengthen the elements described below.

Figure 3: An example of corporate governance structure in the management of fraud risk



Source: Banking Supervision Department.

First Line of Defense:

The principle that the main responsibility for fraud risk is that of the first line of defense, namely heads of the business departments and additional management levels, requires further assimilation and reinforcement, although the relevant policy documents already spell out this responsibility.

The Banking Supervision Department concluded that additional management attention is required for the control of fraud risk in the first line of defense, including processes such as identification and mapping of the control units that bear the responsibility for fraud risk, including employees who carry out this function alongside other control tasks, while making sure to provide a clear definition of their responsibilities and authority. The provision of appropriate training is also called for.[15]

[15] Paragraph 10 of directive 301A on "Compensation Policy at Banking Corporation".

It was also found that the risk management framework did not devote sufficient attention to the organizational units that play key roles in the risk of fraud. These include: the Human Resources department, which has responsibility for a number of entity level functions that have decisive importance in preventing fraud (hiring, mobility, evaluation of trustworthiness, training, uninterrupted absences and rotation, disciplinary proceedings and imposing of disciplinary sanctions); the Accounting and Purchasing units that play an important controlling role in the prevention and control of fraud in their domains; the Information Technology department that plays a unique role in entity level control: in the development of automated controls, control over access authorizations to the banks' systems, controls to prevent the leaking of cyber information, etc.; the Ombudsman,[16] who receives enquiries and complaints from bank customers and should report every complaint that might point to a suspicion of fraud; and the Security department which carries out the investigation of hiring practices and periodic investigations and is responsible for the physical protection of bank facilities. The banks are required to closely adhere to the definitions of these units' auditing roles in the context of fraud.

Second line of defense:

The independent risk management function,[17] which coordinates risk management activities, should increase its involvement in the following areas: ensuring that reports of fraud and other outlier events to management and the board of directors are complete and comprehensive and make it possible to assess the level of risk; assessing the quality of the internal control environment and identifying weaknesses in the business process and in controls; informing the board of directors not only about past events but also to warn of weaknesses that may lead to the realization of risk in the future; taking a leading role in the risk management methodology, analyzing and anticipating various typologies of fraud and initiating the development and upgrading of monitoring and control systems in the management of significant risk; and documenting the outcomes of the aforementioned activity in risk documents and documents for the

[16] The Public Complaints Ombudsman may be part of the first line of defense or one of the other lines of defense, according to the definition adopted by the bank. The Banking Supervision Department left the decision with regard to whom the ombudsman is to report within the organization in the hands of the bank. According to Proper Conduct of Banking Business Directive 308A, the Public Complaints Ombudsman must be a member of management or report directly to a member of management. In some of the banks, the Public Complaints Ombudsman reports to the director of the Retail department and in others to the Legal Counsel or the Chief Internal Auditor (according to the Internal Auditing Law, the internal auditor is permitted to deal with the complaints of employees or customers).

[17] According to Directive 350 on "Operational Risk Management" (paragraphs 23–24), the position for operational risk management in the second line of defense is responsible for a number of major elements in the management of operational risk (one of which is fraud risk), including: measurement of operational risk and reporting processes; assessing the adequacy of the inputs of the business lines that are devoted to risk management, measurement of risk and the bank's reporting systems; development and assimilation of methodological tools for the assessment of operational risk and systems for the reporting of risk; coordination of activity for the management of operational risk across the bank's operations; training in the management of operational risk and providing guidance to the business units; and coordination and liaison with internal auditing. These duties of the second line of defense are also based on the Proper Conduct of Banking Business Directive 310 on "Risk Management".

assessment of capital adequacy,[18] which constitute a tool for the board of directors in its role as overseer of the bank's lines of defense.

The Banking Supervision Department also found that in some cases the risk management framework did not sufficiently emphasize the roles and importance of other positions that are part of the second line of defense, and in certain banks there is a need to more clearly define their functions as part of the framework:

The Legal Counsel supports the response to fraud when it is discovered from the perspective of reporting to the appropriate authorities; provides legal assistance in dealing with disciplinary actions; and assists in the writing of policy documents and internal procedures regarding inappropriate behavior from the perspective of violations of the law or ethics.

The Chief Accountant[19] is also part of the second line of defense[20] and plays an important role in minimizing the risk of major accounting fraud. We would mention that in recent decades accounting fraud abroad has led to the collapse of large corporations, which has prompted legislation in this area and has focused the attention of regulators on internal auditing of accounting reporting. Strengthening the independence of business elements and defining the Chief Accountant's role as gatekeeper are meant to provide the Chief Accountant with broad discretion also in the control of fraud risk.

The Compliance function, which usually reports to the Chief Risk Manager or to the Chief Legal Counsel, is defined as being part of the second line of defense.[21] The activity of the Chief Compliance Officer is meant to ensure that the conduct of the bank and its employees is in accordance with the relevant laws and internal procedures. An intentional violation that includes a conflict of interest or the derivation of personal benefit, is liable to reach the level of fraud. Therefore, the Compliance Officer needs to develop a high level of fraud awareness, to report any reasonable suspicions and to be part of training programs to prevent fraud.

Third line of defense:

Internal auditing bears the main responsibility for investigation of fraud, identifying its scope and determining its root causes. It recommends measures for rectification: disciplinary measures against those involved; drawing of conclusions with regard to the managerial responsibility for a failure or weakness in controls; compensation of customers; drawing conclusions with respect to controls and their subsequent improvement; and monitoring the implementation of its recommendations. In this context, the Banking Supervision Department assessed positively the value attributed by internal auditing to risk management.

An additional function of internal auditing is the carrying out of an independent survey of the adequacy of the bank's internal control. The Banking Supervision Department required that the internal auditors rely on, among other things, complete and analyzed information on fraud and other outlier events; customer complaints; and complaints by employees and others, including anonymous complaints.

[18] Paragraph 736 of Proper Conduct of Banking Business Directive 211 on "Capital Adequacy Assessment" (the ICAAP process) requires that in dealing with the management of operational risk they will be as meticulous as in dealing with other major bank risks (such as credit risk).

[19] See Proper Conduct of Banking Business Directive 305 on the "Chief Accountant".

[20] Section 4(b) of Proper Conduct of Banking Business Directive 310 on "Risk Management".

[21] Section 4(b) of Proper Conduct of Banking Business Directive 310 on "Risk Management"; Section 6 of Proper Conduct of Banking Business Directive 308 on "Compliance and the Compliance Function in a Banking Corporation".

Internal auditing also needs to anchor within a charter their ultimate authority to protect employees that complain of possible harmful actions by other elements in the bank.

The CEO, senior management and the board of directors:

The responsibility for defects in the bank's activity lies with the senior managers, each in his or her domain, while the bank's CEO has overall responsibility for the functioning of all those that report to the CEO, in both the first and second lines of defense.

It is the responsibility of the board of directors to oversee the proper functioning of all components of all the lines of defense. For the purpose of discussing the risk of human error, it should possess complete, compiled and analyzed information on fraud and outlier events, according to, among other measures, the scope of the damage, the extent of harm done and the type of bank activity, in order to ensure that Management is able to identify the root causes of the failures, including possible weaknesses in internal control, and is able to take practical steps to rectify the situation. In addition, the board of directors needs to ensure that Management adopts appropriate disciplinary measures to create sufficient deterrence.

Characterization of risk

An evaluation of the banks' policy documents by the Banking Supervision Department revealed that in some cases the term "fraud" is defined unclearly and incompletely. The examples that were presented emphasized "theft of money" from the bank or its customers, even though the Banking Ordinance defines "fraud" as not just theft but also a large number of violations of the Criminal Code, including personal gain by fraud or deception, forgery, false reporting, breach of trust and other violations (Figure 4).

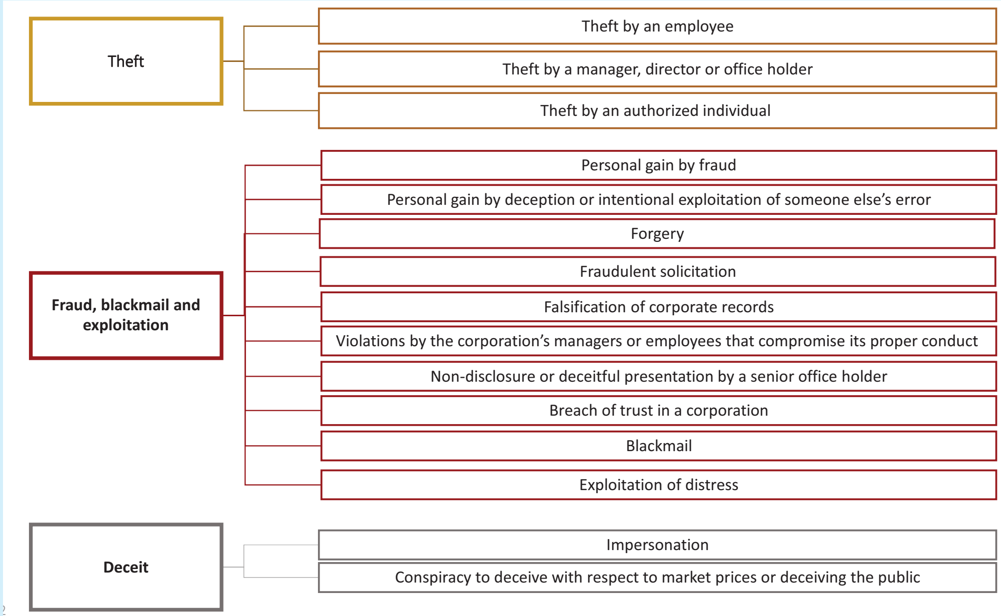
The classification of fraud as defined by the legislature in the Banking Ordinance is consistent with the classification accepted by experts in the prevention and investigation of fraud in other countries, according to which fraud is divided into three main categories: asset misappropriation, corruption[22] and financial statement fraud. Figure 5 illustrates the classification:

A lack of clarity or an error with regard to situations that are likely to generate fraud may hamper the identification and response to fraud and the integrity of the picture presented to Management and the board of directors. As a result, the overall management of risk may be weakened. Nonuniform approaches to fraud risk among the banks is also liable to harm the integrity of the picture obtained by the Banking Supervision Department for the purpose of risk assessment.

The banks therefore need to strengthen the methodology for risk management, including the clarification and enhancement of risk characterization. Furthermore, the banks need to train their managers and employees with regard to types of improper behavior that can develop into fraud and to make clear the expectation that these behaviors will be reported. In the case of doubt regarding the existence of the basis for a violation, the bank should act according to legal analysis.

[22] According to the Supreme Court ruling in a case of bribery, a bank employee is considered to be a public employee—according to 122/84 Mantsur vs. State of Israel (1984).

Figure 4: Types of violations of the Criminal Code that constitute fraud



Source: Banking Supervision Department.

Entity level controls

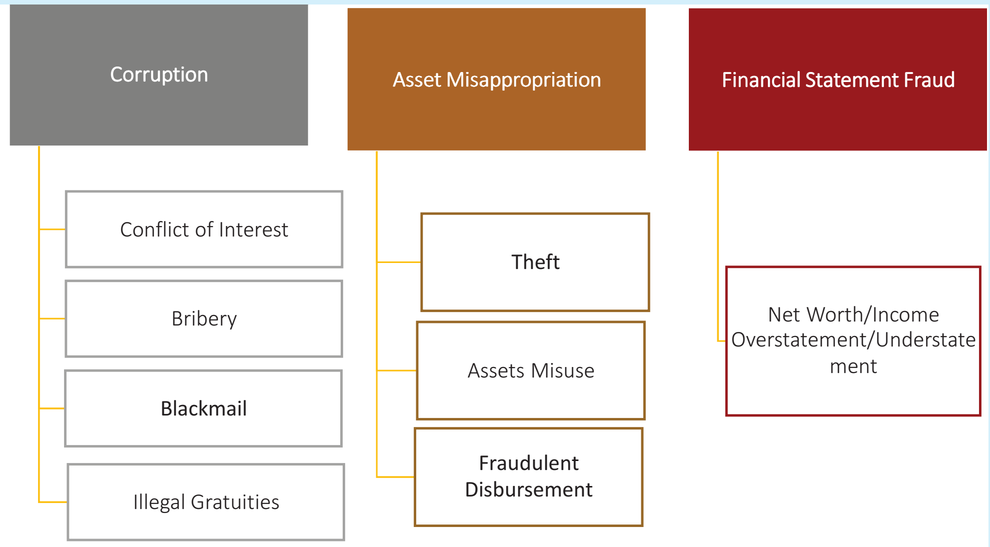
Alongside specific controls that are implicit in every business activity and that sometimes are manifested in control by a manager or a specific control unit employee, the separation of authority or designated controls within information systems, the organization should deploy entity level controls, such as: analytics for transactions in real time or after the fact; control in mechanisms for determining targets and compensation; background checks when hiring and filling sensitive positions or periodic checks; reporting and whistleblowing mechanisms; responding to complaints from customers, employees and other sources; and interviews when employees are fired or they resign; etc. Other means of control—according to risk characteristics and the existing controls—might include rotation in sensitive positions and a requirement of continuous and monitored absences with the position being temporarily filled.[23]

Most of the major failures due to human error (fraud and other serious violations) have been discovered by means of managerial controls or the actions of control and examination entities. Some failures are discovered as a result of customer complaints. A very small proportion of events, relative to what appears in international reports, have been discovered following a complaint by an employee or an anonymous

[23] Proper Conduct of Banking Business Directive 360 on "Rotation and Uninterrupted Vacation".

report. This is apparently a relatively low level compared to what is reported in this area in an international survey. [24]

Figure 5: Types of occupational fraud according to international standards



Source: Report to the Nations, 2020 Global Study on Occupational Fraud and Abuse, Association of Certified Fraud Examiners (ACFE, AICPA, IIA). Processing: Banking Supervision Department.

The banks' boards of directors are required to ensure the existence of mechanisms that encourage reporting of fraud and other serious violations (whistleblowing), while providing protection to a worker who whistle blows, and also to assimilate the mechanism for responding to complaints, including anonymous complaints, with the goal of more effective assessment by control and examination.[25] In accordance with the COSO internal control framework, reporting mechanisms constitute an entity level control with high effectivity in identifying failures and creating deterrence. Also according to international surveys,[26] tips from workers, vendors, customers and others have critical importance in identifying fraud.

The Banking Supervision Department has required some of the banks to strengthen the efficacy of fraud and outlier event identification mechanisms by promoting the use of a "hotline", with the goal of providing the possibility to submit an anonymous complaint. In this context, the banks need to ensure that reporting channels are adequate and accessible to all workers and also to outside parties, namely customers, vendors,

[24] Report to the Nations, 2020 Global Study on Occupational Fraud and Abuse, Association of Certified Fraud Examiners (ACFE, AICPA, IIA).

[25] Sections 15(c) and 36(f) of Directive 301.

[26] Report to the Nations—2020 Global Study on Occupational Fraud and Abuse; Association of Certified Fraud Examiners (ACFE, AICPA, IIA).

etc. The banks are expected to convey organizational messages regarding the unambiguous expectation that fraud or a major violation will be reported ("Say something if you see something") which will encourage the exposure of methods of execution, rather than the identity of suspects, which is likely to encourage reporting even among those who avoid reporting on others. Exposing the methods of execution will enable the control and examination functions to examine the suspicion. It is very important to guarantee that the complainant's identity not be revealed and that they be protected, if necessary, from persecution, according to accepted international practices, and that clear information be conveyed about the aforementioned protection to the entire organization.

Rotation and uninterrupted absences in sensitive positions: The banking corporations in general are meticulous about the rotation process and uninterrupted absences in the case of sensitive positions. Nonetheless, efforts should continue to merge and coordinate between the definition of sensitive positions for purposes of rotation and uninterrupted absences and the ongoing everyday process of identifying focal points of risk. Furthermore, the banking corporations need to bolster the control of workers in sensitive positions who are on an uninterrupted absence (entering the offices or accessing the bank's systems) and especially to ensure that someone is appointed to fill their position.

The control environment

As mentioned, the term control environment relates to the assimilation of an organizational culture of compliance and organizational discipline, particularly in the area of risk management and internal control, zero tolerance for crimes and violations and the creation of deterrence, alongside positive incentives that are meant to enhance risk management and internal control. Among the means for creating the control environment are messages and actions by the board of directors and Management, a deterrent disciplinary mechanism, prevention of conflicts of interest, organizational and professional ethics, educational campaigns and training of workers and managers, informing customers and encouraging the exposure of fraud and violations.[27]

The findings of the Banking Supervision Department indicate that in general the banking corporations maintain disciplinary mechanisms, which in practice are responsible for internal enforcement. The banking corporations need to further entrench the control environment and to bolster the deterrent effect of internal enforcement, alongside the encouragement of control-related alertness among workers by means of positive incentives.

The senior management of the banking corporation needs to ensure that employees and managers receive training with regard to operational risk, of which fraud risk is an integral and important component.[28] The Banking Supervision Department has made clear its expectation that the training of employees and managers in the prevention of fraud will be expanded, including the issuing of clear guidelines with regard to the types of conduct that can constitute fraud, the exposure of conduct that is likely to ring warning bells among managers and colleagues, and emphasis on zero tolerance for these behaviors.

[27] OCC, Operational Risk: Fraud Risk Management Principles, 2019-37, p. 4–6.
[28] Section 8 of Directive 350 on "Operational Risk".

CONCLUSION

The banking system is endeavoring to assimilate the culture of zero tolerance of fraud and is investing significant effort to that end. It is the expectation of the Banking Supervision Department that the banking system will maintain its alertness to the possibility of significant fraud occurring and will strengthen and integrate its risk monitoring and internal control systems and will adopt the highest international standards in this context (such as the COSO internal control framework).

The banks are operating according to the 1992 COSO internal control framework ad only some of them have assimilated the revised 2013 framework. Weaknesses were found in the practical implementation of the assimilated standards in the case of some of the banks. The examination requirements communicated to the banks made clear the steps that need to be taken in order to close these gaps.

As noted, letters were sent to the banks outlining the specific steps they need to take in order to close these gaps. At a later stage of the examination, the Banking Supervision Department intends to mandate the adoption of the revised COSO framework by means of regulation, with the goal of creating a commitment on the part of the banks that have not done so voluntary so far.

Box 1.6: International comparison of profitability in banking systems due to the COVID-19 crisis

- **The economic recovery from the COVID-19 crisis in 2021 led to a high level of profitability in the banking system, both in Israel and worldwide. This was reflected in high rates of profitability and in a high return on equity (ROE).**
- **The onset of the crisis and the economic uncertainty that accompanied it led to a sharp increase in credit loss provisions during 2020. The economic recovery in 2021 led to a marked reduction in provisions, which even became negative.**
- **The negative credit loss provision is one of the most important factors explaining the high profitability of the banks in Israel and other countries in 2021 and represented almost a mirror image of its negative contribution in 2020.**
- **Additional factors that explain the increase in profitability in the banking system are the growth in Gross Domestic Product (GDP) alongside the increase in the CPI.**

The onset of the COVID-19 crisis in 2020 created a high level of uncertainty in the global economy. As a result, many banks in various countries increased their credit loss provisions. These provisions are intended to absorb any losses caused by the default of borrowers in the repayment of their debt. The Israeli banking system increased its rate of credit loss provisions by 148 percent that year (Figure 1). In that period, many economies suffered a major economic crisis, in which unemployment reached historic highs and there was a concern that borrowers would have difficulty servicing their debt (for further details, see Box 1.7 in the Banking Supervision Department's 2019 Annual Survey).

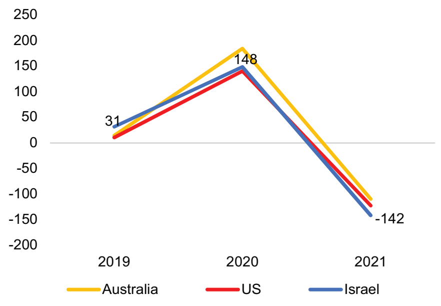
In contrast, 2021 was characterized by an economic recovery from the crisis, which turned out to be of a shorter duration than expected, and which did not lead to a banking crisis or other financial crisis (for further details, see Box 1.7 of this survey). This recovery was reflected in rapid economic growth and a sharp decline in unemployment rates (see Figure 1.1 regarding the decline in the unemployment rate in Israel). This was also reflected in a high rate of profitability in the banking system, both in Israel and worldwide. The net profit of the Israeli banking system, relative to 2020, rose by 145 percent (for further details, see the section on business results in this survey); profit rose by 90 percent in the US and by 359 percent in Europe (Figure 2). The increase in profitability in 2021 can also be seen in the ROE in the various countries (Figure 3).

The increase in the banking system's profitability, both in Israel and abroad, is primarily explained by the negative credit loss provision, since it translates into income and therefore positively affect profits. In Israel, there was a negative provision for credit loss in 2021 (a decline of 142 percent from 2020 to 2021). A similar trend was recorded in the US and Australia (Figure 1). Similarly, according to reports by the FDIC, the APRA and the ECB for 2021, the increase in income is attributed primarily to the decline in credit loss provisions.[1]

[1] FDIC Quarterly Banking Profile, fourth quarter, 2021, p. 1.
Quarterly Authorised Deposit-Taking Institution Performance Statistics – Highlights, p. 4
Financial Stability Review ECB Nov. 2021, p. 63

There were negative loan loss provisions in 2021, which contributed to the banks' profitability.

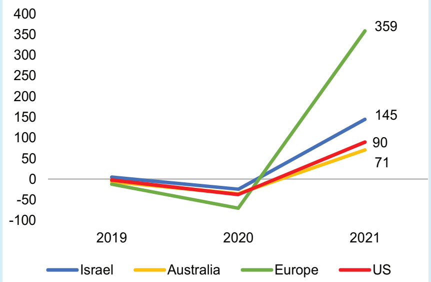
Figure 1
Loan Loss Provision Rates of Change[a], 2019–2021 (percent)



[a] Europe is not shown since its data were not reported.
SOURCE: Israel—Based on reports to the Banking Supervision Department; Australia—ARPA; US—FDIC.

There is a marked upward trend in the banking system's net profit both in Israel and abroad.

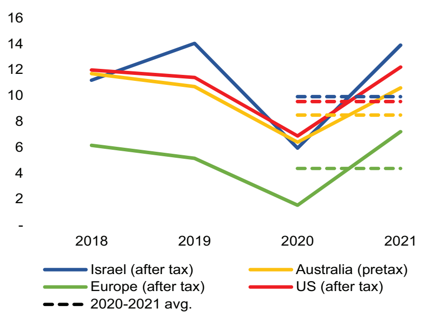
Figure 2
Rates of Change of Net Profit Attributed to Shareholders[a], 2019–2021 (percent)



[a] In Europe, the item is "Net profit/loss", while in the US it is called "Bank net income".
SOURCE: Israel—Based on reports to the Banking Supervision Department; Australia—ARPA; Europe—ECB; US—FDIC.

The banking system's profitability is also reflected in the ROE index.

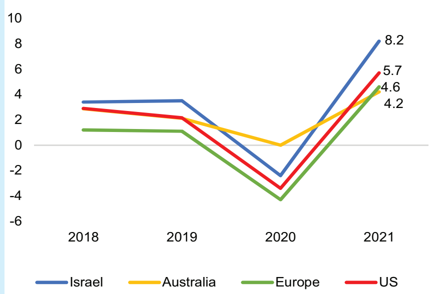
Figure 3
Total Return on Equity (ROE), 2018–2021 (percent)



SOURCE: Israel—Based on reports to the Banking Supervision Department; Australia—ARPA; Europe—ECB; US—FDIC.

The increase in the banks' profitability was paralleled by economic growth in Israel and abroad in 2021.

Figure 4
GDP Growth, 2018–2021 (percent)



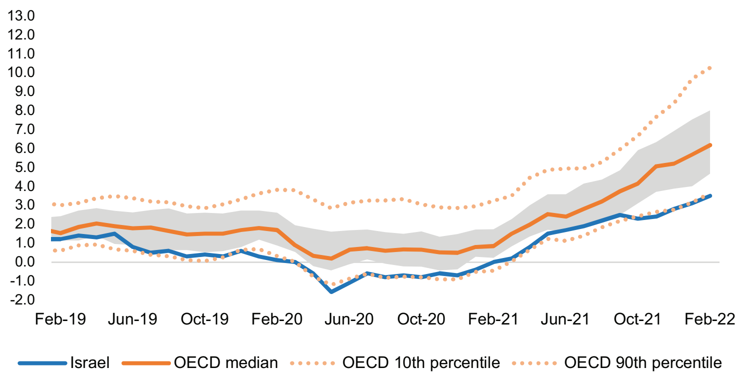
SOURCE: Israel—Central Bureau of Statistics; Australia—World Bank ABS, 2021; Europe—ECB; US—World Bank BEA, 2021.

The various policy measures implemented by governments, the central banks and financial regulators and the high rate of vaccination in 2021 supported a "coronavirus routine" and helped to maintain economic activity alongside the pandemic. The rapid recovery from the pandemic was reflected in the growth of Israel's GDP by 8.2 percent, which was higher than in the US (5.7 percent) or in Europe (4.6 percent; Figure 4). The increase in the banking system's profitability is in line with the growth in GDP in Israel and worldwide. Thus, an ECB report in November 2021 ties the increase in the banks' profitability to the growth in GDP.[2] The growth in GDP was supported by the growth in the banking system's credit portfolio, which was another factor contributing to the system's profitability in that year.

The CPI increased by 2.8 percent in Israel in 2021, following a number of years in which it was notably low. The development of inflation in 2021 also contributed to the Israeli banking system's profitability. The contribution of inflation is the result of the positive gap between CPI-indexed assets and CPI-indexed liabilities (for further details, see the section on business results in this survey). Most countries also experienced an increase in inflation, and in an international comparison of inflation rates, Israel's is relatively low (Figure 5).

Inflation in the OECD countries, including in Israel, increased between 2020 and 2022.

Figure 5
Inflation Rate in Israel and Selected Countries 2019–2021 (percent)



* The gray area is the range between the 25th and 75th percentile in the OECD.
SOURCE: Based on central banks' data.

2 Financial Stability Review ECB, Nov. 2021, p. 65.

Box 1.7: Enduring the COVID-19 crisis from the economic perspective—the functioning of the banking system and the activity of the Banking Supervision Department

- **The COVID-19 crisis is unique compared to previous economic crises, in terms of both its scope and its adverse macroeconomic impact. The economic effect of the crisis was met with a response that was unprecedented in its speed and its scope, with numerous countries implementing major assistance programs and policy measures.**
- **The real and financial developments fed into each other. A functioning economy reduces the risk faced by the banking system and a functioning banking system is able to support the recovery of the real economy.**
- **The banks' stability prior to the pandemic and the economic crisis was reflected in adequate capital buffers that had been accumulated as a result of the lessons learned from the global financial crisis in 2008, among other things. Alongside the implementation of stress tests over the years, which identified the focal points of vulnerability and helped in dealing with them, this made it possible to weather the crisis from the financial point of view. In addition, it appears that the banks' functioning during the current crisis differed from previous crises, in that the banking system itself helped to minimize the damage this time around.**

The onset of the COVID-19 pandemic created a unique economic crisis compared to previous economic crises. Its source was not in the real economy or in financial activity, but rather in the need to maintain public health. This affected the entire population and as a result created a large-scale and unexpected exogenous shock that was felt in all economies, both developed and developing. The pandemic led to an economic recession[1] throughout the world and thus the crisis triggered a series of policy responses that were more rapid and of a larger scale than in past crises. Thus, many governments, financial supervisory authorities, and central banks adopted a large variety of policy measures in order to provide assistance to their populations and stabilize the financial system.

During 2021, as the crisis ebbed and the economic recovery gained momentum, there were two notable outcomes: the short duration of the recession relative to past ones and its not leading to a banking crisis or other type of financial crisis (Berger and Demirgüç-Kunt, 2021). These outcomes are, among other things, the result of various policy measures. The pandemic followed a period in which governments, central banks, financial regulatory entities, and even the financial institutions themselves applied the lessons learned from the global crisis of 2008. The main manifestation of this was the rapidity of the response by government bodies, in parallel to the switch in the function of the banking system during the crisis—from being part of the problem to being part of the solution, and as such it was able to exploit its stability and resilience in order to support the economy.

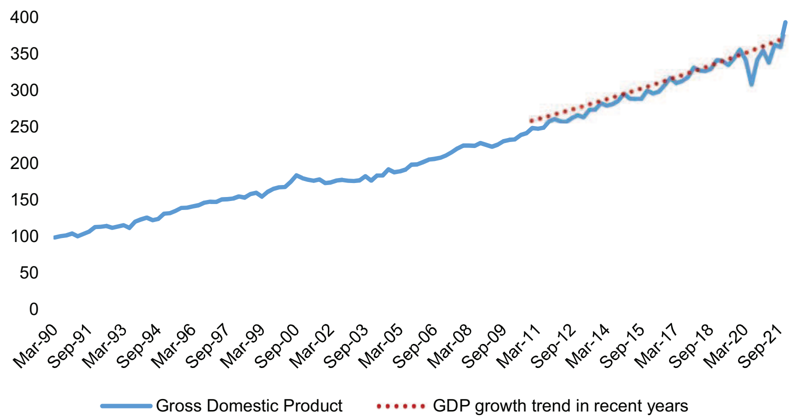
The economic shock caused by the COVID-19 pandemic began to affect Israel starting from the end of February 2020 and was manifested in price declines in the capital market, which intensified in March

[1] A recession is defined as a relatively long period of slow economic activity. One of the accepted definitions is negative economic growth (a contraction in GDP) during two consecutive quarters. However, there is no consensus on the rate of growth below which the economy is defined as being in a recession.

and April with the imposing of the first lockdown. During the first quarter of 2020, there was an increase in unemployment and a sharp drop in real GDP. This shock was the worst ever experienced by the Israeli economy, but it was also the shortest, as can be seen from the subsequent recovery in GDP[2]—such that at the end of 2021 GDP reached the vicinity of where it would have been if no crisis had occurred (Figure 1)—and in the rate of unemployment.[3] This phenomenon is not unique to Israel and was observed in many other economies. The US, for example, officially declared that the recession was over in 2020 and therefore it was the shortest recession in its history.[4] With a duration of two months, it was only one-third as long as the shortest recession ever recorded in the US since 1854.[5]

Following the sharp recession at the beginning of the crisis, there was a rapid recovery in GDP growth.

Figure 1
Gross Domestic Product, 1990–2021 (NIS billion)



SOURCE: Central Bureau of Statistics.

2 After Israel's GDP declined by 13.4 percent in the first half of the year (26.7 percent in annual terms, which is the steepest recession ever recorded in Israel), it recovered rapidly in the second half of 2020 and recorded growth of 15.1 percent (30 percent in annual terms). In 2021, it continued to grow rapidly by an annual rate of 11 percent.

3 The broad rate of unemployment (including workers placed on unpaid leave) fell continually (after reaching a peak of 36.1 percent in April) to a level of 20.3 percent in October 2020 and 10.6 percent in April 2021. Excluding the workers on unpaid leave, the unemployment rate was about 4.6 percent at the end of 2021, compared to 4.4 percent at the end of 2020.

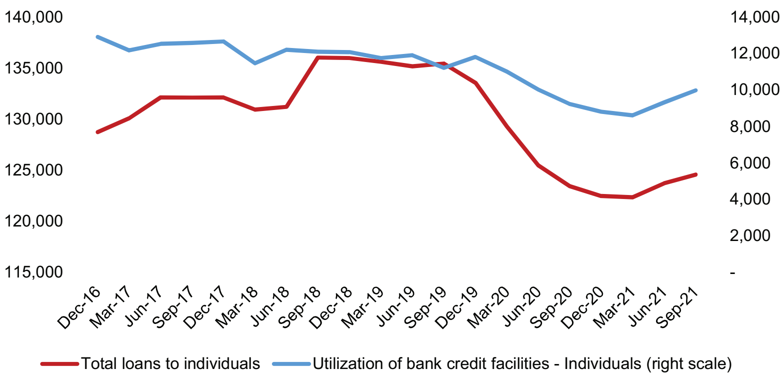
4 As declared by the National Bureau of Economic Research https://www.nber.org/news/business-cycle-dating-committee-announcement-july-19-2021

5 A recession in 1980 was six months long. For purposes of comparison, the US experienced a 12-month recession during the global financial crisis in 2008.

The financial situation of the public—both individuals and businesses, and in particular small businesses—can provide an indication of the nature of the crisis. During the peak of the crisis, the rapid decline in Israel's GDP was accompanied by a contraction of consumer debt.[6] This was due to, among other things, the decline in private consumption during the crisis and the government assistance programs, and despite the sharp drop in employment. The contraction in consumer debt was also reflected in the lower utilization of bank credit facilities in households' checking accounts (a reduction in overdrafts on their bank accounts; Figure 2).

At the height of the crisis, consumer debt in Israel declined, which was also reflected in a decline in the utilization of bank credit facilities in households' current accounts.

Figure 2
Development of Consumer Credit, Particularly Utilization of Bank Credit Facilities for Individual Borrowers, 2016–2021 (NIS million)



SOURCE: Based on reports to the Banking Supervision Department.

In addition, it appears that the crisis presented significant challenges to the small business sector; nonetheless, today it is clear that this sector endured the crisis easier than had been feared at the beginning of the crisis. This is in spite of some industries being more adversely affected than others (for further details, see Chapter 2 of the Bank of Israel Annual Report for the years 2020–21).

[6] This trend was also observed in the US and other countries at the height of the crisis.

A series of fiscal and monetary assistance measures[7], and the rapidity with which they were implemented, helped the economy weather the crisis. This is in addition to the quick adjustment of the economy to the new economic reality, which was made possible by currently existing technological tools.

The Bank of Israel took a number of steps to help households and businesses get through the crisis and to support economic activity. This was accomplished using a wide range of monetary tools, with the goal of alleviating liquidity problems that were affecting the financial system, ensuring the orderly functioning of the financial markets; easing credit conditions in the economy, and supporting economic activity in general and financial stability in particular.[8] This box focuses on how, in addition to the aforementioned, the steps taken by the banking system and the Banking Supervision Department helped to support the economy.

THE BANKING EFFECT

Given the rapid deterioration of the global economies as a result of the spread of the coronavirus, there was concern at the beginning of the crisis that the situation would quickly deteriorate to include a banking crisis, in view of the expected credit losses and uncertainty regarding future risk. Nonetheless, more than two years after the start of the crisis, there has not been any banking crisis as result of the pandemic anywhere in the world (although there are still risks that warrant concern).

Moreover, it appears that the banks in Israel functioned well during the crisis and did not experience any significant economic distress. This is reflected in both the solid capital ratios in the banking system, which recovered to a great extent after the initial shock in the first quarter of 2020; the high liquidity ratios in the banking system throughout the crisis (in view of the increase in the public's deposits; for further details, see Box 1.4 in Israel's Banking System for 2020); and a reduction in credit losses and profitability in the banking system in general (for further details on the business results of the banking system, see Chapter 1 in this survey). It also appears that this phenomenon was not characteristic only of the domestic banks but also of banks worldwide, and similar trends were observed in the US as well (Berger and Demirgüç-Kunt, 2021; see Box 1.6 in this survey).

There are several reasons that can account for the observed resilience of the banking system in Israel during the crisis. The first is the stability of the banks prior to the crisis, which was reflected in solid capital ratios that had been increased against the background of, among other things, the lessons of the global financial crisis in 2008. This is in addition to the stress testing over the years, which helped to identify focal points of vulnerability in the banking system and that led to steps being taken in order deal with them and to reduce the resulting risk. The second appears to be the functioning of the banks during the crisis, which differed from previous crises. Thus, the banking system, which itself took steps to assist borrowers—some of them voluntarily and others as a result of policy steps taken by the Banking Supervision Department—

[7] For further details on these measures and on the fiscal and monetary developments during the crisis, see the Bank of Israel Annual Report for 2021, Chapters 1–3 and the Monetary Policy Report for 2021: H2.

[8] For further details, see the Bank of Israel Annual Report for 2021, Chapters 1–3 and the Monetary Policy Report for 2021: H2, as well as Chapter 1 of the Survey of Israel's Banking System—2020 and Box 3.4 there.

with the goal of preventing a worsening of their situation and of mitigating future losses, constituted part of the solution in this crisis. The third is a structural reason, according to which there was only a limited exposure of the Israeli banking system to industries that were particularly affected by the crisis. The fourth is the result of the technological developments in recent years, which made it possible for the banking system, and the rest of the economy, to provide services to the public remotely.

1. High capital requirements and stress testing

Following the global financial crisis in 2008 and as part of the lessons learned from it, banking systems worldwide began adopting the capital ratio targets recommended by Basel III, which calls for compliance with various types of capital ratios. The Basel III guidelines, in contrast to Basel II, require that the banking system hold more and higher-quality capital, and they require the allocation of additional capital buffers according to the bank's level of activity, its risks, and sometimes also its dependence on the macrocosmic situation. Furthermore, there was a new requirement to meet a minimum leverage ratio that specifies a minimum capital allocation regardless of the degree of risk implicit in the bank's various assets, but rather based only on their size.

The activities of the Banking Supervision Department, which works to reinforce the stability of the banking system, resulted in a situation where even in the global financial crisis of 2008, the banks remained stable and their level of vulnerability was low relative to the situation in other advanced economies. Nonetheless, and as part of the lessons drawn from the crisis, the Banking Supervision Department adopted the Basel III guidelines, in addition to other measures to strengthen the stability of the banks in Israel. These included supplementary macroprudential and microprudential measures, and primarily an increase in the quantity of capital, greater dispersion in the credit portfolio, reducing exposure to large borrowers and large groups of borrowers, and a requirement to accumulate capital buffers against exposure to the housing portfolio. Thus, prior to the COVID-19 pandemic, the Israeli banking system was in a stable, resilient, situation that would allow it to cope with any type of crisis, including the COVID-19 pandemic.

Furthermore, and following the global financial crisis of 2008, banks worldwide also began adopting stress testing as another supervisory tool. Stress testing is intended to determine whether a bank's capital is sufficient to enable the continuation of their business activity even in scenarios that involve adverse developments in the macroeconomic environment. In the case that a bank does not pass a stress test, it is usually required to take steps to shore up its capital by restricting its distribution of dividends, raising new capital, or reducing its risk assets. The stress tests are essentially forward-looking capital requirements that require sufficient capital to absorb losses against future risk. Thus, it is a tool that supplements the accepted Basel III capital requirements. In Israel, uniform-scenario stress tests have been carried out every year since 2012, with each test examining a shock from a different source. The goal is to examine the stability of the system in the face of a variety of scenarios and shocks. There are a number of studies that confirm the connection between stress testing and the stability of the banks and the reduction of risk-intensive exposures in the banking system (Acharya et al., 2018; Cortés et al., 2020; Covas, 2017; Berrospide and Edge, 2019). Thus, this tool also contributed to the banking system's preparedness to deal with risks during the COVID-19 pandemic (for further details on the stress tests carried out this year for the Israeli banking system, see Box 1.1 in this survey).

2. The banking system – a part of the response to the effects of the pandemic

The stability and resilience of the banking system prior to the current crisis made it possible for it to be part of the solution to the crisis. This phenomenon, which characterized both Israel and the rest of the world, differs from previous crises, in which the banking systems were part of the problem (Marcu, 2021). This difference is the result of not only the nature of the COVID-19 crisis—the sources of which are exogenous and that affected the real economy (a viral pandemic), unlike the case of, for example, the financial crisis of 2008, the source of which was financial—but also an understanding of the banking system's role in shaping the crisis (Marcu, 2021). To the extent that the banking system is able to absorb shocks that result from financial or economic pressure, whatever its source, there will be less risk of the financial crisis spilling over into the real economy (thus, preventing a deepening of the crisis).

Therefore, one of the main guidelines of Basel III is what is known as reducing procyclicity and promoting anti-cyclical buffers.[9] One of the aspects of the global financial crisis in 2008 that undermined stability to a significant extent was the greater procyclicity of the financial shocks to the banking systems, the financial markets and the economy as a whole. That is, prior to using these tools, the banks would increase their exposures during times of economic prosperity, and subsequently when the macroeconomic situation deteriorated they would adopt a policy of convergence, i.e., cutting back on credit, accumulation of capital and increasing credit loss provisions. This approach is liable to bring about a credit squeeze exactly when the real economy is in need of credit in order to weather the crisis. An anti-cyclical approach means that during times of economic prosperity, when the rate of growth in credit sometimes creates systemic risk (since excess risk is being taken on in a period of prosperity), the banking system needs to be accumulating capital and slowing the rate of increase in credit. In this way, if a crisis occurs, the banking system is able to continue providing credit to the economy rather than having to adopt a convergent policy, even at the price of eroding its capital buffer.

Thus, immediately at the beginning of the coronavirus pandemic, the Banking Supervision Department decided to relax capital requirements, alongside a freeze on the distribution of dividends, so that the banking system would be able to continue meeting the economy's credit needs. Furthermore, the Banking Supervision Department formulated a number of strategies that were adopted by the banking system and by the credit card companies, which involved the deferral of loan payments. This was based on the view that assisting borrowers at that time would help them get back on their feet so as to continue servicing their debt when the economic situation improved. This approach proved itself and the vast majority of borrowers who deferred their debt service payments have now renewed those payments. In addition and to prevent the ballooning of debt and deterioration of the economic situation, clarifications were provided regarding the banks' debt collection efforts, according to which they were asked to identify customers in economic distress as early as possible and to assist them in enduring the crisis. It was further decided right at the outset of the crisis (in March 2020) to suspend and cancel bank-account restrictions that are due to checks with insufficient coverage, in the expectation that the economic effects of the pandemic would lead to the refusal of many checks and that this would trigger sanctions on numerous individuals and businesses

[9] For further details, see the report of the Basel Committee on Banking Supervision: "Basel III: A global supervisory framework to strengthen the resilience of the banking system."

who could not have predicted the scope or duration of the crisis. These sanctions, which are meant to preserve the reliability of payments in normal periods, can devastate businesses and individuals and can reduce the possibility of their economic rehabilitation following the crisis. These exemptions remained in effect as long as permitted by law, i.e., until June 2020 (for further details on the range of consumer measures implemented by the Banking Supervision Department during the pandemic, see Box 3.3 of the Survey of Israel's Banking System—2020).

With regard to the effect of the government assistance and apart from the fact that the assistance programs provided significant support to the real economy and therefore the banking system as well, some of the government's assistance measures provided assistance to the banks, whether directly or indirectly. For example, State-guaranteed loans made it possible for the banks to provide loans for which part of the risk was borne by the government. Furthermore, the Bank of Israel provided monetary loans to the banks, with the goal of reducing their cost of obtaining capital and thus allowing them to provide low-interest loans to small businesses.

3. Exposure of the banks by industry

Despite the economy having generally recovered since the peak of the crisis, an examination by industry indicates that there are industries that were more adversely affected than others, including transportation, entertainment and leisure, trade, and accommodation and food services, against the background of the lockdowns imposed in order to rate of the virus's spread. An examination of the banks' exposure by industry indicates that the most adversely affected industries were those to which the banking system was less exposed to prior to the pandemic. Thus, there was little spillover from these industries to Israel's banking system (Figure 3).

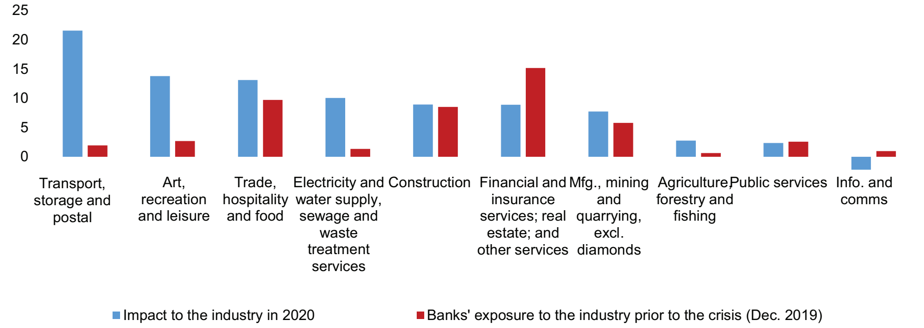
4. Technological adaptations to the economic reality

The digital revolution has intensified in recent years, with most of the public (both individuals and businesses) relying on digital technology on a day-to-day basis. Its very existence allowed many companies to adapt to the restrictions on their activity by adopting information technologies. This made it possible for them to continuing providing services remotely. Moreover, that same technology also made it possible to efficiently deal with the virus itself, with respect to the identification and monitoring of the spread of infection, the advanced treatment of patients and the rapid development of vaccines. These capabilities were of decisive importance in dealing with the virus (Kumar et al., 2020).

Many industries, as well as the public sector, both in Israel and abroad, permitted remote working during the crisis, which made it possible for the economy to continue operating despite the restrictions. However, apart from the shift to remote working, the adoption of technologies and the shift to online commerce helped the business sector to endure the crisis (for further details, see Chapter 1 of the Bank of Israel Annual Report 2021). As a result of the restrictions on movement during the crisis and the accelerated use of digital tools—in view of, among other things, the shift to remote working and online commerce and as a continuation of the trend that began in recent years—the possibilities increased for carrying out banking activity online, which contributed to the increase in households' banking activity through direct channels

The industries that were hardest hit during the crisis are industries to which the banking system was less exposed prior to the crisis.

Figure 3
Banking System Exposure by Industry Prior to the Crisis Compared to Impact in the Industry[a] in 2020
(percent)



[a] The impact in the industry is calculated as a share of output in each industry. A negative figure means the industry's output grew during the period.
SOURCE: Based on published financial statements and Central Bureau of Statistics.

(Figure 4).[10] This trend enabled the public to continue using banking services even without coming to the branches, and thus mitigated the liquidity problems and other financial difficulties that might have emerged as a result of the lack of access to banking services.

The interaction between real and financial developments

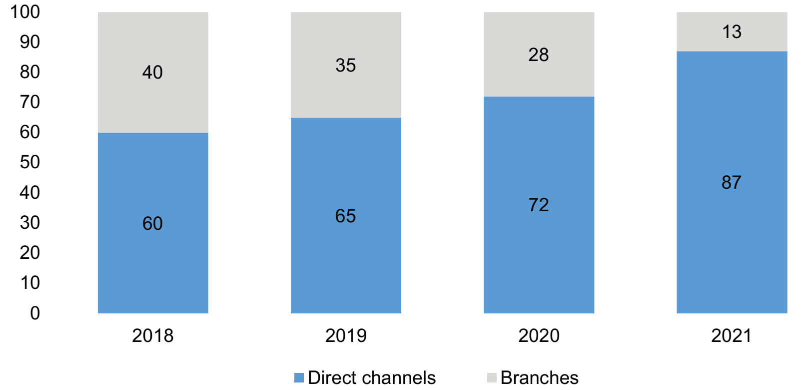
There are interactions between real and financial developments, such that developments in one domain affect those in another. If the economy had entered a deep and prolonged crisis, the banking system would have suffered significant credit losses that would have eroded the banks' capital and endangered their stability. At the same time, if the banking system had suffered financial distress, this would have been translated into a smaller supply of credit, which in turn would have hindered the recovery of the real economy. Thus, either both outcomes of the pandemic would have been realized or neither of them (Berger and Demirgüç-Kunt, 2021).

The view that the banking system was an important part of the response to the crisis was emphasized by Professor Amir Yaron, the Governor of the Bank of Israel, in his speech at a gathering of banking leaders organized by the Banking Supervision Department on March 8th 2020: [11] "The banking system is solid and it is essential that the banks will know how to find the balance between responsible credit policy and the financing needs of the economy—and particularly with resect to the business sector and with emphasis on small and mid-size businesses. If every bank tightens its credit policy, then economic growth will slow, which will after-the-fact justify the tighter policy adopted by the banks—a self-fulfilling prophecy. On

[10] Websites, smartphone apps and automatic self-serve machines and telephone help desks.
[11] https://www.boi.org.il/en/NewsAndPublications/PressReleases/Pages/9-3-2020.aspx

The upward trend in the rate of household transactions completed through direct channels continued throughout the crisis.

Figure 4
Household Transactions by Digital Channels[a] and in Branches, as a Share of Total Household Banking Transactions, 2018–2020 (percent)



[a] Direct channels: bank websites, smartphone applications, telephone call centers, and self-service machines.
SOURCE: Reports by the five banking groups to the Banking Supervision Department.

the other hand, if every bank relaxes their credit policy even somewhat, this will help mitigate the cash flow difficulties that may weigh down on healthy businesses and as a result the economy will weather this interim period and will grow faster, thus justifying after-the-fact the policy adopted by the banks."

It can therefore be stated, and as the analysis above illustrates, that the robustness of the banking system in Israel and the steps taken by the Banking Supervision Department and those that were imposed directly on the system made a decisive contribution to weathering the economic crisis that resulted from the COVID-19 pandemic.

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Box 1.8: The credit risk to the construction and real estate industry: Steps taken by the Banking Supervision Department

- **The banking system helps to meet the needs of the economy and in this context meets the growing need for credit in the construction and real estate industry. Nonetheless, it is important that this financing be provided in an informed and prudent manner and in accordance with appropriate standards of risk management. The goal is to avoid providing finance to activities that have low economic feasibility and that are liable to expose the banking system to significant risks in the future.**
- **The banking system's credit risk to the construction and real estate industry has increased relative to its level at the end of 2020. Among some of the banking corporations, this is reflected in the accelerated growth in total credit and in the risk characteristics of the credit. This has occurred against the background of an increase in competition between the banks in this industry and was accompanied by, among other things, a growing risk appetite, a relaxation of underwriting terms, and the narrowing of the risk-adjusted spread on new credit.**
- **Against this background, the Banking Supervision Department required the following of the banking system in the second half of 2021:**
  - **To enhance the monitoring and control of credit risk originating in this industry;**
  - **To adjust the group allowance in the financial statements starting from 2021;**
  - **To provide appropriate qualitative and quantitative disclosure on the increased risk due to this industry in the financial statements.**
- **Pursuant to these requirements and in view of the continuing upward trend in the credit risk originating from the construction and real estate industry, it was decided during the first quarter of 2022 to adopt additional supervisory measures, with the goal of strengthening risk management, transparency and the ability to monitor risk in the portfolio:**
  - **A requirement to allocate additional capital against the highly leveraged financing of land;**
  - **Publishing of examples in specific cases;**
  - **Expanding the reporting on the construction and real estate industry to the Banking Supervision Department.**
- **The Banking Supervision Department will continue to follow the development of credit risk originating in the construction and real estate industry closely and will accordingly consider the need for additional measures.**

THE DEVELOPMENT OF BALANCE-SHEET CREDIT TO THE CONSTRUCTION AND REAL ESTATE INDUSTRY

The balance-sheet credit provided by the five large banks to the construction and real estate industry in Israel grew by 35 percent on average during the 18 months since the end of June 2020 (in three of the banks, the growth was about 40 percent and in two of them it was about 17 percent). The total amount provided was about NIS 217 billion.

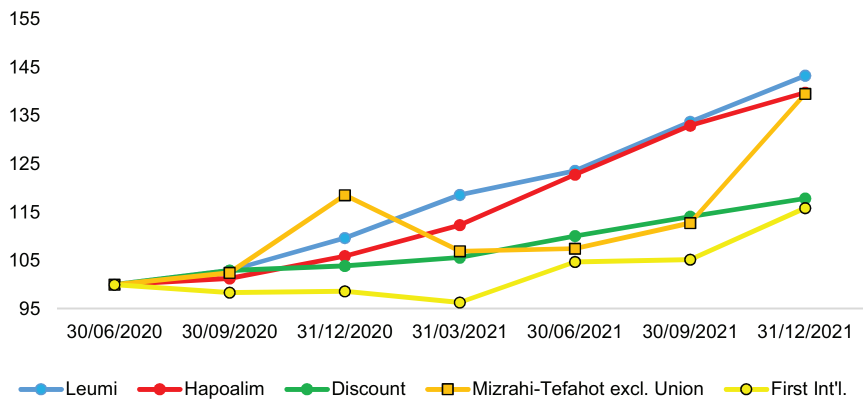
Table 1
Balance sheet credit balances of the construction and real estate industry in Israel (NIS billion)

	Leumi	Hapoalim	Discount	Mizrahi (excluding Union)	First International	Total of the 5 large banks
30/06/2020	53	50	27	19	12	161
30/09/2020	55	51	28	19	11	164
31/12/2020	58	53	28	22	11	172
31/03/2021	63	56	29	20	11	179
30/06/2021	66	61	30	20	12	189
30/09/2021	71	67	31	21	12	202
31/12/2021	76	70	32	26	13	217
Growth rate	**43%**	**40%**	**18%**	**40%**	**16%**	**35%**

SOURCE: Reports by the banks to the Banking Supervision Department.

Outstanding balance-sheet credit to the construction and real estate industry has grown rapidly in the past two years.

Figure 1
Standardized Growth in Balance-Sheet Credit to the Construction and Real Estate Industry Relative to June 30, 2020 (June 30, 2020=100)



SOURCE: Banks' reports to the Banking Supervision Department.

TRENDS IN THE CONSTRUCTION AND REAL ESTATE INDUSTRY

An increase in home prices – The upward trend in home prices continued in 2021, at a rate of about 13 percent (Figure 1.24).[1] The increase in home prices is reflected in, among other things, the price of marketed land and the high level of demand, as well as the high levels of transactions and new mortgage volume.

An increase in the index of building inputs – There was an increase of about 5.6 percent in the index of building inputs in 2021, a result of the COVID-19 pandemic and the global shortage in raw materials. This increase in turn led to an increase in prices of transactions involving both new and existing homes. The upward trend in the index of building inputs continued in 2022, as a result of, among other things, the war in Ukraine.

A shortage of supply – The shortage in the supply of homes continued: According to a survey by the Israel Builders Association in January 2022, which is based on CBS data, there were about 56,000 new households in 2021 while there were only about 49,000 building completions. The cumulative gap between the number of new households and the number of home completions was about 195,000 at the end of 2021. During 2021, building starts were about 63,300, which is higher than previous years but not sufficient to close the existing gap. The processes for obtaining a building permit up to the stage of actual construction and the starting of projects were still long and took an average of 29.4 months.

An increase in demand – During the year, there was a significant increase in the demand for homes, which can be attributed to a number of factors:

- <u>The natural increase in the population</u> – According to CBS figures, the population of Israel grew at a rate of 1.7 percent in 2021. The annual addition to the number of households was estimated at 48,000 on average.
- <u>Ministry of Housing programs</u> – In 2021, a large number of Ministry of Housing eligible candidates who did not in the end acquire a home as part of the Buyer's Price program returned to the free market.
- <u>An increase in demand by investors</u> – which was a result of the reduced tax on the purchase of a second home during the second half of 2020 (a reduction that was subsequently cancelled in late 2021).
- <u>Increased demand for homes by high-tech workers</u> – The increase in demand by this population was the result of significant proceeds from sales and issues during this period. However, the effect of this increase in demand is limited to the Tel Aviv area, according to an analysis in the Bank of Israel Annual Report for 2021.

Competition for credit – In 2021, there was increased competition between the financial institutions for every new transaction (both among the banks and between the banks and the non-bank system, i.e., insurance companies, institutional investors, bonds, private investment funds, etc.). As a result, the increase in credit to the industry was accompanied by a larger risk appetite and relaxations in underwriting terms and therefore by an increase in the level of risk and a narrowing of credit spreads on new transactions.

A change in the attitude toward risk – In view of the small number of defaults in the funding of projects and the continuing rise in home prices, this risk was viewed by funding sources as being low and

[1] According to the Central Bureau of Statistics Home Prices Index.

they were prepared to take on larger risks than in the past. Companies that in the past were considered by the banks to be high risk have in recent years accumulated a large amount of capital and their forecasts were shown to be correct. Therefore, the banks feel comfortable providing them with large amounts of credit and on easier terms than in the past.

Acquisition of collateral for Sales Law guarantees – The banks have resumed their purchase of insurance for Sales Law guarantees on new transactions, in order to work around the limit on per-industry concentration and to continue financing new projects.

The rental market – The market for rentals has developed in recent years. Many contracting companies have gotten into this business and some of the banks are interested in financing this activity. The institutional investors have a significant advantage in this market segment due to their access to long-term sources that are well suited to the financing of long-term rental projects.

Offices – The fear of a downturn in the demand for office space as a result of the coronavirus pandemic and the shift to working from home have not been realized until now, as evidenced by the high level of activity in the high tech sectors.

THE EFFECT OF THE TRENDS ON THE FINANCING OF THE CONSTRUCTION AND REAL ESTATE INDUSTRY

Competition and a change in the attitude toward risk have, as noted, led to increased risk appetite and improved credit underwriting terms for the industry. The improvement in underwriting of new transactions is reflected in the following parameters, among others:

Loan to value (LTV) ratio for the acquisition of land – There is a high level of competition between the banks around the LTV for new land acquisitions. The accepted LTV ratio in the past reached no more than 70–75 percent. Starting in late 2020, there has been an upward trend from the maximum rate of 85 percent to a rate of about 90 percent and in some cases even 100 percent financing of the cost of the land.

The down payment in the financing of projects – The equity requirement in closed projects has declined from 15–20 percent to the minimal rate of 10 percent;

Absorption ability[2] in projects – There is now a trend to relax the absorption ability required in new projects, such that in new projects good borrowers are approved even if the absorption ability in the project is only 30 percent (as compared to a minimum absorption ability rate of 35 to 40 percent in the past);

Release-of-surplus policy[3] – Some borrowers have been given the possibility of releasing surplus apartments in the early stages of a project, in contrast to the accepted rules in the past;

[2] Absorption ability reflects the maximum rate of decline in the sale price of the homes without the bank having to absorb losses from the project.

[3] Release-of-surplus apartments – It is conventional to set rules that allow the release of the projected surplus to the builder of a project. The rules for releasing a surplus are intended to ensure that this will be done only when there is a high level of certainty that there will be a surplus. To the extent that the construction of the project and the sale of apartments is in a more advanced stage, then there is greater certainty of a surplus.

Mezzanine loans[4] **-** There has recently been an upward trend in the extending of mezzanine loans by the banks for the financing of part of the equity capital in projects. Most of the banks have set a limit, according to which up to half of the required equity capital can be financed by a mezzanine loan. The loans are priced at significantly higher interest rates than those on credit provided to the project. Some of the builders supplement equity capital with non-bank credit. This phenomenon increases the risk of moral hazard[5] since the risk borne by the builder is reduced.

The gap between rate of completion and rate of sales – There are projects in which the rate of completion is significantly faster than the rate of sales. This is not necessarily the result of any problem with the project, but rather the builder may refrain from compromising on the prices he is seeking, based on the belief that over time the prices will continue to rise and the project's profitability will increase accordingly.

Providing credit against a stock of unsold apartments at the completion of a project—In certain cases, when the builder has not managed to sell all of the apartments in a completed project, the banks provide him with credit for a period of a year and sometimes even longer against the stock of unsold apartments, until they are sold.

Measures implemented by the Banking Supervision Department

Given the increase in credit risk of the banking system due to the construction and real estate industry, which in some banking corporations is reflected, as noted, in an accelerated increase in total credit and risk characteristics of the industry, the Banking Supervision Department distributed letters to the banking system in August and December of 2021 in which the banking corporations were required to take the following actions, among others:

To enhance the monitoring and control of the development of credit risk to the construction and real estate industry – A requirement to reinforce the quarterly processes of monitoring and control of risk and the pricing of transactions by the Board of Directors, with a focus on new credit with a high level of risk, and to examine the need to set internal limits on those transactions;

To ensure that modifications are made to the group allowance for the construction and real estate industry – A request to ensure that the required adjustments are made to the calculation of the credit loss allowance, given the increase in risk of the portfolio of credit to this industry;

To ensure full disclosure of the increased risk in to the construction and real estate industry – A request to include a qualitative and quantitative full disclosure of the increased risk in the construction and real estate industry in reporting to the public.

[4] Loans that are intended to finance the equity portion (entirely or in part). These loans are subordinate to the loans for financing the project and have a higher level of risk. The realization of risk in a project threatens the equity invested in the project first and therefore loans that replace equity are threatened at an earlier stage.

[5] Moral hazard—When the share of equity invested in the project is lower, the borrowing company is not directly exposed to the risk but only to the chance of the project's success and therefore it may prefer to increase its exposure to risk.

Pursuant to these measures, and given the upward trend in the risk of credit to the construction and real estate industry, the Banking Supervision Department distributed another letter in the banking system in March 2022[6] with an update of the decision to implement additional supervisory measures in the near future, with the goal of improving risk management, transparency and supervisory consistency, as well as the ability to monitor risk in the portfolio.

The measures include:

A requirement to allocate additional capital against the highly leveraged financing of land acquisition – The banks will be required to increase the risk weight of loans provided to purchase land for construction and that have high LTV ratios;

Publishing of specific examples – Examples of issues that arose during the examination processes with respect to credit to the construction and real estate industry. The examples relate to, among other things, the financing of projects with closed financing and of land acquisition. They are presented in order to illustrate the process of analysis used by the Banking Supervision Department examination team and thus to assist in the management of underwriting processes and the appropriate classification of credit by the banks;[7]

Expansion of reporting to the Banking Supervision Department on the construction and real estate industry – Expanding the information received in reports on the industries in the economy, with the goal of achieving better monitoring of risk in the construction and real estate industry.[8]

The Banking Supervision Department will continue to follow closely the developments in the industry and the effect of the steps it has taken and will invest the necessary efforts to ensure that the banking system continues to support the industry's financing needs. The goal is to benefit the economy and the public by providing credit according to accepted and appropriate practices of risk management and in a way that supports transactions with solid economic feasibility.

6 https://www.boi.org.il/he/NewsAndPublications/PressReleases/Pages.20-3-22/aspx [Hebrew]
7 https://www.boi.org.il/he/BankingSupervision/Documents.202222/pdf [Hebrew]
8 https://www.boi.org.il/he/BankingSupervision/SupervisorsDirectives/Lists/BoiRegulationReportOrders/831 .pdf [Hebrew]

Box 1.9: Analysis of the mortgage market for borrowers in Arab society

- **The proportion of mortgages provided for the purchase of a home in Arab localities is lower than the proportion of Arabs in the population and their share of the housing market.**
- **The difference in the mortgage interest rate between that in Arab localities and that in Jewish and mixed localities has been on a downward trend in recent years. The weighted interest rate and the interest rate in each of the tracks is about 0.8 percentage points higher on loans provided to buyers of a home in an Arab locality than for buyers of a home in a Jewish or mixed localities. The difference is a reflection of, among other things, the higher risk implicit in these loans. The average payment to income (PTI) ratio of borrowers buying a home in an Arab locality is somewhat higher than that for Jewish localities (about 1.2 percentage points on average in 2017–21), in view of the lower incomes of borrowers buying a home in an Arab locality relative to other borrowers.**
- **The average term to final repayment on loans in Arab localities is longer than in Jewish and mixed localities. This is the result of, among other things, the desire to reduce monthly payments, which will result in lower PTI ratios.**
- **• The average loan composition differs between borrowers buying a home in an Arab locality and borrowers buying a home in a Jewish or mixed locality. The weight of the CPI-indexed fixed interest rate track and the unindexed variable (non-prime) interest rate track is higher for loans taken out by borrowers buying a home in an Arab locality than for other borrowers. Similarly, the relaxation of the prime interest restriction had less of an impact on the loan composition of borrowers buying a home in an Arab locality relative to other borrowers.**
- **The unique characteristics of Arab society create numerous barriers to obtaining a mortgage. The Joint Team for Increasing Financial Inclusion in the Economy examined the main barriers faced by the banks in providing mortgages to borrowers in Arab society localities and drew up policy recommendations with the goal of removing those barriers. The team, which is led by the Accountant General in the Ministry of Finance, is continuing to study the matter.**

BACKGROUND

Policy makers are aware of the unique characteristics of the housing market in Arab society, and over the years, the issue has received attention in government decisions, in committee discussions, and in various reports. All of them have recognized the importance of the socioeconomic development of Arab society and the positive effects for the national economy of improving the situation of Arab society and narrowing the gap between it and Jewish society. Thus, for example, the report of the Orr Committee (2003)[1] emphasized the lack of zoning plans for Arab localities as a factor in the development of the widespread phenomenon of unauthorized building. Similar observations appear in the proposal by the Authority for Economic Development of the Minorities Sector in the Prime Minister's Office for solving the problem of planning and housing in Arab society (2011); in the 120-Day Team Report to deal with the housing shortage in minority localities (2015); and in the government decision on the economic development of minority populations during the period 2016–20 (Decision 922). This decision established that, among other things, the Ministry of Construction and Housing should be instructed to subsidize the costs of development in those cities that agree to multifamily building on Israel Land Authority land.

The Five-Year Plan for Arab Society was approved during 2021 and is meant to promote the socioeconomic development of Arab society.[2,3] This is in addition to the activity of the joint team of the Ministry of Justice, the Ministry of Social Equality and the Bank of Israel to formulate a national program for increasing financial inclusion, including in the area of credit and in particular housing credit. Similarly, the joint team led by the Accountant General is working to identify and remove the main barriers faced by the banks in providing mortgages to borrowers purchasing a residential property in an Arab locality.

The unique characteristics of Arab society create numerous barriers that affect the ability of borrowers to obtain a mortgage for purchasing a home in an Arab locality.[4] The main ones can be divided into those related to the individual issues and those related to land registration in Arab localities. The former are first and foremost the result of the socioeconomic situation in Arab society and the relatively low level of income. A relatively low level of equity, reliance on a single breadwinner, salaries paid in cash, and employment in relatively low-wage industries (Figure 1 and 2) are factors with a direct impact on the ability of a household to afford large mortgage payments and therefore they discourage the taking out of a mortgage. There are also cultural barriers that deter borrowers in Arab society from taking out a mortgage, which are due to, among other, the fact that mortgage information is open to the public in the land registry records and the fear of legal action and collection efforts in the case of default on a mortgage. Second, the relatively low level of financial literacy hinders borrowers from submitting a request for a mortgage and limits their ability to negotiate.

The barriers to the registration of properties in Arab localities that exist in the planning, marketing, development and registration processes are reflected in, among other things, the difficulty in registering ownership in the Land Registry.[5] This is manifested in the difficulty in

1 The State Committee to Investigate the Encounters between the Security Forces and Israeli citizens in October 2000 (2003).

2 Government Decision 550, The Economic Plan to Narrow the Gap in Arab Society by 2026.

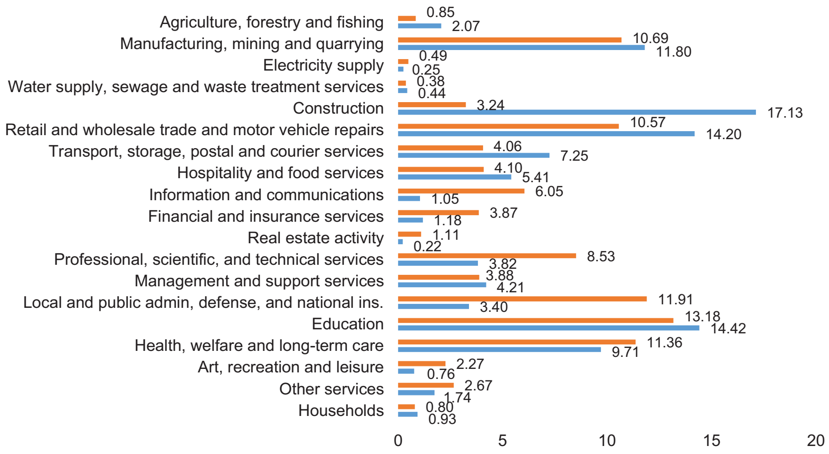
3 For further details, see the speech by the Governor of the Bank of Israel at the Annual Conference of the Arab Economic Forum, March 2022.
https://www.boi.org.il/en/NewsAndPublications/PressReleases/Pages/10-3-22.aspx

4 For further details, see Chapter 8 of the Bank of Israel Annual Report for 2021.

5 In the Annual Report of the State Comptroller 15b for 2007, it was even claimed that in the minorities sector it is common to transfer ownership of properties by means of registration with a private attorney rather than at the Land Registry Office (the Tabu).

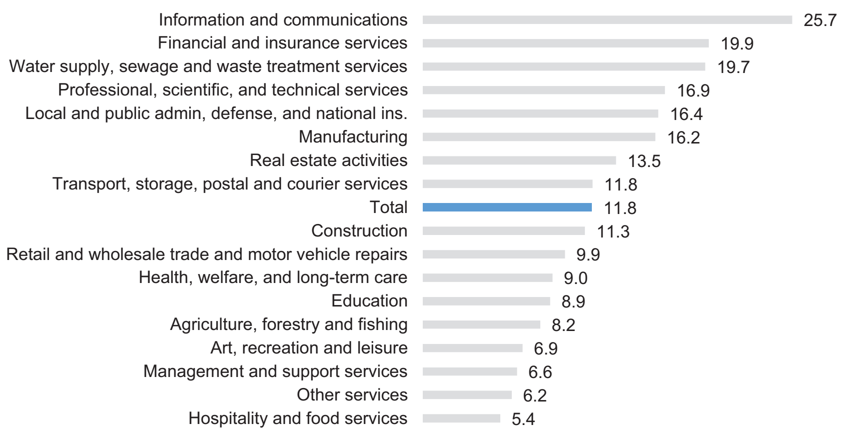
There are differences between Arab and Jewish society in employment industries.

Figure 1
Percentage of Employees in Each Industry, 2018



The industries with relatively high numbers of Arab employees generally have a relatively low average wage.

Figure 2
Average Wage per Employee Post in Current Prices, per Industry, 2021 (NIS thousand)



registering a property as collateral for the purpose of providing housing credit. In Arab localities, there is a gap between identifying ownership as it appears in the registry and actual ownership. This gap creates numerous barriers, including the difficulty in seizing collateral in the case of default on a mortgage. In view of these difficulties, some customers in Arab localities take out loans for housing purposes by way of consumer loans (without pledging an asset as collateral). These consumer loans are for shorter periods than a mortgage and have higher costs, as well as being smaller than a mortgage.

ANALYSIS OF HOUSING CREDIT IN ARAB LOCALITIES[6]

According to data possessed by the Banking Supervision Department, **the share of the total number of mortgages provided for the purchase of a home in Arab localities (about 1 percent of total loans) is lower than their relative share of total transactions in the housing market** (about 4.1 percent between 2018 and November 2021;[7] Figure 3). During this period, about 800 loans were provided annually on average for homes in Arab localities, as compared to 67,000 in Jewish localities and 14,000 in mixed localities. In this context, the total credit provided to borrowers who purchased a home in an Arab locality constitutes about 0.6 percent of total housing credit and totals about NIS 414 million annually, as compared to NIS 53 billion and NIS 12 billion in Jewish and mixed localities, respectively. These figures reflect the fact that the average size of a mortgage for borrowers purchasing a home in an Arab locality is much lower than for the general population.

Loan characteristics (Table 1):

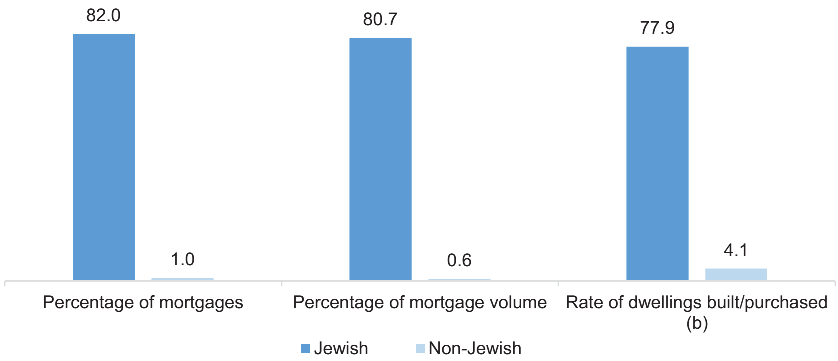
The average size of the loan taken out by home buyers in Arab localities grew during this period by 31 percent (to NIS 600,000 as of September 2021), compared to growth of 38 percent in Jewish localities (to NIS 930,000 as of September 2021). **The difference in loan size between borrowers in Arab society and other borrowers has widened somewhat during this period** and as of September 2021 stood at about 55 percent (NIS 330,000), in contrast to 47 percent in 2015 (NIS 215,000). **The size of the difference in home values between homes bought in Arab localities and those bought in Jewish and mixed** localities is **not in line with the difference in average loan size.** The average difference in home value between Arab and Jewish was about 13 percent during the period 2015–21, as compared to a difference of about 52 percent in the average loan size. This situation is also reflected in the low LTV rates in Arab localities (40.5 percent) during the period 2015–21, which was about 11 percentage points less than in Jewish localities.

6 The analysis presented below presents the main indices of credit for housing according to the religion of the locality, as defined by the CBS (Jewish, Arab, Bedouin, mixed and undefined) between June 2015 and September 2021.
https://www.cbs.gov.il/he/subjects/Pages/%D7%90%D7%95%D7%9B%D7%9C%D7%95%D7%A1%D7%99%D7%99%D7%94-%D7%94%D7%92%D7%93%D7%A8%D7%95%D7%AA-%D7%95%D7%94%D7%A1%D7%91%D7%A8%D7%99%D7%9D.aspx?force_isolation=true [Hebrew]

7 According to Central Bureau of Statistics figures.

The rate of mortgages provided in Arab localities is lower than Arab society's share of the housing market.

Figure 3
Distribution of Mortgages by Locality's Ethnicity, and Relative Share of the Population[a], 2021 (percent)



[a] Excluding data on mixed localities, which account for about 21 percent of the population.
[b] Average for the period from 2018 until November 2021.
SOURCE: Based on Central Bureau of Statistics and reports to the Banking Supervision Department.

The total monthly payment of borrowers in the Arab localities was on average about NIS 3,200, which is lower by about NIS 800 (20 percent) than in the case of Jewish localities. Nonetheless, **the average PTI ratio of borrowers buying a home in Arab** localities is **somewhat higher than in the case of borrowers buying in Jewish** localities (difference of about 1.2 percentage points on average during the period 2017–21). This is to be viewed against the background of lower household income in Arab localities than in Jewish and mixed localities. The average income in Arab localities during the period 2015–21 was 21 percent lower on average than in Jewish localities. Furthermore, it appears that **the average period to final repayment for loans in Arab localities is longer than in Jewish localities (by 1.7 years) and mixed localities (2.4 years)** and is apparently explained by the desire of borrowers in Arab localities to lower their monthly payment and their PTI ratio. However, and even though this indeed reduces their monthly payment, it lowers the individual's income in the long term and constitutes a significant proportion of his income.

The mortgage interest rate

The interest on loans to borrowers buying a home in an Arab locality, both weighted and on each one of the tracks, is higher than in the case of Jewish and mixed localities. Nonetheless, over the years

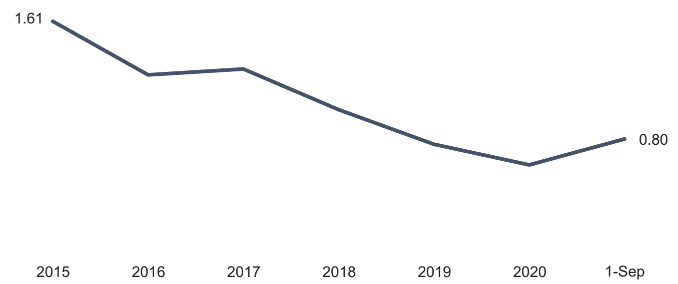
the difference in the weighted interest rate has narrowed significantly from 1.2 to 0.8 percentage points (Figure 4). The difference is reflected in, among other things, the higher risk implicit in these loans and the differences in interest rates between the various loan tracks, which range from 0.3

Table 1
Loan characteristics, by locality's religion

		Arab	Jewish	Mixed
Average loan size (NIS thousand)	**2015**	457	672.2	750.4
	Sep-21	600.2	930.2	1,027.10
Average value of financed property (NIS thousand)	**2015**	1,308	1,499	1,756
	Sep-21	1,670	1,886	2,180
Average LTV(percent)	**2015**	39.1	50.3	48.5
	Sep-21	39.4	53.6	52.4
Averate monthly payment (NIS)	**2015**	2,628	3,654	4,247
	Sep-21	3,570	4,350	5,022
Average PTI (percent)	**2015**	21.4	23.6	23.9
	Sep-21	25.5	24.4	24.5
Average household income (NIS)	**2015**	15,279	18,491	24,725
	Sep-21	17,186	23,352	29,217
Average period to final repayment (years)	**2015**	22.6	20.7	19.4
	Sep-21	24.7	23	22.3

The average term to repayment in Arab localities is an average of one year longer than in Jewish or mixed localities.

Figure 4
Difference in the Weighted Interest Rate between Arab and Jewish localities, 2015–September 2021 (percent)



percentage points on the unindexed variable interest rate track to 1.2 percentage points on the prime interest rate track.

There are differences in the average loan composition between loans provided to buyers of a home in an Arab locality and buyers in other localities (Table 2). **The weight of the CPI-indexed fixed interest rate track and the unindexed variable non-prime interest rate track is higher than in the case of loans taken out by borrowers buying a home in Arab localities than in the case of buyers in other localities.** It may be that the large weight of these tracks is a result of borrowers seeking to lower their monthly payments when they take out a loan, with the goal of achieving the PTI ratio that will allow the bank to provide it (as in the case of a longer period to final repayment).

In addition, it appears that the **relaxation of the prime interest rate limitation had less of an effect on the composition of loans provided for homes in the Arab** localities than the effect on loans for purchasing a home in Jewish and mixed localities. The weight of the prime interest rate track grew by about 8.5 percentage points as of September 2021, compared to an increase of 6.3 percentage points in Arab localities (Table 3).

Table 2
Average loan composition, segmented by locality's religion, January–September 2021

Percent	CPI-indexed, fixed interest rate	CPI-indexed, variable interest rate	Unindexed, fixed interest rate	Unindexed, variable interest rate that is not based on Prime	Prime
Arab	26	15.1	14.2	15.4	29.3
Jewish	14.6	16.2	32	2.4	34.6
Mixed	13.1	16.1	30.6	2.7	36.6

Table 3
The difference between the average loan composition of the 2015–20 average and the January–September 2021 average, by locality's religion

Percent	CPI-indexed, fixed interest rate	CPI-indexed, variable interest rate	Unindexed, fixed interest rate	Unindexed, variable interest rate that is not based on Prime	Prime
Arab	0.2	-3.5	-0.8	3.2	0.9
Jewish	-3.7	-0.5	2.2	-4.2	6.3
Mixed	-3.6	0.4	0.2	-4.7	8.5

Distribution of localities

The problem of registering a property as collateral in an Arab locality has long been recognized. A large proportion of the homes in Arab localities are built on "Musa land" (joint ownership of land), without any formal division into lots or according to family ownership. This makes it difficult for borrowers to offer a specific home as collateral in order to obtain housing credit. This problem can also be seen in data showing that apart from Nazareth (which accounts for about 18.5 percent of the total number of loans, and about one-quarter of the total transaction value, in Arab localities; Tables 4 and 5), there is no Arab locality

Table 4
Distribution of number of loans extended in Arab localities, 2015–March 2021

	2015	2016	2017	2018	2019	2020	2021	2015–21
Nazareth	19.70%	24.60%	14.00%	16.10%	14.50%	22.10%	19.20%	18.50%
Beit Jinn	5.90%	7.50%	8.10%	4.80%	6.40%	5.20%	5.00%	6.10%
Maghar	5.00%	4.40%	4.40%	5.60%	7.90%	5.40%	6.50%	5.70%
Horfeish	2.80%	3.70%	7.00%	6.70%	6.30%	5.40%	4.60%	5.40%
Shfar'am	8.10%	4.20%	5.40%	3.20%	3.90%	4.10%	3.70%	4.50%
Julis	4.70%	5.30%	5.50%	4.80%	3.70%	2.70%	1.90%	4.00%
Abu Sanan	3.30%	4.60%	3.30%	4.40%	3.50%	2.40%	2.20%	3.40%
Daliyat al-Carmel	3.60%	2.50%	3.10%	3.60%	3.80%	3.10%	3.70%	3.30%
Sajur	1.70%	0.90%	3.30%	5.50%	3.80%	2.70%	2.80%	3.10%
Kisra-Samia	2.60%	3.00%	2.10%	3.10%	2.30%	2.80%	1.50%	2.60%

Table 5
Distribution of total credit for housing purposes in Arab localities, 2015–March 2021

	2015	2016	2017	2018	2019	2020	2021	2015–21
Nazareth	24.90%	34.20%	18.30%	21.80%	19.40%	27.10%	25.50%	24.10%
Shfar'am	9.60%	4.50%	6.80%	3.40%	5.10%	4.60%	3.90%	5.20%
Maghar	4.20%	3.80%	4.10%	5.20%	6.30%	4.50%	5.00%	4.90%
Beit Jinn	5.10%	5.40%	6.90%	3.70%	5.20%	3.80%	3.60%	4.70%
Horfeish	2.20%	2.90%	5.80%	5.40%	4.20%	4.10%	3.40%	4.10%
Julis	4.10%	4.90%	4.40%	4.80%	3.10%	2.10%	1.40%	3.40%
Abu Sanan	3.50%	3.40%	3.10%	4.20%	2.90%	1.90%	1.30%	2.90%
Daliyat al-Carmel	2.40%	1.80%	2.10%	3.20%	3.10%	2.50%	3.30%	2.70%
Sajur	1.20%	0.70%	2.40%	4.10%	2.60%	2.30%	1.10%	2.30%
Yarka	2.30%	3.20%	1.20%	1.80%	1.60%	2.10%	3.30%	2.00%

CHAPTER 2

THE MAIN CHANGES IN THE BANKING SYSTEM

A range of measures to increase competition and strengthen the power of the customer is currently ready and others will become ready in the future. These measures are based on the understanding of the need to remove barriers that have so far delayed or prevented an increase in competition both between participants already operating in the banking system and between them and new participants that will emerge, whether from inside or outside the banking system. The measures are being promoted by the Bank of Israel, in some cases in collaboration with the Ministry of Finance and other relevant entities. The most significant measures include the following:

Switching banks with a click – In order to lower barriers faced by a customer in switching banks, a new system was launched on September 22, 2021. The system makes it possible for customers to switch their bank in an online, convenient, secure and costless process—one that is completed within 7 businesses days. Furthermore, all of the debits and credits in the account at the transferring bank, including debits of checks that are presented after the transfer, will be automatically routed to the new account at the receiving bank (a "follow-me" service). This complex system—the adoption of which was promoted by the Banking Supervision Department and that was developed by the banking system by means of Masav—strengthens the power of the customer, reinforces competition, greatly simplifies the switching process, and enables customers to improve the terms they receive from the bank.

Open banking (API) – Open banking allows customers of banks and credit card companies to share their financial information with third parties. New entities—not necessarily banks—can access customers' bank accounts (with their consent) and offer banking services that are tailored to their needs. The Banking Supervision Department has promoted the adoption of a uniform standard for open banking in the Israeli banking system. The standard also relates to the protection of the customer's information and the banks' management of risk.

Creation of a Joint IT Bureau – The Joint IT Bureau serves as an infrastructure for the provision of computer services to financial bodies. The creation of the bureau was a complicated technological undertaking and was intended to remove a major barrier to the entry of new players. This was accomplished by reducing the costs of creating a new financial entity in the Israeli banking market and thereby strengthening competition and improving customer service. The Banking Computerization Services Bureau was launched on March 1, 2021 and began providing services to the first digital bank (One Zero Digital Bank Ltd.).

Credit data system – The central credit register is meant to increase competition in the domain of credit. This is accomplished by narrowing the information gaps between the various credit providers, both within the banking system and among non-bank players. The register, which went into operation in April 2019, allows credit providers to obtain information on customers' credit history and accordingly to offer them credit on appropriate terms, as is the practice in many advanced countries. This represents a change in the rules of the game in the retail credit market (for further details, see the report of the Economic Committee for the Implementation of the Credit Providers Law[1]).

Entry of new banking players – A formal process has been defined which is meant to create regulatory certainty for entrepreneurs who are considering the creation of a new bank. The process is meant to smooth the way to obtaining a restricted banking license for the providing of credit and the acceptance of deposits, in the stage prior to the completion of the operational, managerial and regulatory preparations to establish a new bank. The main barriers that were identified and dealt with in recent years were high capital requirements, information barriers, the need for a chain of branches, technological barriers (computer systems) and regulatory uncertainty (for further details on the new bank licensing process, see Box 2.3 in this survey).

The mortgage transparency reform – The Bank of Israel has promoted a comprehensive reform in the mortgage domain, which is intended to lower barriers in the process of obtaining a mortgage. This is measured according to three main parameters: transparency and ability to compare; simplicity and comprehensibility; and ease of execution. The change is expected to go into effect on August 31, 2022 and will focus on improvements at three points in time: the stage of comparing terms between the banks; the approval of the loan; and the ongoing assessment of whether to refinance after the loan has been provided (for further details, see Box 3.5 in this survey).

Advanced means of payment beyond the EMV standard – The Banking Supervision Department, in collaboration with the Payment and Settlement Systems Division of the Bank of Israel, is monitoring the implementation of directives regarding the transition of issuers and acquirers to the EMV standard (and the effects of these directives on businesses). As part of the creation of the EMV infrastructure in Israel, international companies were permitted to offer their payment wallet services in Israel. Thus, for example, Apple launched its digital wallet in Israel during April 2021 and Google launched in November 2021.

These and other measures that will benefit the public are already bearing fruit in the banking system.[2] In January 2022, the restrictions on the licenses of One Zero Digital Bank Ltd. were lifted and it is expected to offer its services to the public during the course of the year. Furthermore, we have observed a downward trend in the level of concentration in the banking system in recent years and in particular in the financial system as a whole. This is evident in a variety of indices, including the dispersion of consumer credit in the financial system (see Figure 1.21) and the HHI index (see

[1] https://www.boi.org.il/en/NewsAndPublications/PressReleases/Pages/13-4-22.aspx

[2] For further details on the measures to promote competition in the Israeli financial system and the progress made so far, see the progress reports of the Committee to Examine Competition in the Credit Market.

Table 1 in Chapter 1). Furthermore, there has been a significant improvement in other indices of competition that have a direct effect on the public, including the price level of financial products and services, their number and their variety. It is important to emphasize that the implementation of the aforementioned measures and the fruit they are bearing are expected to impact fully on competition. The Banking Supervision Department is continuing to assess ways of promoting competition and transparency in all of the banking system's segments of activity.

One of the Banking Supervision Department's objectives is to maintain fairness in relations between the banks and their customers. Greater fairness is an important issue that is at the core of the banks' relations with their customers, and as such, it is at the focus of the Banking Supervision Department's efforts, with an emphasis on the positioning of the customer at the heart of banking activity. (For further details, see Chapter 3 of this survey). One of the implications of these relations is financial inclusion, which involves the creation of equitable access to financial services at a reasonable cost for the entire population. It is of benefit to families and businesses in their daily routine and in their life planning—from long-term goals to unexpected emergency situations. Financial inclusion can serve as a key in reducing inequality between various population groups and in the optimal exploitation of the financial system to meet the needs of households. Technological developments, as well as the effects of the pandemic, have encouraged the banks to offer more and more services by way of direct channels, in order to eliminate the need of physically coming to the branch and carrying out transactions by means of a human teller. This process, which is taking place alongside efforts on behalf of populations with low digital literacy, is helping to improve the accessibility of banking services and the reduction of their cost, as well as making it easier to manage banking products.

According to World Bank data gathered in 2017, the rate of ownership of a financial account (usually a bank account) in Israel is similar to the average of high-income countries (Figure 2.1). Nonetheless, it appears that there are many countries in which the proportion of the adult population[3] that owns a financial account is 100 percent. Although the rate of account ownership in Israel is not an outlier relative to the high-income countries, there is concern that the unbanked population coincides with a particular population group or segment, which is liable to deprive that group of essential financial services.[4] It is important to mention that the directives of the Banking Supervision Department require the banks to open a checking account with a credit balance for any customer that wishes to do so.

Another important index for measuring financial inclusion is the rate of payment card ownership.[5] Payment cards create access to payments, and their use is more secure than using cash. It appears that in Israel, the proportion of the adult population

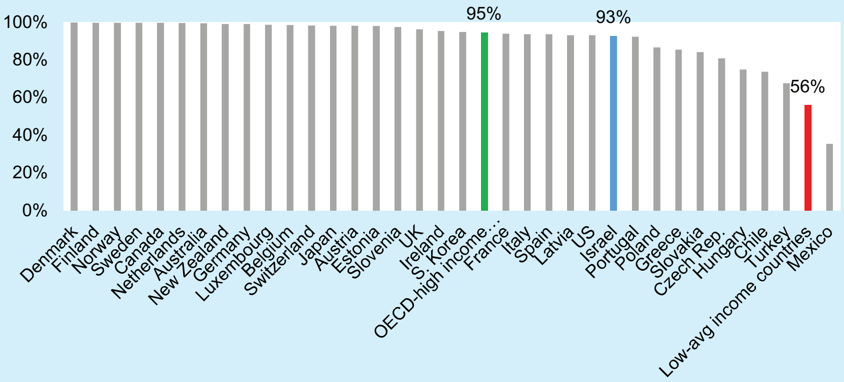
3 Aged 15+.

4 See, for example, Omar, M.A. and Inaba, K., (2020). Does financial inclusion reduce poverty and income inequality in developing countries? A panel data analysis. Journal of Economic Structures, 9(1), pp.1-25.

5 Either a credit card or a debit card.

The rate of bank account ownership in Israel is similar to the global average.

Figure 2.1
Rate of Those with an Account at a Financial Institution[a], as a Share of the Adult Population[b], OECD Countries, 2017



[a] In most countries, an account at a financial institution is a bank account.
[b] Aged 15 and up.
SOURCE: Based on World Bank.

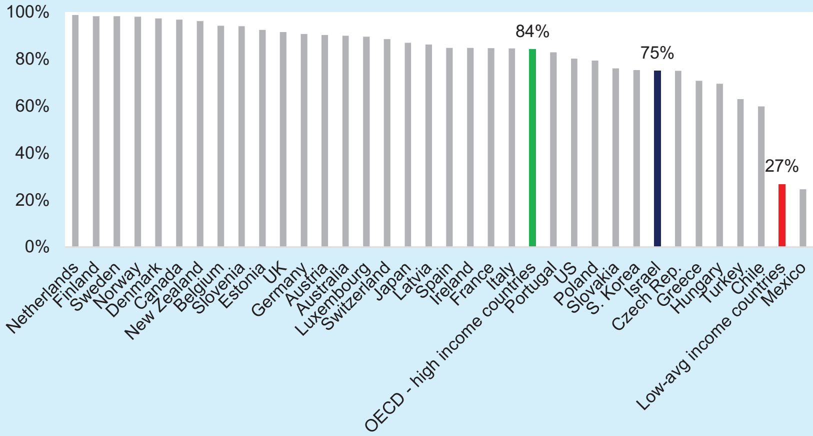
that possesses a payment card is low relative to the reference countries (Figure 2.2). In view of the technological progress in payments in recent years and the gap that currently exists, it may be that a higher proportion of the population in Israel is relying on the use of cash and other alternative means of payment and there may be a barrier in this market.

There is currently a workgroup, led by the Bank of Israel and the Ministry of Justice that is formulating a National Plan for Increasing Financial Inclusion. The workgroup is examining whether the level of financial inclusion among various segments of the population is low relative to the others and what policy measures can improve the situation. The workgroup is expected to publish its findings in the near future.

The banking system continues to adopt new technologies, which tends to produce technological challenges. As part of the monitoring of technological risk and business model risk, the Banking Supervision Department has evaluated the efforts of the banking corporations to prepare technologically for future banking challenges, and the increased competition that is the result to a large extent of the banking corporations' technological capabilities, and the critical role they play in maintaining a sustainable business model in the banking system. This examination was carried out by means of the "Survey of Technological Preparedness for Future Banking Challenges". The results of the survey show that the banking system overall attributes a great deal of importance to adapting its systems, work processes and human resources to meet future banking challenges and is investing resources in this effort (for further details, see Box 2.1 in this survey). In addition to technological progress, it is important to mention that it is data that enables the banking-financial system to better know their customers and therefore to design the supply of goods and services accordingly. This data makes it

The rate of payment card holders in Israel is lower than in other countries.

Figure 2.2
Rate of Payment Card Holders[a], as a Share of the Adult Population[b], OECD Countries, 2017



[a] The organization gathers data on credit cards and debit cards separately. The figure in this graphis the higher of the two.
[b] Aged 15 and up.
SOURCE: Based on World Bank.

possible to develop models and advanced capabilities, such as AI, machine learning and big data analysis, and enhance their usefulness, thus exacerbating the data challenges. These include issues of permitted uses of data, confidentiality, and the prevention of discrimination and information security. The Banking Supervision Department is evaluating how to allow the provision of banking services alongside the development of permitted business endeavors and accompanying services.

Following the onset of the COVID-19 pandemic in Israel and worldwide, there was a decline in economic activity and movement was restricted in the public domain. As a result, reception hours in the bank branches were curtailed. The digitization processes that have accelerated in recent years in the banking system proved themselves during the pandemic, in that they allowed the banks' customers to continue consuming banking services by means of direct channels, even when limitations on movement were imposed on the economy (see Figure 1.11).

Households and businesses are increasingly consuming financial services online. Online payment services, and in particular services based on digital wallets, are quickly becoming the favorite alternative for payments to both physical and online businesses. This is in view of, among other things, their convenience and ease of use, which have encouraged rapid adoption. The increase in the scope of digital payments is due not only to their convenience but also to other technological developments that have improved the overall buying experience (not just the payment per se) and in view of the increase in online commerce. In 2021, there was a step increase in the assimilation of the EMV standard in Israel, which provides an infrastructure for the wallets and digital means of payment that have penetrated the market this year (for further details on digital payment services, see Box 2.2 in this survey). The increase in e-commerce constitutes a springboard for the possible use of decentralized currencies as a means of payment (which until now have been primarily used as an investment channel). In this context, the Bank of Israel, like many other central banks, is considering the formulation of a workplan for the possible issuing of a central bank digital currency (CBDC—a digital shekel ("Shaked" in Hebrew) in the case of Israel), which includes an evaluation of the possible effects on the Israeli economy. An evaluation of its expected effects on the banking system shows that the issuing of a digital shekel will threaten the banks' profitability, as a result of the shift of some of the public's deposits to the digital shekel; however, this is not expected to significantly undermine the banking system's business results, its stability, or its ability to continue providing credit and fulfilling its traditional roles (for further details, see Box 2.5 in this survey).

Box 2.1: A survey of the technological preparedness for future banking challenges

- **The response of the banking system to future banking challenges and growing competition relies to a great extent on the banks' technological capabilities. These capabilities have major implications for the maintenance of a sustainable business model for the banking system.**
- **As part of the monitoring of technological risk and business model risk, the Banking Supervision Department has examined the banks' technological preparations to deal with these changes by means of the "Survey of Technological Preparedness for Future Banking Challenges" (herein: the Survey). The evaluation of the survey's findings included the following issues, among others: the gap between what there is and what there should be; a mapping of the main tools that serve as growth engines (herein: "growth-stimulating tools" or "growth tools"); the main barriers to growth; and projects that facilitate these growth tools and the removal of barriers to growth; etc.**
- **The Survey is first and foremost a tool that can be used by each bank to evaluate its level of preparedness for future banking challenges and as a tool for the Banking Supervision Department to identify technological trends among the banking corporations, with the goal of assessing their level of preparedness for future banking challenges. The conclusions can also be used to identify new focal points of technological risk, to facilitate the delineation and early identification of areas that require greater attention and to plan future measures to promote technological development in the banking system and its adaptation to the changing competitive environment.**
- **Following are the main overall insights gained from the survey:**
  - In the context of coping with future banking challenges, the Israeli banking system is focused on the same technological issues as other banking systems worldwide.
  - Most of the banks are growth-oriented and see a greater need for investment of effort in tools that can promote their growth.
  - Overall, the banking system attributes importance to the adaptation of its systems, work processes and human resources to meet future banking challenges and accordingly it is investing a large amount of resources in this effort.

1. INTRODUCTION

The Banking Supervision Department has decided—in view of the recent technological developments in banking and their potential effect on the banks' business model—to evaluate the level of the banking system's technological preparedness for future banking challenges. The Banking Supervision Department has looked at similar trends in other countries and has built a dedicated model for mapping the growth tools and the main barriers to growth that require a solution in order for the banks to prepare themselves for future banking challenges.

As part of the self-evaluation questionnaire, the banking corporations were asked to rank the growth tools and barriers according to their level of importance to the organization and to state the current stage of implementation for each of them. Furthermore, the corporations were asked to provide a list of projects carried out in the past and those that are planned for the future and that support the aforementioned growth tools and elimination of barriers.

The findings were analyzed by the Banking Supervision Department, including an assessment of, among other things, the main technological levers, the major barriers, the emerging trends and their possible implications for the various banking corporations' technological risk, as part of the process to prepare for future banking challenges.

2. THE MAIN INSIGHTS FROM THE SURVEY

- Global trends – It was found that there is a high correlation between the solutions of Israeli banking corporations with respect to growth-oriented tools and tools for removing barriers (see Table 1, Growth-Oriented Tools and Main Barriers) and the existing situation among banking corporations worldwide. Therefore, it appears that the Israeli banking system and banking systems in other countries are focused on similar issues.

Table 1: Growth-oriented tools and main barriers to growth

Growth-oriented tools	Barriers
Modern architecture	Regulation
Data	Cooperation between IT and a business customer
TTM[1]	Core systems
Adoption of a new technology	Budget constraints
Collaboration with a third party	Human resource constraints
Increasing efficiency	Organizational culture
Operational improvement	Suppliers
Innovation	Organizational structure
Adoption of work methodologies	
Shift to outsourcing	
Cloud	

[1] Time to Market—the time it takes from the development of a product until it is available for the customer's use.

- Results of the gap analysis – An analysis was carried out of the gaps between the level of importance attributed to the growth tools and the barriers on the one hand and the current status on the other. It was found that most of the banks are growth-oriented and see a greater need for investment of effort in dealing with the tools that are expected to promote growth.

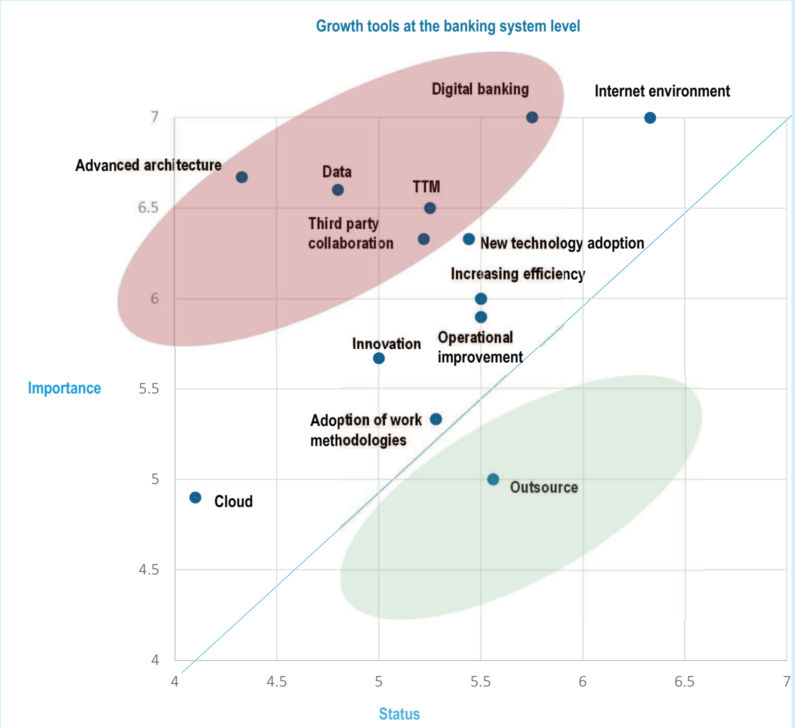
Following are the growth-oriented tools and the barriers that were attributed the highest importance by the banks:

- Tools to promote growth ("growth tools") – In order to support future technological growth, most of the banking corporations attribute a particularly high level of importance to digital banking, cyber and modern architecture.
- Removal of barriers – With respect to the ability to remove existing technological barriers, most of the banking corporations attribute a high level of importance to the issues of regulation, core systems, and collaboration between the information systems department and the business departments.

Following are tools for promoting growth and removing barriers that were defined by the banks as having the largest gaps between their level of importance and their actual situation (a gap that needs to be eliminated by the bank):

- Tools for promoting growth ("growth tools") – The largest gap in the support for future technological growth was found on the issues of modern architecture, data, digital banking, TTM and collaboration with a third party (Figure 1[1]).

Figure 1
Technological growth tools at a the banking system level - gap analysis

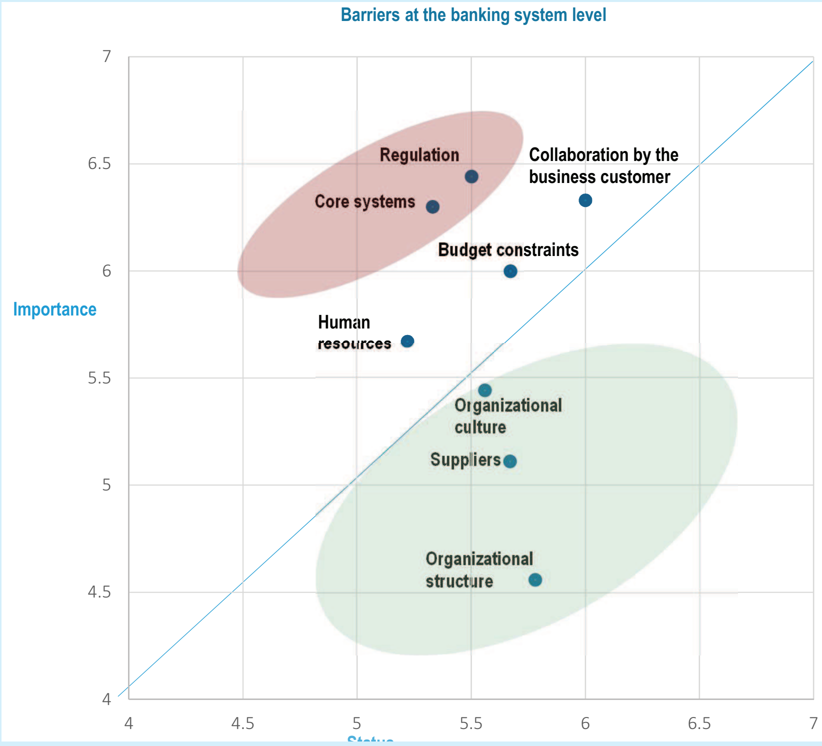


SOURCE: Banking Supervision Department analysis of "Survey of Technological Preparedness for Future Banking Challenges".

[1] The graph presents the rankings of the various barriers (importance vs. status) which were provided as part of the self-evaluation questionnaires and which show the issues for which the gaps were ranked as being the largest.

- Removal of barriers – The largest gap with respect to the ability to remove existing technological barriers among banking corporations was in core systems and regulation (Figure 2[2]).

Figure 2
Barriers to technological change - gap analysis



SOURCE: Banking Supervision Department analysis of "Survey of Technological Preparedness for Future Banking Challenges".

- The Survey as a work tool – It should be noted that this Survey was adopted by some of the banking corporations as a tool to support the assessment and modification of long-term programs in order to meet future banking challenges.
- The Survey as a supervisory tool – The Survey constitutes a tool to be used by the Banking Supervision Department to identify technological trends among the banking corporations and their level of preparedness to meet future banking challenges.

[2] The graph presents the rankings of the various barriers (importance vs. status) which were provided as part of the self-evaluation questionnaires and which show the issues for which the gaps were ranked as being the largest.

Box 2.2: Payment services in the digital era

- **The future of payments services is digital: consumers and businesses increasingly consume services digitally. The new technologies facilitate innovative and advanced services and contribute to the change in business models, to the entry of new players, and to large-scale collaborations between financial institutions and both large technological companies and small innovative ones (fintech companies). The coronavirus crisis catalyzed the development of digital services and their adoption by customers in the financial domain and in particular in the payments domain, both in Israel and abroad. This box relates to the variety of services that have emerged in recent years and that are based on digital technologies.**
- **Digital payment services and in particular services based on digital wallets are quickly becoming the most popular payment alternative for both physical and online businesses. This is due to, among other things, their convenience and ease of use. The transfer of the wallet to the smartphone offers more than just "a means of payments that is always with you"—it provides an interactive buying experience. The increase in the scope of digital payments is due to its convenience, the overall buying experience (which goes beyond the actual payment) and the growth in online commerce. In 2021, there was a step increase in the assimilation of the EMV standard in Israel, which constitutes the infrastructure for digital wallets and means of payment, which have penetrated the market this year. We expect that in 2022, the wallets will become even more dominant, with respect to both their variety and their usage (by the customer and by the business) as well as the ability to carry out cross-border payments.**
- **The technological changes and global developments in the payments domain present a challenge to regulators in Israel. This is because of not only the evolving regulatory structure in Israel with regard to payment services, but also with respect to both the adaptation of traditional regulation to handle digital payment services, such as the adoption of the measures currently being formulated, and the expansion of wallet activity to other domains.**

The digital transformation is changing business models and driving innovation in financial services with respect to both their variety and the diversity of financial entities and their types. For many companies, IT systems together with the accompanying software have become the backbone of their business activity. The reason is that digitization offers new opportunities, since the economies of scale, digital networks and data services are facilitating the provision of higher quality services at lower cost. Not only does technology provide more opportunities for experimentation and for collaboration between various players, it also makes it possible to adjust services to the needs and preferences of customers. In addition, technological innovation changes the structure of the market, such that firms and legacy financial institutions are modifying their business models, usually in partnership with fintech companies. The large technological companies (BigTech) and the smaller ones have become more active in the financial domain.

In February 2022, four European supervisory authorities (EIOPA, EBA, ESA and ESMA) published their recommendations for ensuring that the EU's regulatory and supervisory framework remain up-to-date in the digital age. The recommendations were intended to maintain a high level of consumer protection and to deal with risks resulting from the evolving value chains, the use of platforms and the appearance of new "mixed groups" (which combine financial and non-financial activity).

These authorities are recommending a series of steps to strengthen the regulation of financial services in the EU and to improve supervisory abilities accordingly. These recommendations include: the adoption of a holistic approach to regulation and supervision of the value chain of financial services; the strengthening of consumer protection in the digital context, including by means of increased exposure, mechanisms for dealing with complaints, steps to prevent the erroneous sale of related products and an improvement in digital and financial literacy; greater uniformity in the EU in the classification of cross-border services; greater uniformity in the EU in dealing with money laundering/financing of terrorism in the digital context; efficient regulation and supervision of "mixed groups", including a survey of uniform prudential requirements; strengthening of supervisory resources and cooperation between financial authorities and other relevant authorities, including cross-border and multidimensional connections; and active monitoring of the use of social media in financial services.

Payment services fulfill a key function in the development of digital financial services, in that they constitute the frontier of innovation and the means for supporting the digital economy. Digital payment solutions make it possible for individuals and companies to carry out transactions safely and efficiently. They are essential for payments in stores and in e-commerce, the settling of accounts, making payments on loans and mortgages, the transfer of money and the payment of salaries and pensions. These capabilities and the data derived from them can provide the basis for the provision of additional financial services.

The smartphone is a major component of everyday life in advanced economies, although it is even more than that. Smartphones serve as a means of communication, a means of social connection, a means of entertainment, as a portal to the Internet, and even as a platform for payments. In recent years, a variety of digital wallets have been developed, which enable the user to carry out payments to a business or to transfer money to acquaintances with relative ease and security. There are various types of digital wallets, with the major players coming from various content domains. These include wallets developed by technological companies, such as Venmo, Google Pay, Apple Pay, PayPal and Alipay; by banking entities (usually consortiums of banks) such as Zelle; social networks such as Facebook, WeChat Pay; or large retail chains such as Walmart. Despite the difference between the markets in which they operate, the natural development of the services they provide is similar in all markets. The first stage is the transfer of funds between private customers (P2P). Subsequently, the service gradually expands to other types of payments (such as to businesses, i.e. P2B), and finally online payments and payments to government institutions and bodies (P2G). Some of the wallets use a technology that facilitates encryption of the card's details (a credit card or debit card) while in other instances usage is by means of a transfer between accounts. In most cases, the use of a wallet is costless although there are fees when synchronizing the app with the bank account. In addition to payments, some cards make it possible to store receipts, coupons, business cards, bills, airline tickets, show tickets, etc. From a global perspective, these wallets will make it possible to shift to a cashless society at some point in the future. In many undeveloped economies, the development of digital wallets was accelerated by the mobile telephone network operators in collaboration with banking institutions. The goal in those countries was to create more convenient access for consumers and to improve financial inclusion for marginalized unbanked populations. In contrast, in advanced economies, mobile wallet payments are easier than with a payment card. In some locations their use eliminates the need to pay with a debit card, as a result of the development of immediate payment systems for account-to-account payments (A2A) without any need for the familiar payment schemes (such as VISA, Mastercard, etc.), thus allowing businesses to avoid paying clearing fees. The use of a digital wallet for payment in stores and online transactions was on an upward trend even prior to the pandemic, but it accelerated markedly during the pandemic when there was greater need for convenient access to goods and services, i.e., remote access and contactless payment.

In a document entitled "Central Bank Digital Currencies: User Needs and Adoption" published by the BIS in September 2019, the adoption and assimilation of digital wallets was provided as an example. One example of successful adoption was the Swish cellular phone app, which was launched in 2021 in Sweden and is used by about 80 percent of the population. Although in the beginning the app only offered immediate P2P transfers, the app is currently used also for online payments and point-of-sale payments (with QR codes). The reasons behind its success according to the BIS are an initial focus on a market where there was no convenient digital alternative, a smooth and determined assimilation process and the banks' encouragement of their customers to use the payment app (in order to reduce the use of cash). Similar apps in Denmark (MobilePay) and Norway (Vipps) have met similar success. Another example is the M-Pesa platform, which was launched in Kenya and is used by more than 95 percent of the population. This platform is based on sms service and provides the unbanked population with basic bank-like services. Like Swish, this platform also offered service in a market where there was no competition and the service was convenient to use. Nonetheless, not all mobile payment services have been successful. Paybox[1] offered a mobile phone payment platform in Germany in 2000. Like Swish, Paybox intended to make account-to-account payments more convenient. Nevertheless, insufficient advantages over existing systems, high user costs and a lack of cooperation in promoting use by customers resulted in a non-sustainable level of adoption.

As in the case of other economies, the Israeli economy has undergone far-reaching changes in its payment infrastructure, which has spurred the development of advanced means of payment. One of the most important reforms in the payment domain was the assimilation of the EMV standard[2], which facilitates the development of advanced means of payment and in particular digital wallets and contactless payments. For many years, the business sector in Israel was hesitant to adopt the standard and did so only in late 2020 and following the obligatory regulatory plan decided on by the Supervisor of Banks. The adoption of the standard facilitated the development of digital wallets in Israel—both local and international.

In 2017, Bank Hapoalim launched a payment app called "bit"; Bank Leumi launched the app "Pay";[3] and Discount Bank acquired the app "Paybox". At the beginning, these apps enabled P2P payments (and payment requests) which was later expanded to payments at points of sale—at first remotely and later by means of NFC technology (contactless payment). The widespread use of payment apps for transferring

1 The international Paybox is not connected to Paybox in Israel.

2 The EMV standard was developed by three large European credit card companies (Visa, MasterCard and Europay) for the purpose of securing credit card purchases and preventing fraud and counterfeiting. This is accomplished by an almost certain identification of the EMV card owner by means of a smart chip inserted in the credit card, instead of a magnetic strip. It only contains information on the card in which it is inserted.

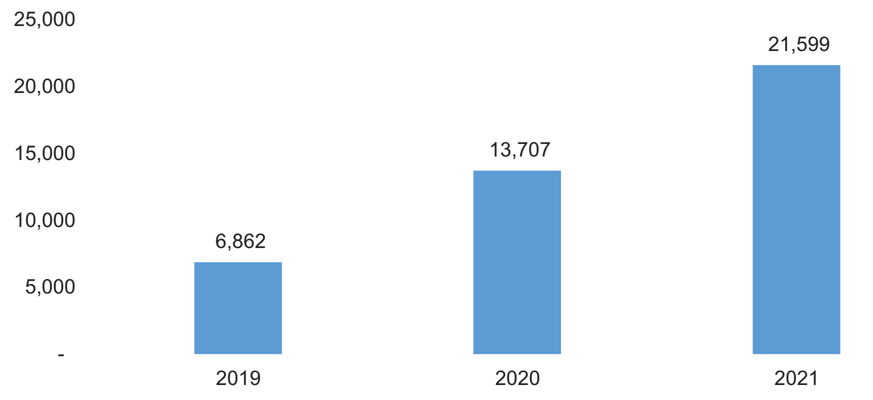
3 Bank Leumi recently announced that it is discontinuing its payment app.

money between individuals constitutes a substitute for cash and supports the government policy to reduce the use of cash in the economy. The value of payments carried out on these apps has grown rapidly over the year, due to both the increase in the number of users and in the volume of activity.

During the past year, the number of bank apps in Israel that provide access to digital wallets has grown, and they allow the banks' customers to pay at points of sale by means of a mobile phone. Three credit card companies (Isracard, CAL and MAX) have added a digital wallet functionality to their apps and two international companies (Apple Pay and Google Pay) have launched their wallets in Israel. Large businesses (such as Yellow) have also launched digital wallets and as of December 2021, there were nine active digital wallets in Israel.[4] Note that each wallet has different functionality. Thus, for example, the wallets of the credit card companies include only payment by cards issued by them while the wallets of the international companies allow payments by means of any credit card issued in Israel. Of course, the user experience differs from one card to the next.

The volume of payments through payment applications is trending upward due to increases in the number of users and the volume of activity.

Figure 1
Volume of Payments Using Payment Applications, 2019–2021 (NIS million)



SOURCE: Based on reports to the Banking Supervision Department.

4 Review of Developments in the Payment Systems in Israel, the Payments and Settlement Systems Department, December 2021. [Hebrew]

The main reasons for the rapid adoption of digital wallets in Israel and worldwide is, first, the ubiquity of smartphones, and second, their convenience of use. Furthermore, the revolution in cross-border payments has supported the growth in digital wallets. Thus, until recently, the transfer of money from one country to another took three to four days and involved a significant cost. Currently, it can be done more or less immediately and the cost has declined considerably. Israel is lagging in this area but we expect that this will be the next stage in the development of payment apps.

Digital wallets in Israel are still based on payment by means of payment cards. In other countries, we are witnessing the development of wallets based on payments directly from an account, which can be attributed to the convenience and simplicity of payment by means of open banking and initiation of payments. The initiation of payments makes it possible for a third party to write the payment instructions for the customer, which are approved by the beneficiary and the customer. The access to the customer's account facilitates a variety of services, such as a single payment or multiple payments, immediate payment or future payment, approval of the payment instruction at the time of the transaction execution (the classic payment initiation) or approval in one's free time (request-to-pay), etc. As part of the commitment to the introduction of open banking in Israel, the Banking Supervision Department has required the banks to provide the service of initiating a single payment. At a later stage, the Banking Supervision Department is expected to expand the variety of possible payments by means of payment initiation—whether by mandating that certain payments be made possible or by providing the possibility to do so. The standard used by the Banking Supervision Department is that of the Berlin Group.

Beyond the development of innovative and diverse payment services, digital payment services make it possible to expand the selection of financial services offered to the customer and to adjust them to the customer's needs. This is accomplished by gathering data about the payment transaction and advanced data analytics processes (such as forward-looking analyses of income and expenses, and calculation of discounts and the customer's credit rating). Therefore, payment companies worldwide are making use of their accumulated data and are expanding the selection of their services beyond the traditional core services. Payment suppliers offer solutions by creating a platform that makes it possible to offer a rich set of value proposals, such as issuing of virtual cards, offering Buy Now, Pay Later (BNPL) credit services, etc.

These trends constitute a fairly complex challenge to regulators, particularly in the case of Israel. Thus, as in Europe, the regulatory infrastructure needs to adapt to a changing technological world and to the dynamic nature of payment services. For example, the use of cloud infrastructures facilitates a high level of operational flexibility and access to advanced data processing technology; however, it also involves new risks, particularly with respect to confidentiality of data and protection of customers. A further example is the adaptation of regulation so that it will allow the use of advanced payment technologies such as DLT.

Box 2.3: Insights into the process of establishing a new bank in Israel

- **Based on the accumulated experience of the Banking Supervision Department with projects to establish new banks, and that of supervisory authorities in other countries, the Banking Supervision Department has arrived at conclusions and formulated insights with respect to the stages of licensing a new bank and the preparation that is required of the new-bank applicants.**
- **The Banking Supervision Department deems it correct to share its insights with the public and in particular with those who are interested in establishing a new bank, with the goal of improving the process and making it more efficient.**
- **To increase regulatory certainty for applicants and to increase their chances of success, and following an assessment of the project and its feasibility, a license for a new bank is issued. It has three stages: a limited license that is not valid (a nonbank corporation), a limited license that is valid (a banking corporation in formation) and an unlimited license (a new banking corporation).**
- **The preparation required of the applicants is also composed of three stages: 1) submitting an application for a banking license and a control permit; (2) establishment of the bank and preparations for the initiation of operations; and (3) completing the process of establishing the bank and the preparations for removing the limitations on the limited license.**
- **The establishment of a new bank is complex and involves a large investment of resources, as well as a deep understanding of banking, of the legal directives, and the regulatory environment and technology. Meeting these criteria constitutes a prerequisite for advancing through the licensing stages.**
- **The business plan submitted by the applicants with the request for a license must be coherent, detailed and complete. It must have reasonable assumptions that are in line with market conditions and must comply with the law and regulations. The business plan is to be submitted only after being thoroughly challenged internally.**
- **Capital constitutes a major factor in the approval of an application for a banking license. The applicants must conservatively estimate the capital required of the bank in its early years and prepare a feasible plan to raise it.**
- **The bank's controlling core must meet the requirements of the law and supervisory policy, including financial strength of the controlling shareholders; the honesty and integrity of those requesting the control permit; and the business experience and readiness to support the bank when necessary.**
- **Setting up the technological infrastructure is a complex and multifaceted task. A coherent technological plan is required for the bank, which includes margins of error for the resources required and the timetable.**
- **Effective corporate governance is essential for the adequate management of the bank and the maintenance of public confidence in it. It should be ensured that before the license becomes**

operational an independent board of directors is created that is free of conflicts of interest and that the three lines of defense are in place.

- **The beginning of banking activity by a banking corporation in formation is conditional on meeting milestones, presenting a plan for the initiation of operations, submitting an interim independent audit report and approval by the Supervisor of Banks, following consultation with the Governor of the Bank of Israel.**
- **The removal of the limitations on the banking corporation in formation's license is conditional on the approval of the Governor of the Bank of Israel, following the completion of the preparations. This includes an updating of the business plan, completion of the raising of capital, compliance with supervisory directives and the resolution of any deficiencies.**

The Banking Supervision Department in recent years has emphasized the promotion of competition in the retail and small businesses sectors, by means of structural reforms and removal of barriers to entry into the banking system. These were intended to increase the competitiveness among players in the banking system, increase the number of players in the system and encourage competitive behavior. In this context, the policy for establishing a new bank was published in 2018, with the goal of formalizing and simplifying the process of obtaining a banking license and providing regulatory certainty to applicants at the beginning of the licensing process. In 2020, specific directives concerning new banks were issued with the goal of establishing a proportionate approach. These were Proper Conduct of Banking Business Directive no. 480, on "Revision of Proper Banking Conduct Directives that apply to a new banking corporation and a banking corporation in formation", and Reporting to the Public Directive 692—"Reporting to the public by a new banking corporation and a banking corporation in formation".

In parallel to the implementation of the reforms and the efforts to remove barriers to entry, requests were received from applicants who wished to establish a new bank in Israel. In 2016, the Banking Supervision Department established a new unit with the goal of providing support and accompanying applicants in the licensing process and during the period following the creation of the bank. One of the applicants, One Zero Digital Bank Ltd.,[1] received a limited banking license in December 2019. In January 2022, the limitations on its license were removed and currently it has the same status as any other bank in Israel. The Banking Supervision Department is currently providing support and accompanying a number of applicants who are in various stages of obtaining a banking license.

The experience accumulated by the Banking Supervision Department in providing ongoing support and accompanying these applicants, along with the experience accumulated by supervisory authorities in other countries and studied by the Bank of Israel, has led to insights regarding the licensing stages for a new bank, the regulations that apply to it and the groundwork required of the applicants. These have recently been applied in the updating Proper Conduct of Banking Business Directive no. 480, and they are expected to be part of the policy for establishing a new bank in its revised version. Because the establishment of a new bank is a long and complicated process, the Banking Supervision Department is working to assist applicants in completing it successfully. This box describes the licensing stages of a new bank and the groundwork required of the applicant, as well as the challenges the applicant faces, with the goal of sharing

[1] Previously known as The First Digital Bank Ltd.

insights gained by the Banking Supervision Department and making the process of establishing a new bank more efficient.

A. THE STAGES OF LICENSING A NEW BANK

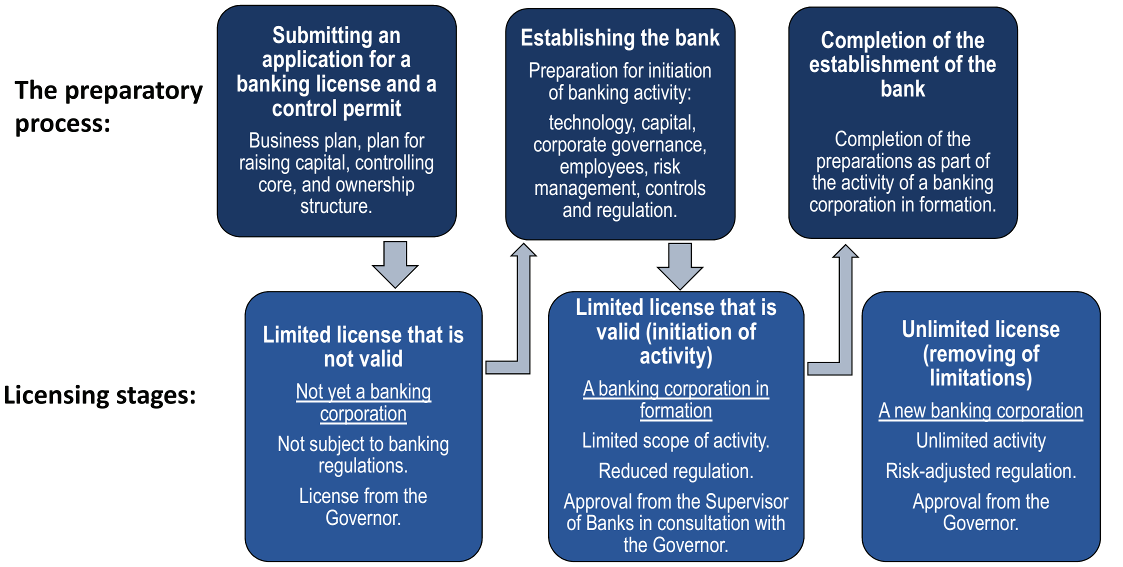
The licensing of a new bank involves three main stages:

(1) **A limited license that is not valid –** A limited license is issued to a corporation by the Governor of the Bank of Israel after the Governor consults with the Licensing Committee and prior to the establishment of the bank. As long as the bank has not been established, a corporation that has been granted a limited license is not permitted to carry out banking activity (namely to provide credit and to accept more than thirty deposits as a bank) and the limited license is not yet valid. At this stage, the corporation is not defined as a "banking corporation" and is not subject to banking regulations. A limited license that is not valid provides the applicant with regulatory certainty, since it constitutes initial approval by the Governor of the Bank of Israel and the Supervisor of Banks and agreement in principle to grant a banking license. The regulatory certainty facilitates the necessary processes to create the bank: raising of capital, recruitment of workers, signing of agreements and establishing a technological infrastructure.

(2) **A limited license that is valid (initiation of banking activity) –** Before the bank starts operating, it must comply with the milestones specified in the limited license and obtain the approval of the Supervisor of Banks, after the Supervisor consults with the Governor of the Bank of Israel. The limited license becomes valid with the initiation of banking activity, and the corporation becomes a "**banking corporation in formation**". The bank is now subject to narrower regulation. The banking corporation in formation's credit and deposit activity is limited to NIS 100 million. During this period, the banking corporation must complete its preparations for the removing of limitations on the license. The completion of the preparations must occur within three years of receiving a limited license; otherwise, the license expires.

(3) **Unlimited license (removing of limitations on the limited license) –** The removing of limitations on the license occurs after the bank has completed the preparations required to meet the license's milestones and subject to the approval of the Governor of the Bank of Israel. In this context, the bank's license is converted into an unlimited license and the bank now becomes a "**new banking corporation**". The new banking corporation is a corporation that fulfils the following conditions: (1) its activity is not complex, i.e., its credit activity is directed toward the retail and small business sectors and its trading portfolio is limited in scope; (2) its total balance sheet assets do not exceed one percent of the banking system's assets or NIS 16 billion (whichever is less); and (3) its total deposits do not exceed one-half of one percent of the banking system's total deposits or NIS 6 billion (whichever is less). As such, it is subject to a reduced and risk-adjusted set of regulations. A new banking corporation has a status equal to that of any other bank in Israel.

The preparatory process and the licensing stages of a new bank



A foreign bank or a corporation with a scope of activity that exceeds that specified for a banking corporation in formation and that is seeking to establish a new bank in Israel is referred to the direct licensing channel for obtaining a banking license. Thus, they are not granted a limited license as part of the licensing process but rather are meant to receive an unlimited license already at the start of the process. Only after they successfully complete the preparations do they receive a banking license and are subject to the regulations that apply to a new banking corporation.

B. SUBMITTING AN APPLICATION FOR A BANKING LICENSE AND A CONTROL PERMIT

The submitting of an application for a banking license and a control permit is a prerequisite for obtaining a limited license. In this context and prior to submitting a request, the applicants must put together a business plan and a plan for raising capital, decide on the bank's computerization strategy, designate the controlling core and decide on the bank's ownership structure. This stage involves the investment of significant resources and the recruiting of a professional staff. The applicants must exhibit a professional approach and a commitment to the process. Furthermore, they must adopt complete transparency in their relations with the Banking Supervision Department. They must notify it of developments in the project and inform it of issues that have implications for the approval of the licensing request. The comments of the Banking Supervision Department are to be implemented and the business plan must be revised accordingly; otherwise, the application cannot be submitted. Prior to meeting with the Banking Supervision Department, the applicants must submit the relevant materials and they must arrive at the meeting with appropriate responses to the questions that have been submitted to them. It is important to emphasize that submission of the materials must be coordinated with the Banking Supervision Department and must be in line with the stage of the process before being submitted as part of the request for a banking license and a control permit.

Structure of ownership and controlling shareholders

The specification of the controlling core and the ownership structure is an integral part of submitting an application for a banking license and a control permit. The banking laws and the policy of the Banking Supervision Department[2] specify the rules governing the control and ownership of a banking corporation. This includes: who can control and own a bank and by means of which entities, what are the considerations in deciding whether to grant a permit to control a bank and what is required of the controlling shareholders. Therefore, the applicants must be familiar with the conditions and limitations that appear in the law and in the policy. It is recommended that the applicants decide on the ownership structure and the controlling core before contacting the Banking Supervision Department with a proposal for creating a bank and before recruiting investors. There are cases in which applicants present a proposed ownership structure or proposed controlling core that do not meet supervisory requirements. Therefore, it is important to consult with the Banking Supervision Department early on and prior to submitting a request.

In the process of deciding on the controlling core and the ownership structure, the applicants should consider the ability of the potential partners to contribute to the establishment and development of the bank, their business experience and their personal and business integrity. Furthermore, it is worthwhile verifying that all the potential partners share the same strategic outlook and are prepared to work together in order to ensure the bank's growth, profitability and stability over time. Thus, it should be verified that the controlling shareholders have sufficient financial resilience with respect to the capital that they intend to invest in the bank according to the business plan, and that they are prepared to support the bank when necessary or in an extreme situation. The formulation of agreements between the controlling shareholders is liable to be a complex task and it is therefore important to ensure that the interests of the bank are maintained in these agreements. In some cases, the processes of recruiting investors and deciding on an ownership structure and the controlling core take longer than planned and this can be expected to influence the timetable for the entire licensing process.

Capital

The bank's capital serves as a buffer to absorb unexpected losses, to cover the costs of establishing and operating the bank and to solidify its activity during its initial years of operation. Therefore, it constitutes a central component in the assessment of the application for a banking license and a control permit. Since the business plan evolves over time, the amount of capital required by the bank can change and therefore it is reexamined throughout the licensing process. In some cases, the applicants focus on obtaining the limited license and less on the means of achieving stability and profitability for the bank in the medium term, while underestimating the capital required. Accordingly, it is important to estimate the capital required to launch the bank conservatively. The applicants need to present a plan for raising capital as part of the application for a banking license, which will include the amount of capital to be injected according to the business plan

[2] See the Banking (Licensing) Law, 5741-1981, General Criteria and Conditions for Requesting a Permit to Control and Hold the Means of Control in a Bank, July 11, 2013.

in each of the licensing stages and the identity of the investors. Part of the capital must be injected prior to receiving a limited license and the rest prior to the removing of limitations on the license. The Banking Supervision Department expects that the bank's controlling shareholders will inject the initial capital and will support the bank during its founding and consolidation stages.

The business plan

As part of the process to apply for a banking license and control permit, the applicants must prepare a business plan and submit it to the Banking Supervision Department. It must be coherent, detailed and complete. Furthermore, it must include a vision and a business strategy, with emphasis on, among other things, the business environment, the developing competitive environment and the characteristics of the bank's activity, segments, products and value proposals. Furthermore, it must characterize the customers at a high level of segmentation, as well as the products and services in the business model, all of which should be based on surveys structured according to the proposed model. There are cases in which business plans are submitted at a very early stage and are not sufficiently developed in order to be considered by the Banking Supervision Department or in which partial and insufficiently detailed business plans are submitted that do not fully reflect the issues that are relevant in the licensing process.

The business plan needs to be realistic, consistent with market conditions, conservative, and in compliance with the law and the directives for a new bank. It must also reflect a deep understanding of the threats facing the bank and the risks to which it is exposed, as well as the ability to manage and define those risks. Applicants sometimes tend to present overly optimistic business plans that do not reflect—in a conservative manner—the feasibility of the business model, the costs of launching the bank and its operations, current expenditure, the risks facing the bank, the duration of the period needed to establish the bank or the transition of the bank to profitability. Therefore, it is important to estimate the variables in the business plan conservatively and to add conservative margins of error, which will include the use of sensitivity analyses and stress scenarios. In the case that the business plan presents activities or services that are not in line with the banking laws or with the directives that apply to a new bank, this is liable to delay its assessment or block its approval.

It is important to challenge the business plan internally before submitting it to the Banking Supervision Department. Furthermore, it is worthwhile already at the beginning of the process to establish a professional team that will assist in formulating a stable and profitable business plan that complies with the banking laws. The team will need to have, among other things, a professional understanding of banking, regulation, and technology. There is a direct link between the team's level of professionalism in being able to build and challenge a business plan and the time it will take for the applicant to prepare an application for a banking license.

For the applicant, the business plan constitutes an important tool for assessing the feasibility of the business model and identifying its weaknesses. The business model also evolves during the period of establishing the bank and consolidating its activity. Over time, the applicant will need to revise and improve it as a result of the evaluation and challenge processes. Therefore, the business plan must be flexible and should provide the basis for an in-depth analysis of the business model and the ability to asses the effects of the model's variables on the indexes of performance and risk, as well as making room for the dynamics and development of the business model over time.

C. ESTABLISHMENT OF THE BANK AND PREPARATIONS FOR INITIATING BANKING ACTIVITY

Establishment of the bank occurs after the granting of a limited license by the Governor of the Bank of Israel. In this context, the corporation raises the capital needed to initiate activity; appoints the board of directors and senior management; hires and trains workers; creates its infrastructures and operational systems; sets up its mechanisms of corporate governance, control, and risk management; and ensures compliance with the law and regulations. During this period, the corporation will make the preparations to achieve the milestones specified in its license for the initiation of banking activity. Prior to initiating activity, the corporation must prepare a formal plan that includes business targets; measures of service quality; and indices for risk management and control. The board of directors should challenge the plan and approve it. The business targets in the plan for the initiation of operations should be moderate in order to facilitate an assessment of the technological systems, the business model and the bank's conduct.

In parallel, the Bank of Israel creates a steering committee that will coordinate between the Bank of Israel's relevant departments and divisions. The steering committee monitors the progress of the project and the achievement of the milestones and supports the relevant processes, such as connecting to the payments and settlement systems, obtaining access to liquidity instruments and the opening of an account with the Bank of Israel. The Supervisor of Banks heads the committee and its members are drawn from the relevant divisions of the Bank of Israel. The committee reports directly to the Governor on the progress of the project.

Technology

Technology is an important and complex component of the process to establish a new bank since it is relevant to many aspects of the bank's operations and management. The bank's technology includes numerous components: the organizational structure, the information systems strategy, the architecture and the infrastructures, the backup and business continuity system, the interfaces, subcontractors and vendors, the monitoring and control system and compliance with the law and regulations. This process is carried out according to a formal plan of milestones and timetables that are decided on by the corporation and evaluated by the Banking Supervision Department. The Banking Supervision Department has a designated team in the areas of technology and cyber that provides ongoing support and accompaniment to the corporation and evaluates its preparations for initiating operations. Applicants tend to underestimate the complexity of the process and the inputs that need to be allocated. The dependence on many external players may also affect the duration of the process and the costs of establishing the bank. Therefore, it is recommended that margins of error be added to the estimates of time and resources needed to establish the bank's technological systems.

The banks' high level of exposure to technological, information security and cyber risks require appropriate preparation in risk management and in this context, the corporation must prepare a risk management plan that includes the mapping and hedging of risk implicit in these areas. Furthermore, it must become familiar with the regulatory directives regarding technological issues related to information security and cyber, cloud computing, outsourcing and business continuity. Compliance with these directives, subject to the revisions in Proper Banking Conduct Directive 480, constitutes a prerequisite for initiating banking operations.

The bank's activity requires interfaces with the systems of external entities, such as the payment and settlement systems, the Bank of Israel reporting system and systems of the government and tax authorities. Connecting to these systems is one of the most complex and challenging components of the technological preparations for initiating banking operations. In this context, the corporation defines the interfaces required by the bank's activity, submits a request for a bank code in order to connect to the system, signs agreements with the entities to which it needs to connect, and carries out a series of checks to verify the connections. The interface process is a complex one from a technological perspective and there is a high dependence on external entities. This should be taken into consideration in the planning of the process of interfacing with the systems.

Note that as a result of the Increasing Competition and Reducing Concentration in the Israeli Banking System Law, the creation of a computerization bureau to provide financial banking services was completed by the TCS company in 2021. The bureau is intended to allow small new banks to benefit from the "economies of scale" it provides and therefore reduce the gap between them and the large banks with respect to both the providing of a rich and competitive basket of services and the level of economic overhead, as well as the level of operational efficiency derived from it. The Computerization Services Bureau includes a range of infrastructures, systems, apps, interfaces, conditions and services required for the full operation of a bank and in accordance with the relevant regulation. In addition and in accordance with the aforementioned law, a new small bank can be hosted on the computer infrastructure of an existing bank or it can lease computerization services from the Bureau.

<u>Corporate governance</u>

Corporate governance is another important aspect of the process to establish a bank. Effective corporate governance, and in particular a properly functioning board of directors, is an essential component of a bank's activity and is essential in maintaining the confidence of the public. In this context, effort is needed to ensure that the board of directors is independent and does not suffer from any conflicts of interest. Furthermore, it should be ensured that the three lines of defense in the bank's risk management are appropriately and effectively defined. To this end, Proper Conduct of Banking Business Directives no. 301 and no. 480 define the board of directors' roles, composition and work methods. Applicants often find it difficult to comprehend fully the Banking Supervision Department's expectation that they establish effective corporate governance, and as a result, they assemble a board that lacks independence or suffers from conflicts of interest between the occupations of its members and their serving as directors at the bank. Therefore, it is important to become thoroughly familiar with the supervisory directives regarding corporate governance. Since the members of the board of directors and other office holders in the banking corporation must be approved by the Supervisor of Banks before they can begin serving in their positions at the bank, a director or other office holder will require the approval of the Supervisor of Banks before filling their position when the limited license becomes valid.

D. THE COMPLETION OF THE ESTABLISHMENT OF THE BANK AND THE PREPARATIONS FOR REMOVING THE LIMITATIONS FROM THE LIMITED LICENSE

During this period, the corporation begins to operate as a bank and its limited license becomes valid. A banking corporation in formation is supervised by the Banking Supervision Department and is subject to a reduced set of regulations according to Proper Conduct of Banking Business Directive no. 480. In this context, it is required to submit periodic reports to the Bank of Israel on the situation of its liquidity, credit, deposits, balance sheet, profit and loss, etc. The banking corporation in formation's activity must be limited since its purpose is to test the technological systems, the business model and the operations of the bank in "real time". The board of directors needs to assess whether the bank is meeting the targets in the plan for ramping-up and to verify its success. The transition from a limited scope of activity during this period to a broader scope of activity after the lifting of limitations from the license needs to be gradual and should be accompanied by an ongoing assessment of business and operational indices and indicators of risk management and controls.

During this period, the banking corporation in formation continues to revise its business plan and to adapt it to the environment in which it is operating, based on a forward-looking perspective. Furthermore, it must complete its preparations—according to the milestones specified in its license—for the lifting of limitations. For example: completing its raising of capital, its recruitment of workers and the appointment of office holders; completing the formulation of its policy documents, procedures and controls; continuing to develop its models and systems; and also working towards compliance with the directives that apply to a new bank. Prior to the end of this period, there is a process of evaluation that assesses the bank's readiness for the removing of limitations on its license, similar to the process carried out prior to the start of its banking operations. This process includes the completion of an independent audit and the submitting of a final financial audit report, resolution of all the major problems identified in order to lift the limitations on its license, an assessment by the relevant departments in the Bank of Israel and the approval by the Governor of the Bank of Israel.

E. REVISION OF PROPER BANKING CONDUCT DIRECTIVE 480 – "ADJUSTMENTS TO PROPER CONDUCT OF BANKING BUSINESS DIRECTIVES THAT APPLY TO A NEW BANKING CORPORATION AND A BANKING CORPORATION IN FORMATION"

Based on the experience accumulated in the process of bank licensing by the Banking Supervision Department and that of supervisory authorities in other countries, Proper Conduct of Banking Business Directive no. 480 was recently revised. The directive lightens the burden on a new banking corporation and a banking corporation in formation and brings together all of the directives that apply to them. On the basis of the lessons learned by the Banking Supervision Department, the directive was revised and the risk management processes of a banking corporation in formation were reinforced, including greater responsibility for appropriate risk management.

Box 2.4: The replacement of the LIBOR interest rate

- **A global reform that went into effect at the end of 2021 discontinued the use of the LIBOR interest rate as a benchmark interest rate. Trading in major currencies in international financial markets and in most domestic markets was for many decades based entirely on the LIBOR interest rate. As such, this reform has far-reaching implications, and a very extensive effort has been made by major nations and international organizations to ensure that the shift from LIBOR to alternative interest rates is carried out smoothly, and that it does not lead to any shocks in the financial markets.**
- **The need for this reform was due to, among other things, the major failures that came to light several years ago regarding the fixing of the LIBOR rates, and the desire to switch to more reliable mechanisms for interest rate calculations that are less exposed to potential manipulation.**
- **The benchmark interest rate determines the base price (the interest rate) on financial instruments, including loans, deposits, bonds and derivatives. The LIBOR was the accepted benchmark interest rate worldwide for the main currencies, such as the dollar, the euro and the pound sterling.**
- **The reform required banking corporations worldwide, including those in Israel, to switch to alternative interest rates and therefore a great deal of effort has been invested in developing such interest rates.**
- **In Israel, the LIBOR interest rate determined the base interest rate on financial instruments denominated in foreign currencies. With the goal of ensuring the suitable preparedness of the banking corporations in Israel for the change, the Banking Supervision Department set up a workgroup in 2021 to formulate guidelines for the transition.**
- **In accordance with the international workgroup's recommendations, the banking corporations were required, at the earliest opportunity, to discontinue the use of contracts based on the LIBOR interest rate as a benchmark rate. It was also determined that in choosing an alternative benchmark interest rate, the banking corporation must take into account the recommendations of the committees and workgroups for the various currencies, the recommendations of the Financial Stability Board (FSB) and the recommendations of the International Swaps and Derivative Association (ISDA).**
- **Particular emphasis was placed on requirements that are meant to protect customers. In that context, banking corporations were required to adhere to the principles of fairness, prudence, good faith, and transparency, including contacting customers who are directly affected by the discontinuation of the LIBOR interest rate as early as possible and avoiding any changes that are not required due to the discontinued use of the LIBOR rate.**

Benchmark interest rates (hereinafter: the benchmark interest rate or the base interest rate), such as the LIBOR rate, which is based on the interbank financing market, play a critical role in the money and financial markets. These markets have a total global volume in the hundreds of trillions of dollars, and they provide the basis for determining the cost of loans and bonds and the variable interest rate in the derivatives market. The most common base interest rate in the world has been the LIBOR for many decades.

The reliability and quality of the LIBOR rate have been dramatically compromised in recent years following, among other things, manipulations in the markets that determine interest rates and the fines that were imposed on banks (abroad). This is in addition to the drop in liquidity in the interbank market, a decline in the number of quoting banks, and the difference between the commonly used benchmark interest rates and the risk-free interest rates. All this led to the need for a global reform of the benchmark interest rates.

In July 2013, the International Organization of Securities Commissions (IOSCO) published a document describing the guidelines for financial benchmarks. Most of the markets use these guidelines as the basis for choosing alternative benchmark interest rates, based on the following parameters: the quality of the benchmark, the quality of the methodology, accountability, corporate governance and ease of assimilation.

In Israel, it was decided that in February 2020 a requirement would be imposed on the banking corporations to disclose their preparations for discontinuing the use of the LIBOR rate and to include them in their financial reports. Furthermore, easings were granted in response to the effect of the transition on the handling of derivatives, securities and interest income.

The Financial Conduct Authority (FCA) in the UK officially announced in March 2021 that the publishing of the LIBOR rate would be discontinued as of December 31, 2021 for the pound sterling, the euro, the Swiss Franc, the yen and the US dollar for terms of one week and two months, and that it would be discontinued as of June 30, 2023 for the US dollar for all the rest of the periods.

The discontinuation of LIBOR means that banks worldwide, including those in Israel, will have to transition to the use of alternative base interest rates, and this is expected to have an effect on many aspects of banking business. This required an examination of the transition's effect on customers, on various products and on the management of risk, including legal risk, operational risk, behavioral risk, and reputational risk.

To this end, the Banking Supervision Department carried out a survey at the beginning of 2021 to examine the extent of exposure and the preparations for the aforementioned transition in the Israeli banking system. Subsequently, a task force was created to formulate guidelines for the implementation of the transition, with the goal of ensuring that the banks are ready and that consideration has been given to the possible risks and in particular to the issue of fairness toward customers.

After studying the matter and meeting with all of the relevant parties in the Israeli financial system, the task force formulated the guidelines that were included in Proper Conduct of Banking Business Directive—temporary provision 250A introduced in September 2021. The formulation of the guidelines was based on, among other things, the current recommendations of workgroups and regulatory bodies abroad and on meetings for the purpose of coordinating with other financial regulators in Israel. The banking corporations were required by the directive to stop entering into contracts based on the LIBOR rate as the base interest rate as soon as possible, and in any case not later than December 31, 2021. This was in order to achieve a smooth transition away from the LIBOR rate. It was also decided that in choosing an alternative base interest rate, the banking corporation is to take into account the recommendations of the relevant committees and workgroups for the various currencies, as well as the recommendations of the Financial Stability Board (FSB) and of the International Swaps and Derivative Association (ISDA).

The directive placed particular emphasis on protection of customers. Thus, for example, the banking corporations were required to adhere to principles of prudence, good faith and transparency and to avoid making changes that are not required by the discontinued use of the LIBOR rate. These include informing customers who are directly affected (such as in the case of loans/deposits in foreign currencies with variable interest rates) at the earliest opportunity. This should include an explanation in clear language of the need to transition to an alternative base interest rate, the background to the move, the implications of the change and its effect on the customers' various products and the options available to them.

With respect to the expected discontinuation of the LIBOR rate for the US dollar in mid-2023, the Banking Supervision Department will continue to monitor the developments in the markets and the recommendations of the relevant workgroups abroad, while providing solutions to any major issues that might arise.

Box 2.5 Potential effects of issuing a digital shekel on the Israeli banking system

- **Like other central banks, the Bank of Israel is formulating a workplan for the possible issue of a Central Bank Digital Currency (CBDC, or for Israel—the digital shekel). This includes examining the possible implications for the Israeli economy. One of these is the stability of the banking system and the risk of banking disintermediation, which this box will discuss.**
- **In March 2022, the Bank of Israel published a document that analyzes the potential effects of a shift of part of the public's checkable deposits to the digital shekel on the balance sheets of the banking system and the Bank of Israel and on the business results of the banking system. This box will present the main findings based on the analysis of that document.**
- **In order to examine the scope of the potential effect of a substitution between the public's deposits and the digital shekel on the banking system's profitability, the document presents a simulation that can be used to evaluate the effect of various scenarios on the banking system's balance sheets and business results. The simulation shows that given the conventional assumptions regarding the scope of substitution between the public's deposits and the digital shekel, the issuing of the digital shekel will adversely affect the profitability of the banking system. Nonetheless, there is not expected to be any major erosion in its business results, its stability, or its ability to continue providing credit and fulfilling its traditional functions.**

Background

As in the case of other central banks, the Bank of Israel is formulating a workplan for the possible issue of a CBDC—a digital shekel in the case of Israel.[1] In this context, the Bank of Israel is examining possible effects of issuing a **digital shekel** on the Israeli economy. **A notable potential effect that was examined in this context involves the stability of the financial system in general and the stability of the banking system in particular, as well as its ability to continue fulfilling its function as a financial intermediary and the risk of banking disintermediation**.[2] Many central bank publications present various analyses of the possible effect of issuing a CBDC on the economy and in particular on the resilience of the financial system. Following are the most relevant analyses of this issue: a group of seven central banks together with the BIS[3] analyzed the implications of issuing a CBDC on financial stability;[4] the Norges Bank (Norway's central bank),[5] the Sveriges Riksbank[6] and the Monetary Authority of Singapore[7] have presented analyses that link the effect on the balance sheets of the banking system with that of the central bank, and the implications for the banking system and monetary policy; and economists at the Bank of Canada[8] have

1 Bank of Israel, 2021.
2 See, for example, the report of the US Federal Reserve, the BIS, the Bank of England, the ECB and the central banks of Japan, Switzerland, Canada and Sweden (Group of Central Banks, 2020).
3 Ibid.
4 BIS, 2021.
5 Norges Bank, 2021.
6 Sveriges Riksbank, 2018.
7 MAS, 2021.
8 BoC, 2021.

analyzed the effect of issuing a CBDC on the ability of the banking system to finance itself by means of deposits.

In March 2022, the Bank of Israel published a document entitled the "The potential effects on the Israeli banking system of issuing a digital shekel" (hereinafter, "the document").[9] The analysis was based on the fact that a shift of some proportion of the public's checkable deposits to the digital shekel may affect:[10] (1) the structure and quality of the banking system's sources; (2) the banking system's financing costs; (3) the scope of credit provided to the public and its price, etc. The document presents two general scenarios for the effect of the issue of a digital shekel[11] on the Israeli banking system's balance sheet and accordingly on the Bank of Israel's balance sheet. Furthermore, the document presents a simulation that was formulated with the goal of examining the character and intensity of the effect on the banking system's business results and main indices. In this box, we will present the main findings of the document.[12] For further details on its findings, assumptions and analyses, see the full document.[13]

The potential effect of a digital shekel on the banking system's balance sheet and the Bank of Israel's balance sheet

The shift of a certain proportion of the public's deposits to a digital shekel system will have various effects on the balance sheets of the banking system and the Bank of Israel. This a result of the fact that the public's deposits in the Israeli banking system serve as its main source for providing credit to the public and therefore the shift of part of those deposits to a digital shekel represents a loss of sources for providing credit by the banking system. Furthermore, the banking system is required to meet liquidity requirements[14] and to maintain an inventory of liquid assets (such as deposits at the central bank) at an appropriate level against the public's deposits.

The first scenario in the document shows that as **a result of the shift of some of the public's deposits to the digital shekel, the banking system's total balance sheet will contract accordingly** (against the decline in the public's deposits on the banking system's liabilities side, there will be an identical decline in the banks' deposits at the central bank on the assets side) and **the total balance sheet of the Bank of Israel will remain unchanged**, although there will be a change in its composition (against the reduction in the banks' deposits at the central bank on the liabilities side, there will be an identical increase in money in

9 Bank of Israel, 2022.
10 If the public chooses to replace cash with the digital shekel, no major effects on the banking system are expected.
11 The document assumes that the digital shekel will be retail and will not bear interest.
12 The document does not take into account the possible changes that might be made by the banking system in order to adapt its business model to account for new developments in the world of money. Neither is it an overall analysis of the effects of a digital shekel on the banking system, the financial system, or the economy as a whole. Most of the data used in the document is in annual terms and are up to 2020, which was the most recent at the time of the analysis. Additional assumptions are listed in the document.
13 Bank of Israel, 2022.
14 The liquidity directives require the holding of "liquid assets" as a reserve at the Bank of Israel. "Liquid assets" are part of the money base and include cash in the banks' safes and the current accounts of the banks at the Bank of Israel. The reserve requirement is dependent on the type of deposit: 6 percent on checkable deposits and 3 percent on deposits of one week to one year. There is no reserve requirement for deposits of more than one year. The Bank of Israel does not pay interest to the banks on reserves or on surplus reserves.

circulation due to the public's demand for the digital shekel, which is also on the liabilities side of the Bank of Israel). The second scenario in the document shows that **as a result of a larger shift of the public's deposits to the digital shekel, which erodes the inventory of liquid assets in the banking system** and accordingly also the regulatory liquidity ratios (particularly the liquidity coverage ratio – LCR[15]), **the banking system will have to take various measures in order to maintain an appropriate level of liquid assets**. These measures can originate from three main focal points (or a combination of them): maintaining the original level of deposits from households[16] (by raising the interest rate on deposits); loans from the Bank of Israel (against full collateral as defined by the Bank of Israel);[17] and the issue of bonds in the capital market.[18] **To the extent that the banking system chooses to issue bonds in the capital market (usually placed to financial institutions), the changes in the balance sheets of the banking system and of the Bank of Israel will be similar to those described at the beginning of this paragraph with respect to the first scenario, and to the extent that the banking system obtains a certain amount of loans from the Bank of Israel, the balance sheet of the Bank of Israel is expected to growth by that amount**.

The various steps that the banking system will need to take as a result of a large shift of the public's deposits to the digital shekel, as described above, **are expected to increase the cost of its sources and therefore to erode its profitability**. Furthermore, the banking system receives income from the various account management fees (bank transfers, checking activity, line fees, teller fees, etc.), **such that the shift of deposits to the digital shekel is also liable to threaten the income of the banking system**. In order to determine the size of the substitution effect between the public's deposits and the digital shekel on the banking system, the document presents a simulation that makes it possible to quantify the effects of the scenarios on the banking system's balance sheets and business results. The simulation is based on certain assumptions regarding external parameters, the data reported to the Banking Supervision Department and certain indices calculated on the basis of that data.[19] The analysis in the document focuses on two scenarios, which are similar to those described in the previous paragraphs, where the main data for each of the scenarios is presented in Figure 1.[20]

[15] The ratio of the inventory of high-quality liquid assets to total net cash outflow expected during the subsequent 30 calendar days. The regulatory requirement is that the value of the ratio should not fall below 100 percent. For further details, see Proper Banking Conduct Directive 221.

[16] We differentiate between households and other depositors (financial or non-financial) since the liquidity needs of the bank are different between these two types of depositors.

[17] To the extent that the Bank of Israel demands liquid collateral, the use of loans from the Bank of Israel by the banking system will be more limited. Thus, although loans from the Bank of Israel will increase the cash in the banking system and will thus improve the liquidity ratio, the provision of liquid collateral against those loans also erodes this ratio to the same extent. Therefore, if the Bank of Israel defines other collateral that the banking system can provide against the provision of loans, then the banking system will be able to obtain loans from the Bank of Israel.

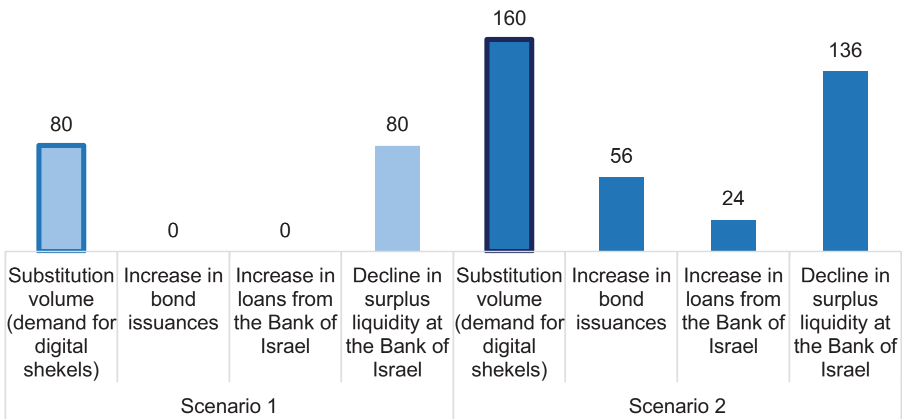
[18] The banking system is already issuing bonds and subordinated notes, but their proportion of total credit to the public is less than 10 percent (as of December 2020). Note as well that the proportion of bonds and subordinated notes in the public's total deposits is about 5.5 percent (as of December 2020), and for bonds it is even lower.

[19] For further details, see the document itself.

[20] The graph shows that Scenario 2 is composed of two parts: the first is the high level of substitution (NIS 160 billion) that is made possible by the reduction in excess liquidity at the Bank of Israel (NIS 136 billion) and by the providing of loans to the banking system by the Bank of Israel (NIS 24 billion). The second part involves the maintenance of the LCR at a level that allows the banks to carry out their everyday operations, which is accomplished by the issuing of bonds (NIS 56 billion). For further details, see the document itself.

Main relevant data in each of the scenarios

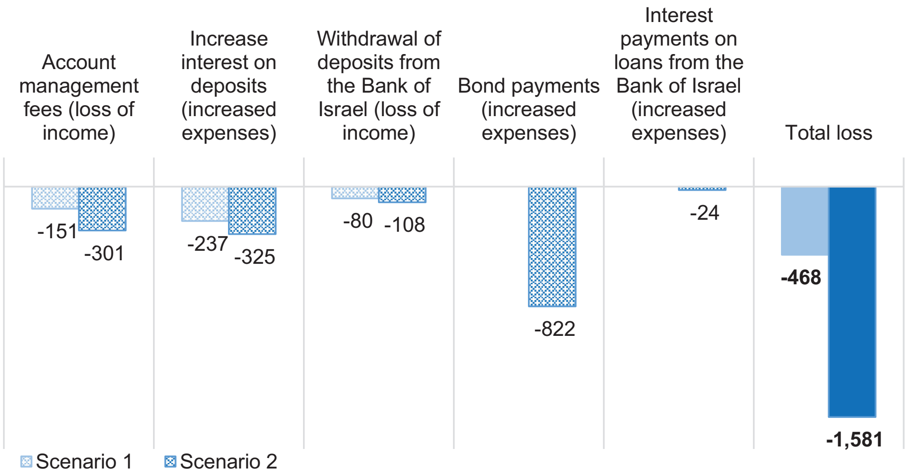
Figure 1
Scenario Data (percent)



SOURCE: Based on banks' reports to the Banking Supervision Department.

Profit erosion is significantly higher in Scenario 2, mainly due to the increase in expenses in respect of bonds.

Figure 2
Composition of the Impact to Pretax Profit in Each of the Scenarios (NIS million)



SOURCE: Based on banks' reports to the Banking Supervision Department.

The results of the model show that the transfer of the public's deposits from the banking system to the digital shekel leads to an erosion of the banking system's net profit. The erosion of pretax profit is manifested in several P&L lines. Some of them reflect the decrease in income while others reflect the increase in expenses (Figure 2). In Scenario 1, the total decline in profits is about NIS 468 million (about 3.8 percent of the banking system's pretax profits in 2020) while the decline in Scenario 2 is larger and totals about NIS 1,581 million (about 12.7 percent of the banking system's pretax profit in 2020). The main part of the gap between the two scenarios originates in Scenario 2 as a result of the increase in expenses due to the issue of bonds. Other major items are the loss in income from current account management fees and the increase in expenses due to the higher interest rate paid on the public's deposits. With respect to the regulatory ratios, the transfer of the public's deposits to the digital shekel erodes both the capital ratios and the LCR of the banking system, where again the effect in Scenario 2 is stronger. However, while the Tier 1 Capital Ratio remains relatively stable, since the effect on it originates only by way of the reduction in capital due to the losses, the LCR is affected directly by the exit of the public's deposits from the banking system, where the main effect is due to the decline in the inventory of liquid assets.

Conclusion

The analysis in the document shows that under conventional assumptions regarding the scope of substitution between the public's deposits and the digital shekel, the issuing of the digital shekel will adversely affect the banking system's profitability. However, it is not expected to bring about a significant erosion in its business results, in its stability (in particular, the Tier 1 Capital Ratio remains high), or its ability to provide credit and to fulfill the banking system's classic functions in a modern economy.

Central banks worldwide are discussing the features and characteristics of CBDCs. One aspect of these discussions is whether to restrict the use of CBDCs, either on the level of the customer or on the aggregate level. Setting such a restriction can present in a new light the analysis presented in this document and the issue of banking disintermediation in general. The Bank of Israel is continuing to examine the latter as well as other issues raised in the research, and as a result of its preparations for the possible introduction of the digital shekel in the future (to the extent that the Bank of Israel concludes that the benefit of issuing the digital shekel outweighs the potential risk). The Bank of Israel, like other central banks, has not yet decided whether to issue a digital currency.

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CHAPTER 3

ACTIVITIES OF THE BANKING SUPERVISION DEPARTMENT IN 2021

During 2021, the Banking Supervision Department focused on examining its strategic goals and formulating a multiyear forward-looking work plan. As part of this process, the strategic work plans and targets of parallel regulators in other countries and those of the banking system were examined. In addition, discussions were held to assess the revised risk map and to formulate updated targets. During this process, the Banking Supervision Department's targets were defined for the coming years. At the same time, the Banking Supervision Department is moving forward in directions that are discussed at length in this chapter.

It is worth mentioning that the pandemic that began in 2020 continued to affect public health and the economy in 2021. In view of the repeated waves of infection, the Banking Supervision Department continued its efforts to support the public in dealing with the ongoing pandemic reality.

The Banking Supervision Department's vision and strategic goals

The Banking Supervision Department's vision is "to provide professional and proactive supervision that will benefit the public and the economy." The Banking Supervision Department's goals are derived from the language of the law and from the strategic goals that were set in order to support the achievement of its vision. The law states that the Banking Supervision Department is to work to benefit the public and the economy by means of three main goals: preventing harm to the banks' ability to meet their commitments; ensuring the normal functioning of the banks and protecting the interests of their customers; and maintaining the stability of the financial system.

The strategic goals are aligned with the Bank of Israel's goals for the near future:

- Stability – protecting depositors' funds, weathering crises, and ensuring the continuous provision of service to the public, even in emergencies.
- Fairness – assimilation of a fair, inclusive, and impactful culture.
- Achieving a competitive and advanced financial system for the benefit of its customers.
- Adaptation of the Banking Supervision Department's operating model according to the changing environment.
- Secondary goals were also set:
- Improving information management and accessibility in order to support the Banking Supervision Department's work.

- Strengthening the banking system's role in Israel's socioeconomic fabric.
- Greater dialogue with the public and greater transparency with regard to the Banking Supervision Department's activities.

The main activities to strengthen stability and the protection of depositors' funds

In 2021, the Banking Supervision Department continued its efforts to support stability and to maintain the normal functioning of the banking system by means of the following:

- **Assessment of the banks' risk profile** – During 2021, the Banking Supervision Department's various units carried out a series of examinations and evaluations of the banks and credit card companies. These included meetings with directors, executives, and internal gatekeepers; evaluation of strategic plans and annual work plans; a review of principal internal documents; analysis of the banks' financial statements; and more.

  During 2021, the Banking Supervision Department implemented a Supervisory Review and Evaluation Process (SREP) among the banks on the level of the banking group (on a consolidated basis) with emphasis on processes in the parent company. As part of this process, the Banking Supervision Department assessed the structural risks of the bank's activities, the quality of its risk management, the main functions of corporate governance, and the adequacy and quality of its equity capital. The process was carried out according to a formal methodology based on the best practices of parallel supervisory bodies in other countries. The process is based on designated risk/score cards. The process integrates all of the activities of the Banking Supervision Department's various units in order to achieve the following goals: (1) to determine the need for a revised capital requirement, in addition to the general regulatory capital requirements; (2) to formulate requirements for the implementation of steps to reduce risk and improve processes; and (3) to revise the risk-based supervisory work plan. The results of the process were distributed to the banks by means of both letters sent to each of the banks, which included a description of the findings and the supervisory requirements derived from them, and the Supervisor of Banks's annual meetings with the banks' directors and executives.
- **Examinations and surveys of the banking system** – The examination process of the supervised entities is carried out by teams that specialize in specific risks and issues (credit risk, market and liquidity risk, model risk, financial reporting, corporate governance, and consumer protection), with the goal of identifying and evaluating the various risks implicit in the bank's activities and their compliance with the law, regulations, requirements, and Banking Supervision Department directives with respect to the banking system's core activities. The examination processes were defined according to a risk-focused approach and

were tailored to the unique circumstances of each bank. As such, they included a broad range of checks of varying depth, carried out at the level of a single bank, a number of banks or the system as a whole.

- In the past year, various types of examinations have been carried out in a number of areas, including: the prohibition of money laundering and the financing of terrorism (AML/CFT); market risk and credit risk management models; commercial and business credit policy and underwriting; the management of liquidity and collateral provided by customers against activity in the capital market; internal control and corporate governance; and technology issues, with emphasis on the stability of the banks' computer systems. The examination processes exposed deficiencies that need to be rectified, and led to recommendations for the improvement of the banks' processes when weaknesses were found in the banks' operations. The Banking Supervision Department is monitoring the implementation of its recommendations in various ways, including designated inspections.
- **Model risk –** Model risk has increased as a result of the pandemic. In response to the changes that occurred during the lockdowns (such as in credit underwriting models or AML/CFT risk management and control models), the banking system was required to make changes in some of their models or their usage. The Banking Supervision Department has reviewed these changes in the banking system and has held discussions with the executives of the supervised bodies with respect to the steps they need to take in view of the increased model risk. It has also instructed the supervised entities to examine any important model when there is doubt as to its functioning and reliability under the changed circumstances, and to carry out quick and purposeful challenge processes with respect to the changes and modifications made in the models or their usage.
- **The development of credit risk in the construction and real estate industry –** There has been an increase in the risk of credit to the construction and real estate industry in recent years, reflected by the rapid growth of credit to the industry and by its risk characteristics. Among other things, this increase was accompanied by greater risk appetite, easier underwriting terms, and a decrease in the risk-adjusted credit spread for new transactions. Based on its investigations, the Banking Supervision Department adopted a number of measures, including various requirements of the banking system, in response to the increase in risk. (For further details see Box 1.8 in this survey.)
- **Strengthening risk management and internal control of fraud risk –** The Banking Supervision Department has completed a system-wide examination of the internal control of fraud risk, with the goal of strengthening and improving the banks' efforts to prevent the realization

of this risk and to minimize the potential damage. As part of the process, the Banking Supervision Department assessed the banks' efforts to deal with this risk by examining its corporate governance of risk management; the bank's existing procedures and processes, which include various officers and units; pan-organizational controls; and the control environment. (For further details on the main findings and requirements reported to the banking system, see Box 1.5 in this survey.)

- **Publication of the enforcement policy –** The Banking Supervision Department has published its policy with regard to enforcement (in its broad sense), the means that are meant to ensure proper conduct in supervised bodies, and their compliance with the provisions of the law.[1] (For further details, see Box 3.6 in this survey.)
- **Improvement of cyber security in the banking system –** As part of the efforts to improve the level of cyber security in the banking system, steps were taken to strengthen the national cyber defense envelope for the banking system, including the formulation of a multiyear plan to upgrade the protection provided by the Cyber Emergency Response Team (CERT), in collaboration with the National Cyber Directorate and the Center for Financial Continuity at the Ministry of Finance. This is in addition to immediate operational measures to strengthen the response provided to the banking system by the national envelope. In addition, a methodology was designed to evaluate the level of cyber security in the banking system based on the creation of a tool that enables the gathering of existing information and knowledge by the Banking Supervision Department regarding the level of cyber protection among the supervised bodies. This will make it possible to formulate a position with regard to the level of cyber protection enjoyed by the supervised bodies, including on a comparative level. This tool will be used on a routine basis to support decisions with respect to supervisory work processes in the realm of cyber security. Furthermore, the Department carried out examinations and ongoing evaluation of the banks with regard to cyber protection and in particular in locations of increased cyber risk. In addition, a system-wide cyber exercise was planned and formulated for the CEOs of the banking system.
- **Monitoring the merger between Bank Mizrahi-Tefahot and Union Bank** – During 2021, the Banking Supervision Department continued to monitor and support the merger process and to assess its effect on the customers of the two banks. This a large-scale merger with a high degree of complexity. The merger transaction was completed in September 2020, with Union Bank becoming a wholly-owned subsidiary of Bank Mizrahi-Tefahot. The Banking Supervision Department is monitoring the operational and legal merger process, including the banks' efforts to provide optimal service to customers despite the challenges

[1] Policy for Supervision, Correction and Enforcement Measures (Hebrew): https://www.boi.org.il/he/BankingSupervision/SupervisorMethod/Documents/m202201.pdf

of the merger. That process will be completed in 2022, at which time Union Bank will cease to exist as a separate entity.

- **Formulation of supervisory policy with respect to use of the cloud –** Cloud technology has, in recent years, become the objective of technological efforts in many large organizations. This technology has numerous advantages that provide managerial flexibility and operational efficiency on an immediate basis, including the exploitation of resources in a more efficient and convenient manner. Alongside the advantages, there are also challenges that are primarily the result of the bank's reduced level of control and monitoring ability. Banks in Israel and other countries are now using computerization and cloud services to meet business needs. In view of recent developments and improvements in cloud technology, the government's plan to establish a farm of cloud servers in Israel, the creation of a digital bank, the open banking regulations, the understanding that most fintech is based on cloud technology, and the need to upgrade core systems — the broader use of cloud technology is becoming increasingly valuable to the banks. Therefore, the Supervisor of Banks has created a team to examine the need for change in the Banking Supervision Department's existing policy on the transfer of core systems to the cloud, including an examination of the risks and opportunities, global trends, the relevant regulatory bodies, the adoption of cloud technology worldwide, failures and cyber/information security incidents that have occurred in the past, the lessons learned, and an understanding of the Israeli banks' current and future needs. According to the new policy, which is currently in the approval stage, free access will be provided to all of the services, applications, and infrastructures, based on the binding principle that the bank's executive and board of directors will bear responsibility for risk management in accordance with professional guidelines in the following areas: compliance and legal risk (with respect to the cloud in Israel or abroad); protection of confidentiality; information and cyber security; operational aspects, business continuity, and recovery from a crisis; vendor risk; due diligence; and a plan for exiting an agreement.
- **Prudential regulation – publication of directives** – One of the Banking Supervision Department's main efforts in reinforcing the stability of the banking system and ensuring its proper functioning involves directives relating to prudential issues. The following are the main prudential issues that are the target of the Banking Supervision Department's efforts:
    - **Adoption of international banking standards –** The Banking Supervision Department continued working toward the adoption of international standards. In this context, it published a Proper Conduct of Banking Business Directive on a "Stable Net Financing Ratio", which is meant to improve the resilience of the banks' liquidity risk profile in the long term based on a requirement to maintain a stable financing profile according to the composition of balance-sheet assets and nonbanking

activity. It also published revisions to the Measurement and Capital Adequacy directives on "Handling Counterparty Credit Risk" and "Credit Value Adjustment". In addition, the Basel IV recommendations are being studied and assessed.

- **Directives to strengthen risk management and their adaptation to a changing environment** – In this context, the Banking Supervision Department published directives in the following areas: 1) the transition away from the LIBOR rate; 2) a revision of the directive on the pledging of a bank's assets, which emphasizes the management of the quality of pledged assets rather than a quantitative restriction, in light of the implications of asset pledging for the quantity of assets available to a bank, both in the normal course of business and in the case of a failure; 3) a revised directive relating to modifications that apply to a new bank, in light of experience in handling requests to establish a new bank; 4) revisions to the directive on business between a bank and related parties, the goal of which is to simplify and streamline the implementation of the directive; 5) a revision that reduces the weighting of exposure to institutional investors and equalizes it to the weighting of exposure to banks.
- **Directives concerning the management of credit risk and housing credit risk** – During 2021, a Proper Conduct of Banking Business directive was published on "Management of Debt Restructuring and Processes for the Collection of Large Problematic Debts", which was a result of the large number of debt restructuring arrangements during the past decade and the lessons learned from failures. The directive expands the guidelines that relate to the monitoring of credit that is liable to develop into problematic debt: taking corrective action at an early stage and initiating processes to manage and organize problematic debt; the limitation on the proportion of a mortgage at the prime interest rate was cancelled and a clarification was published for equity financing of a home purchased by means of a loan; the definition of liability for the calculation of the industry liability limit was revised, such that the liability for which credit protection was obtained is classified according to the protection provider's activity segment rather than that of the debtor; and it was decided that the limit on credit to the construction and real estate industry excluding national infrastructure projects would be 22 percent for the next five years (instead of 20 percent) and 26 percent including national infrastructure projects (instead of 24 percent).
- **Regulation in the realm of money laundering and financing of terrorism (AML/CFT)** – During 2021, the Banking Supervision Department continued to update its directives on the prohibition of money laundering and the financing of terrorism in accordance with the relevant international standards and developments in the financial environment.

This includes technological innovations: The banking corporations' identification and confirmation requirements in the provision of payment services were adapted to the risk level and characteristics of the payment; exemptions were issued with respect to the management of accounts for financial asset service providers, due to the issue of a money laundering order that applies to these entities, with the goal of encouraging competition; restrictions on a merchant acquirer's activity by means of an amalgamator were reduced; the directive for international standards in this area was modified, with emphasis on the guidelines for executing international transfers; and exemptions were published for the identification and verification requirements when opening an account at a banking corporation for the purpose of portfolio management.

- The Banking Supervision Department has also updated the FAQs on the prohibition of money laundering and financing of terrorism, which are published from time to time and which include clarifications and responses on issues raised by the banks with respect to the legal provisions on this matter. The Banking Supervision Department also issued a letter on the execution of bank transfers with financial institutions that work with the UAE, with emphasis on expanding the circumstances that facilitate reduced-risk activity by the banks in the context of transferring funds to the UAE. Moreover, the Banking Supervision Department has published a supervisory letter on activity with customers possessing a financial asset service provider's license, in view of the issue of a money laundering prohibition order that applies to these entities and which required the five largest banks to revise their policy and procedures with regard to the opening and management of an account for financial entities, with emphasis on financial asset service providers.
- **The modification of directives during the pandemic** – The Banking Supervision Department issued modifications to its directives in view of the pandemic. The modifications included temporary exemptions from capital and leveraging requirements, alongside restrictions on the distribution of dividends and changes in working arrangements in view of the switch to remote working and the high level of absences from the workplace. Most of the modifications instituted during this period have expired.

- **Issues of social-corporate responsibility – ESG**
  - **Disclosure, regulation and policy** – As part of the Banking Supervision Department's policy to strengthen efforts related to environmental, social, and corporate governance aspects of the banking system's activity, it amended its directives at the end of 2021 and added a requirement that there be appropriate gender representation on the boards of directors. This requirement is in line with the trend in many countries, as well as

with the Israeli government's desire to achieve greater equality, including gender equality. In view of the importance of disclosure of environmental, social, and corporate governance (ESG) activity and progress in the area of disclosure provided by leading banks worldwide, the Banking Supervision Department amended the Reporting to the Public directives in this area in 2021. The amendment of the directives is intended to improve and expand banks' disclosure in these areas, in accordance with accepted practices worldwide.

- During 2021, the Banking Supervision Department increased its activity surrounding environmental and climatic risks. Among other things, this included a process to formulate supervisory expectations. In this context, a questionnaire was sent to the banks on some of the accepted practices, standards, and recommendations that are emerging worldwide. The findings of the questionnaire provided an indication of the banks' attitudes on this issue, their experience, their practices, and the challenges with which they are dealing. The Banking Supervision Department also held roundtable meetings with the banking system and with other selected bodies, and it is continuing to work with the government ministries, the State Comptroller, and regulators in Israel and abroad. The Banking Supervision Department is continuing to monitor the trends and developments in this area, including the relevant regulation in the advanced economies, and will carry out environmental stress tests in the future.
- The Banking Supervision Department is promoting activities to encourage impactful social banking. (For further details, see Box 3.1 in this survey.)

- **Fit and Proper (F&P) tests for senior officials in the banking system** – The Banking Supervision Department continued its Fit and Proper testing for officials in the banking system, in accordance with the powers provided to it by law.
- **Activities carried out with respect to stability**:
  - Strengthening of business continuity (For further details, see the section on risk in Chapter 1 of this survey.)
  - A uniform stress test of the banking system (For further details, see Box 1.1 in this survey.)
  - Monitoring of developing risk in credit for real estate (For further details see Box 1.8 in this survey.)
  - The transition away from the LIBOR rate (For further details, see Box 2.4 in this survey.)

The main measures to strengthen fairness, public confidence, and customer protection

The Banking Supervision Department is working to enhance transparency and fairness in bank-customer relations and to strengthen and institute a culture of fairness toward customers, with a focus on the protection of special populations, protection of customer rights, and strengthening the customer's position.

This important issue is at the core of bank-customer relations, and constitutes the basis for providing fair and high-quality service. The Banking Supervision Department has therefore defined this issue as one of its targets, based on the belief that an appropriate organizational culture is a value on its own that it is worthwhile maintaining and nurturing, apart from considerations of risk management. This should be based on internal motivation and the desire to place the customer at the center, rather than using coercion or based on a concern about the realization of risk. This type of culture needs to be instituted at all levels of the organization, in a way that every member of the human resources staff will view himself as committed to it and will feel a need to report outlier events to the person with the relevant authority, so that they will be dealt with appropriately and the problem resolved.

The following is a summary of the main measures adopted by the Banking Supervision Department in order to achieve this target:

Proper Conduct of Banking Business Directives and Legislation

- **"Procedures for the provision of housing loans" –** The Bank of Israel is promoting a comprehensive change in mortgages, which is intended to assist borrowers in the process of taking out a mortgage. This has three aspects: transparency and comparability; simplicity and comprehensibility; and efficiency. The change, which is expected to go into effect on August 31, 2022, focuses on changes at three points in time: clarification of terms with the banks; obtaining agreement in principle to provide the loan; and during the period of repayment in order to determine the profitability of refinancing. (For further details, see Box 3.5 in this survey.)
- **"Management of consumer credit" –** The Banking Supervision Department published a new directive that brings together the Department's requirements of the banking system in the area of credit to consumers, which supplements the directives and guidelines issued in recent years. The directive was issued in view of the importance attributed by the Banking Supervision Department to the fair and transparent treatment of the bank's customers and includes the following areas, among others: maintaining an appropriate organizational culture; policy and processes to ensure appropriate and fair marketing practices, particularly in the case of proactive marketing of credit; maintaining processes for the approval of credit that include, among other things, a commitment to provide credit according to the borrower's financial ability to service the loan (alongside the borrower's own responsibility to maintain sound financial management).

The directive was written together with the Capital Market, Insurance and Savings Authority, with the goal of creating consistent and uniform guidelines and standards among all credit providers with regard to fairness in the provision of consumer credit.

- **"Presentation of data on activity in a securities deposit" –** Information on a securities deposit is highly valuable to the customer. As such, the Banking Supervision Department published a new directive, in coordination with the Israel Securities Authority, to improve disclosure to customers, with the goal of enabling them to make informed decisions with respect to choosing their optimal investment channel, while examining other alternatives. According to the new directive, which will go into effect on January 1st, 2023, the banks will be obligated to present information and data to the customer regarding his securities at the bank. (For further details, see Box 3.5 in this survey.)
- **"Sending notifications by electronic media" –** The revision of this directive followed the amendment of the Checks Without Cover Law, which established the obligation to notify customers if a check is presented for payment and the account balance is insufficient. Another revision to the directive was intended to adapt it to technological developments, and thus to improve service and increase the efficiency and effectiveness of sending notifications to the banks' customers. As part of the banks' efforts to implement the second revision of the directive, the Banking Supervision Department distributed a letter within the banking system on "Improving the effectiveness of disclosure in notifications to customers", which stressed the importance attributed by the Banking Supervision Department to efficient disclosure. (For further details, see Box 3.5 of this survey.)
- Letters distributed by the Banking Supervision Department
- **Providing proper service to customers –** The Banking Supervision Department places great importance on the proper conduct of banking business, that banks take into consideration their customers' concerns, and that they operate fairly. It views a high level of service as a central component in the fair treatment of customers. Therefore, the Banking Supervision Department sent a letter to the banks on the provision of appropriate service to their customers. (For further details, see Box 3.5 of this survey.)
- **Impersonation of a payment service provider – publication of an opinion on this matter by the Ministry of Justice –** Following a wave of fraud that involved "phishing", in which an individual masqueraded as the customer's payment service provider and was able to obtain details of the customer's means of payment, the Banking Supervision Department received a number of enquiries on this matter. As a result, the Bank of Israel contacted the Ministry of Justice to request a legal opinion on the matter. The legal opinion, which was formulated jointly with the Bank of Israel and the Capital Market, Insurance and Savings Authority, explained that the protection provided by the Payment

Services Law applies to customers in these circumstances, and that they have the right to have their money returned based on the rules of culpability specified in the law.

- **Assistance to women of indeterminate status as part of the Financial Accessibility Covenant –** The Financial Accessibility Covenant is a set of voluntary guidelines that the banks and credit card companies have committed to at the initiative of the Association of Banks and with the support of the Banking Supervision Department. The goal of the covenant is to provide financial guidance to abused women, including those of indeterminate status. A letter from the Banking Supervision Department on this matter relates to the assistance to be provided to these women in opening an account. The special attention to this situation is necessary due to the regulatory directives that require the presentation of appropriate identity documents—which these women may lack—in order to open an account. The clause related to this matter in the Covenant creates a special mechanism that makes it easier for financial institutions to contact the Banking Supervision Department in order to find appropriate solutions for these women.
- **Increasing awareness of fee discounts for individuals with special needs –** In view of the importance of informing customers with special needs of the bank fee discounts for which they are eligible, and with the goal of assisting them in fully utilizing their rights, the Banking Supervision Department has asked the banks to provide this information to such customers. At the same time, the Banking Supervision Department has contacted the National Insurance Institute and the Ministry of Defense with a proposal to examine appropriate ways in which to inform these customers of the discounts for which they are eligible, based on the assumption that doing so at the time they become defined as having a disability will be the most effective method.
- **Collection of an operational fee for early redemption of a housing loan –** The Banking Supervision Department distributed a letter to the banks that clarifies its position, which was provided as part of a class action suit, and according to which only one bank fee is to be collected on the early redemption of a mortgage, even if the mortgage is composed of a number of tracks. The letter was sent in view of the importance of the matter, and in order to ensure that all the banks operate from this point onward according to the Banking Supervision Department's position.
- **Update of the price lists for emerging technology –** The Banking Supervision Department contacted the banks and credit card companies with regard to the pricing of banking services, based on technological developments in the banking system. In the letter, the Banking Supervision Department referred to the positions it submitted as part of class action suits with respect to the fee for "production or printing of documents stored in the computerized database at the customer's request". In view of the broad effect of the Banking Supervision

Department's position on this matter, it was brought to the attention of the banks so that they could examine the pricing of their services accordingly.

Response to requests for information on banking issues and resolving complaints from the public

In 2021, the Public Enquiries Unit received and dealt with about 10,200 requests for information and complaints from the public. The Unit's help desk handled over 15,000 telephone calls.

The following are the data on requests for information and complaints:

1. **Direct handling** – The Unit handled about 5,850 written enquiries, consisting of 2,100 complaints and about 3,750 requests for information.
2. **Handled through the completion of proceedings** – About 4,350 complaints received by the Banking Supervision Department were submitted for resolution directly to the ombudsmen of the banks and credit card companies, in accordance with the guidelines in Proper Conduct of Banking Business Directive 308A on the Handling of Public Complaints.

It should be mentioned that the upward trend in enquiries due to the pandemic and its consequences continued in 2021.

The handling of public complaints includes an investigation of the complaint pursuant to banking legislation, and the Banking Supervision Department decides on relief for the customers in the appropriate cases. About NIS 1.85 million was returned to customers in 2021 as a result of complaints from individuals.

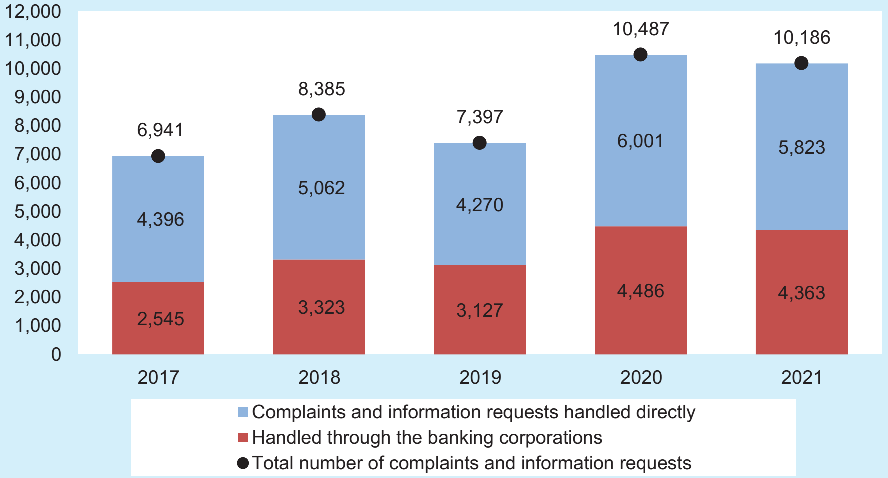
In cases where the investigation of a customer's complaint raises the possibility of a general problem at the bank, the Unit carries out a more in-depth investigation of the matter and provides instructions on how to rectify the problem. The resolution of general problems includes instructions to change procedures, the drawing of conclusions, and the return of funds to the relevant group of customers. A total of about NIS 12.5 million was returned in 2021 and, up to the time of writing, about 460,000 customers had received refunds in this context.

Consumer-related Inspection

During the past year, consumer-oriented enforcement was more stringent, which was reflected in greater monitoring of the banks and the use of various enforcement methods, including the imposition of financial sanctions on consumer issues. In addition, and apart from the identification and resolution of problems on an ongoing basis, letters were distributed to request the resolution of problems, based on the authority of the Supervisor of Banks as set out in the Banking Ordinance, which empowers him to impose sanctions on banks that do not work to resolve problems as requested.

In 2021, the Public Enquiries Unit received and dealt with about 10,200 information requests and complaints from the public.

Figure 3.1
Number of Complaints and Information Requests Handled by the Banking Supervision Department, 2017–2021



SOURCE: Banking Supervision Department calculations.

Consumer-oriented monitoring is carried out partly by means of the Public Enquiries and Consumer Inspection Unit, which was established in 2020 in order to strengthen the Banking Supervision Department's efforts to identify and resolve consumer-related problems and increase compliance with the regulatory directives. The monitoring activities are carried out in a number of ways, including proactive enforcement checks on consumer-related matters, which are carried out on the system-wide level or in regard to specific banks where there is a concern of inappropriate treatment of a specific matter. In 2021, the consumer-oriented monitoring activities focused on collection of debts, cancelation of pledges, and fees.

The following is information on consumer-related monetary sanctions that were imposed in 2021:

In 2021, there were three cases in which monetary sanctions, totaling about NIS 2 million, were imposed for violations connected to the termination of relations and the collection of fees in violation of the Banking Order. In addition, letters requesting the resolution of problems were distributed, in accordance with the authority of the Supervisor of Banks granted by the Banking Ordinance in various consumer-related matters. For further details, see the Banking Supervision Department's Public Enquiries Survey for 2020 and Outlook for 2021: Promoting a Fair Organizational Culture in the Israeli Banking System, which appears on the Bank of Israel website.[2]

2 https://www.boi.org.il/en/NewsAndPublications/PressReleases/Pages/9-11-21.aspx

An organizational culture fairness index

The Banking Supervision Department is investing effort in the expansion of available tools for the assessment of fairness in banking activity. With the goal of assessing the fairness of a bank's organizational culture, in 2021 the Banking Supervision Department began developing a fairness index based on an evaluation methodology, which included taking an actual measurement of the index for that period. This index is based on the Banking Supervision Department's ongoing work processes in the consumer domain, the analysis of information received from the banks through various channels, and insights from the handling of the public's complaints and from consumer-related monitoring.

The goal of the assessment is to improve the banks' fairness from the customer's perspective. Based on the information gathered by the Banking Supervision Department, various quantitative and qualitative indices for the measurement of a bank's treatment of customers, as well as other indics for the measurement of ombudsmen's activity at the banks and credit card companies, were examined. The weighting of these indices, based on the methodology that was decided upon, produced an overall evaluation of the level of fairness in the banks' organizational culture.

The Banking Supervision Department has set itself the goal of upgrading and expanding the methodology by adding variables and additional indices, based partly on a dialogue with the banks.

Responsibility for managing a database of restricted customers and accounts in Israel

The Banking Supervision Department is responsible by law (Checks Without Cover Law, 5741–1981) for the database of restricted customers and accounts in Israel. This involves the following functions, among others: determining a customer's status, from which the financial sanctions as specified in the law are derived; the dissemination of information among bodies that are responsible for imposing the sanctions (banks and enforcement and collection agencies) and other interested parties (credit data register, the general public, a personal site for restricted customers, etc.); monitoring and maintaining of the reliability of the information in the database and the correction of errors; handling enquiries from interested parties participating in the process of imposing restrictions, and handling complex inquiries regarding restricted customers and accounts; and providing professional solutions to issues related to the reliability of checks in general and checks without cover in particular.

Managing a database of restricted customers and accounts in the banking system

The Banking Supervision Department manages and operates a database of 266,176 customers (as of the end of 2021) on which a restriction has been imposed, of which

15,249 were "banking" restrictions (which are the result of checks without cover) and 250,927 were "special" restrictions (which are imposed by nonbank entities, including the Enforcement and Collections Authority, the Receiver General, the Center for Fines, and the rabbinic courts), which led to restrictions on 538,066 bank accounts during this period.

- **Distribution of enquiries regarding restricted accounts –** In 2021, the Banking Supervision Department dealt with a wide variety of enquiries from customers and their representatives in relation to restricted accounts, of which 4,484 were in writing, 4,461 were by telephone, 34,921 were visits to the personal site for customers with restricted accounts, and 12,957 were clarifications by means of an automated telephone service. The Banking Supervision Department also sent 138,986 letters concerning a revision of status to customers and interested parties with regard to restricted accounts.

Measures to increase transparency

- Uploading of positions submitted in class action suits to the Bank of Israel website – Class action suits constitute an effective tool for the protection of consumer rights in general and those of financial consumers in particular. The Banking Supervision Department attributes great importance to this tool for improving service in the banking system and correcting its deficiencies, including by means of refunds to groups of customers.
- As part of its functions, the Banking Supervision Department submits professional opinions to the courts on basic consumer issues, which are meant to clarify its position as a regulator in the interpretation of existing legislation and regulations.
- In order to increase transparency in this area, there is a designated page on the Bank of Israel website that brings together all of the positions submitted at the request of the courts as part of legal proceedings in class action suits.
- **Publication of consumer-oriented enforcement measures in the designated area of the Bank of Israel website –** With the goal of increasing transparency, all of the decisions concerning monetary sanctions imposed on the banks in consumer-related matters are published on the Bank of Israel website and, starting in 2022, this will include the outcomes of general application cases in which there was a refund to a group of customers.
- **Publication of public enquiry surveys and measures to protect bank customers –** The Banking Supervision Department publishes an annual survey that includes a description of the Public Enquiries Unit's activities in handling and resolving complaints, the Unit's work methods, data on the handling of complaints, a description of how selected complaints were handled, enforcement activities, and the resolution of problems that characterize the banking system as a whole. The survey also includes a summary of regulatory measures that are intended to protect the banks' customers.

For further details on activities to increase the transparency of the Banking Supervision Department's activities, see Box 3.2.

Main actions to strengthen competition

- **The Open Banking (API) project –** The Banking Supervision Department continued to advance the open banking project in Israel during 2021. This project essentially provides a third party with access to a customer's bank account (with his consent) in order to obtain information or carry out transactions. The Banking Supervision Department's vision is to expand the scope of open banking, such that the entire financial system will provide access to its information (Open Finance). Open Banking activity is the first milestone in the development of products and processes in the banking and financial world—at the core of which is information possessed by the customer—that leverage this information using technology for the benefit of the customer. The goal of open banking is to increase the banking customer's power and to encourage competition and innovation in financial services. The Financial Information Services Law was passed in November 2021 and went into effect in June 2022. It establishes a timetable, such that baskets of information will be gradually absorbed into Open Banking until completion of the process at the end of 2023. Following the Law's publication, the Banking Supervision Department worked to amend Proper Conduct of Banking Business Directive 368 – "Implementation of the Open Banking Standard in Israel", which was published in its third version in February 2022. At the same time, work is continuing to define the standard, which will include the opening up of information in the information baskets—credit, deposits, and securities—and its application according to the timetable specified in the law, as well as for the purpose of initiating payments. From a forward-looking perspective, Open Banking is expected to expand into Open Finance, which will have broad implications and will of course affect players in the various markets.
- **The project to create a digital guarantee system –** The project to create a digital guarantee system is intended to enable the digital implementation of all processes to issue and submit guarantees to the government. The goal is to create an efficient system for the management of guarantees and the interface between issuers of guarantees and the government ministries, and to discontinue the manual process with all of its deficiencies, save time, and improve service to individuals and businesses.

The digital guarantees project is part of the Banking Supervision Department's effort to encourage competition in the banking market, promote technological innovation, and remove regulatory barriers, while improving efficiency in the capital market and the financial system. The project is led by the Accountant General in the Ministry of Finance, while the Banking Supervision Department is taking an active part in managing the project in various forums and steering committees and is promoting the project among the banks. This includes coordination and encouraging collaboration with the government authorities and with other financial regulators and carrying out regulatory modifications that will support digitization.

The government ministries to whom guarantees are submitted will start to work with the system in the first phase by means of the "Merkava" system, and they will gradually be joined by designated systems in the Population and Immigration Authority, the Israel Lands Authority, the Customs Authority, and the Israel Police. The Israeli banking system will also gradually begin working with the digital guarantees system over the course of 2021 and 2022. The government ministries' transition to accepting only digital guarantees (apart from exceptional cases) is expected by the end of 2022.

- **Support for the creation of One Zero – the Digital Bank Ltd. –** Following a period of preparatory efforts which began on December 30th, 2019 with the granting of a license, the bank completed the necessary groundwork, and on January 6th, 2022 the restrictions were lifted from the bank's license. Since then, the bank has been gradually ramping up its activity, in a manner that allows it to manage risk and assess its systems and their stability. The Banking Supervision Department is continuing to support the bank in its operations and to monitor its progress and its exposure to the various types of risk.
- **Assessment of requests to establish a new bank or a new merchant acquirer** – The Banking Supervision Department is examining additional requests to create a new bank or a new merchant acquirer. The examinations focus on the personal and business integrity of the applicants for a control permit, their financial resilience, and their ability to finance the creation and development of a new bank or merchant acquirer. The Banking Supervision Department also assesses their work plan and likelihood of success, including the use of stress scenarios. (For further details, see Box 2.3 in this survey.)
- **One-click mobility –** The system for switching banks was launched in September 2021. The project allows customers to switch banks easily and at no cost in an online process that is simple, convenient, and secure, and is completed within seven business days. This option is expected to strengthen the negotiating power of the banking consumer and to raise the level of competition in the banking system. The project features a high degree of operational and technological complexity, and therefore required a great deal of managerial attention and the investment of resources by all of the banks. In view of the importance attributed by the Banking Supervision Department to the success of the project, it closely monitored the execution of the transitions between banks during the first quarter following the launch of the system, and it is assessing the stability of the online system.

- **Advanced means of payment –** The Banking Supervision Department is investing effort in the introduction of advanced means of payment in Israel. This includes monitoring the implementation of Banking Supervision Department directives regarding the transition of issuers and merchant acquirers to working with the EMV standard (and the implications of these directives for businesses), which is being carried out jointly with the Bank of Israel's Payment and Settlement Systems Department. The creation of the EMV infrastructure in Israel made it possible for international companies to offer their payment wallet services in Israel. Thus, for example, in April 2021 Apple launched its digital wallet service in Israel, and in November 2021 Google offered theirs.
- **Promotion of payment applications –** In 2021, a draft directive was published concerning the information that a mobile application operator must provide to the manager of the payment account in which a customer was credited by the app and to the issuer of the payment card with which the payment was carried out on the app.
- **Promotion of payment initiation in Israel –** The Banking Supervision Department played a leading role in the interministerial workgroup to define the guidelines for legislation regarding payment initiation services, including the definition of the service itself. The workgroup is currently working to formulate the legislation on this matter. The Banking Supervision Department is continually examining additional services the banks are permitted to offer as part of their banking activity, particularly as part of activity in payment applications.

Main activities to adapt the Banking Supervision Department's operating model to a changing environment

- **An examination of the Banking Supervision Department's operating model** – In view of the changes that have taken place in recent years in the financial realm (both domestically and globally), in the macroeconomic environment, and in the legal and regulatory environment, with respect to technology, stability, consumerism, and social responsibility, it has become necessary to reexamine the Banking Supervision Department's operating methods, work processes, supervisory abilities, the suitability of its supervisory resources, and their adjustment to cope with a changing environment, based on a forward-looking perspective and with the goal of achieving advanced, professional, effective, and proactive supervision. The IMF is advising the Banking Supervision Department in this regard.
- **Strengthening of international ties and cooperation –** The Banking Supervision Department takes part in leading international frameworks for discussion and interaction related to supervision and regulation and is adopting advanced international standards. During the past year, and particularly as a result of the pandemic, there has been an increase in cooperation and

information sharing between the Banking Supervision Department and leading regulators worldwide. This cooperation supports the Banking Supervision Department's adoption of best practices in meeting supervisory and regulatory needs in various domains: the strengthening of operational resilience in the banking system; supervision over credit card companies; advancing financial innovation; greater transparency in supervisory activity; and more.

- **The SuperVision project –** This is a strategic project to adapt the Banking Supervision Department's infrastructures to risk assessment needs, partly by means of accessibility and retrieval of high-quality information gathered during a multiplicity of work processes; greater accessibility of quantitative/comparative information in a visual and convenient form; and automation of the SREP process, which includes the weighting of indices and risk assessments in order to achieve a full risk profile score. This is a long-term project which will be completed in 2022. (For further details, see the section on the assessment of the banks; risk profile.)
- **Project to upgrade and leverage supervisory information –** This is a long-term project to expand and improve the ability to access and investigate data that is managed by the Banking Supervision Department. The Banking Supervision Department's database project is an important component of the project to upgrade and leverage supervisory data, particularly in view of the need for reliable, quickly available, and accessible information. In 2021, the first part of the project was carried out, which included the creation of infrastructure, the definition of initial content types, the definition of calculated data series, and the start of the modeling of content types, among other things. As part of this project, the Banking Supervision Department is also expanding and improving its access and analysis capabilities, and is creating dashboards and content types for the investigation of various subjects, including: fees, public complaints, restricted accounts, and data from bank branches and ATMs. During the coming year, the Banking Supervision Department will continue to enrich its database with additional content from various sources, develop dashboards for various subjects, and enrich its toolbox for research and the generation of insights from the data. (For further details, see Box 3.4.)

Box 3.1: Impact Banking

- **In recent decades, there has been an increasing awareness that the business world and the social world are intertwined. Social responsibility encourages organizations to produce value not only for themselves, but also for the environment, society, the state, and the entire world. The source of this connection is the understanding that profits produced while at the same time providing social value have a higher strategic value. Business/social awareness encourages organizations to map social challenges in their environment and deal with them, such that a social opportunity becomes a business opportunity as well. These opportunities will create joint value and will increase output for the benefit of the public and the economy.**
- **The Banking Supervision Department is taking a number of steps to introduce environmental, social, and governance (ESG) values into the supervised entities. The goal of the effort to achieve social impact is to increase socioeconomic resilience for the benefit of the public, as measured by a comparative "impact banking" index.**

The financial system has a major role to play in the development of the individual unit, the family unit, and the business unit, as it supports the exhaustion of economic potential and acts as a bridge for the advancement of the periphery, for financial inclusion, and for the reinforcement of social resilience. This is accomplished by strengthening the ability of individuals in society to deal with crises and stress situations, such as economic crisis, pandemic, or war. Without it, the social fabric is threatened and there is a negative impact on the economic situation and the financial system.

The stronger the financial system is, the larger is its responsibility to the community and the environment. Impact Banking is intended to strengthen the functioning of the banking system within the economic-social fabric and to achieve the aforementioned objectives. Since the 1990s, there has been international recognition of the power of the financial institutions and their decisive effect on our social and environmental stability. Nonetheless, Impact Banking in its current form has been around for about 15 years and has been on center stage during the past decade.

Impact Banking challenges traditional banking to adopt environmental and social criteria as a central objective in its day-to-day activity, based on the use of innovative models for the assimilation, assessment, and measurement of outcomes. Impact Banking is manifested in products, services, processes, and capital, and is characterized by two main anchors that distinguish it from corporate responsibility:

- A long-term strategy with clear and measurable targets from which are derived the products, services, tools and processes that take place both inside and outside the organization.
- Standardization and methodological measurement of the effect resulting from the outcome of the organization's activity, rather than the measurement of output.

It is no coincidence that measurement is a major focus in the case of both anchors. Organizations need measurement tools and models that can be used to assess the investment of resources relative to the outcomes achieved. However, the measurement of "impact" is a complex challenge in view of the difficulty in assessing the effect on the environment, the lack of information, and the lack of standardization in disclosure.

Decision makers in many countries are formulating and advancing initiatives of ESG in general and in Impact Banking in particular. This is being done by, among other things, regulation and regulatory supervision. Alongside regulatory processes, which are in various stages of development worldwide, international initiatives and standards have been formulated that encourage responsible behavior in an organization. These initiatives and standards emphasize the approach of reporting and transparency with respect to stakeholders, the creation of positive outcomes while minimizing negative ones, and promotion of an ethical and value-oriented organizational culture.

Following are a number of international ESG initiatives, both voluntary ones and mandatory ones, which relate to social issues:

- Seventeen UN sustainable development goals—In 2015, the UN established 17 sustainable global development goals to develop by 2030 (SDGs[1]). The goals were adopted by 193 UN members. This initiative is intended to encourage both developed and developing countries to take practical steps on various social, economic and environmental issues related to water, energy, climate, urbanization, information and technology, partnerships, education, etc. The seventeen goals are as follows: No poverty; zero hunger/nutrition insecurity, good health and wellbeing; quality education; gender equality; clean water and sanitation; available and clean energy; decent work and economic growth; industry, innovation and infrastructure; reduced inequality; sustainable cities and communities; responsible consumption and production; climate action; life below water; life on land; peace and justice – strong institutions; and partnerships to achieve the goal.
- Advancing a strategy for an inclusive financial system and financial literacy by De Nederlandsche Bank (DNB, the Central Bank of the Netherlands)[2]—The DNB has published a strategy for 2019–25 on social corporate responsibility in order to achieve a stable financial system that supports sustainable prosperity in the Netherlands. The strategy focuses on two main issues: a growing economy without any damaging effect on the environment and an inclusive financial system. The strategy is divided into six components, two of which are socially oriented: The first is the development of research in the area of financial inclusion and welfare, such as in the domains of long-term saving, housing, employment diversification and social services. The conclusions of the research will provide a basis for the central bank's policies. The second component is focused on the accessibility of the financial systems and ensuring the inclusion of all parts of society in those systems, by means of financial education and digital literacy.
- The promotion of a voluntary ethical code for Australian banking[3]—The Australian Banking Association has formulated a voluntary code of ethics, called the "Australian Banking Code of Practice", which the banks sign voluntarily. Banks that sign the code are declaring that they aspire to be inclusive and accessible to all individuals, whether citizens or foreigners, regardless of religion, gender, age, ethnic group, or any other characteristic. The code's guidelines include various components, including trust and security, integrity (fairness and responsibility toward customers), services (ensuring that banking services are accessible, inclusive and high-quality,

1 United Nations Sustainable development goals https://sdgs.un.org/goals
2 (nl.dnb) 2019-2025 strategy CSR
3 https://bankingcode.org.au/app/uploads/2020/06/Banking-Code-of-Practice-July-2020-with-COVID-19-Special-Note.pdf

etc.) and transparency and responsibility (a commitment to clear, transparent and responsible communication with customers).

- A requirement to disclose data on gender wage gaps in the UK[4]—applies to both private and public companies with over 250 employees.
- A requirement to disclose gender wage gaps in Israel[5]—In August 2020, an amendment was passed in Israel to the Equal Wages for Men and Women Law. It imposes a requirement on every employer with more than 518 employees to publish an annual report detailing the average wage gap between men and women.

In recent years, the Banking Supervision Department has promoted a variety of regulatory activities and initiatives in the areas of ESG and Impact Banking, including the following:

- Regulation of corporate responsibility disclosure—In December 2021, the Banking Supervision Department published amendments to the Reporting to the Public Directive on ESG disclosure, which was published in October 2011. In the new reporting arrangement, the banks are required to include in their annual report to the public the ESG components that are part of their goals and to present briefly the main measures that have been put in place by the bank in order to promote these issues. In addition, they are required to expand the disclosure to the public regarding their exposure to environmental risks, including climate risk. The amendment required the report to be published annually instead of biennially. These amendments were introduced as part of the Banking Supervision Department's steps to strengthen the contribution of the banking system to the environment and to society and thus to strengthen the long-term sustainability of the banking system and the economy as a whole.
- Promotion of gender equality in the composition of the banks' board of directors—In April 2022, the Banking Supervision Department published an amendment to the directives concerning the composition of the board of directors, with the goal of diversifying the gender makeup of the supervised corporations' directors. This is meant to ensure appropriate representation of both genders according to their proportion in the population. The amendment of the directive makes it possible for women to take a more active part in the formulation of strategies that include a broader variety of opinions, approaches and values and to have greater influence on decision making in the supervised corporations.
- Financial Availability Covenant for dealing with economic violence against women[6]—This is a voluntary charter, which provides focused financial guidance and solutions to victims of violence through centers for the treatment and prevention of domestic violence, shelters, and halfway houses. The financial system is working to provide victims of violence with guidance and financial advice with the goal of supporting their initial steps following the dramatic change in their lives. The covenant includes additional steps that are meant to help victims of violence leave behind their old lives and their financial dependency on their partner. The covenant was formulated and

4 The Equality Act, 2010, Gender Pay Gap Information (Regulations) 2017 legislation.gov.uk

5 https://main.knesset.gov.il/Activity/Legislation/Laws/Pages/LawBill.aspx?t=LawReshumot&lawitemid=2085992

6 Since most of the victims of violence treated at the centers are women, the Covenant is written with female pronouns, it is intended for both men and women and in this context, assistance is provided to both genders.

promoted by the Banking Supervision Department and the Association of Banks in Israel, together with the Ministry of Welfare and Social Affairs, the banks, the credit card companies, the Postal Bank, the nonprofit organizations that operate the shelters for battered women, and various social organizations.

- Elderly Citizens Covenant—In order to help the elderly population in Israel cope with the challenges in obtaining banking services during the COVID-19 crisis, the Banking Supervision Department, the Ministry of Social Equality, the Association of Banks in Israel and the banking system formulated a voluntary covenant in December 2020 for increasing the accessibility of banking services to the elderly. As part of the covenant, it was agreed that each bank would provide various alternatives for access to banking services, by means of a mobile branch, improving the telephone services provided to senior citizens, giving them preference in receiving services, informational material to improve digital literacy, etc.

The Impact Banking Index:

Based on a survey of best practices worldwide in Impact Banking, it appears that there are a variety of tools and initiatives for measuring ESG; however, most of them are not necessarily focused on banking and social impact.

Following are several of the tools and initiatives:

- Accessibility of knowledge and measurement tools for sustainable banking—One of the leading organizations worldwide in the modeling of sustainable banking is the UN Environmental Program Finance Initiative (UNEPFI[7]). The organization was established in 1992 and operates in cooperation with about 550 banks, insurers, investors and institutions. As part of its duties, it creates knowledge and tools for the application and measurement of sustainable banking and makes them accessible.[8]
- Equator Principles Association[9]—This is a framework for risk management, assessment, and management of environmental and social risk that is inherent in projects financed by the banks and other financial institutions. These principles were adopted by 118 financial institutions in 37 countries. The goal of the guidelines is to provide a minimum threshold for checking propriety and the monitoring of project execution and for balanced and responsible decision making.
- Measurement of impact—the IIRIS standard[10], which is published by the GIIN organization[11], constitutes a framework for the measurement of impact using a uniform language.
- The GRI standard[12] and the SASB standard[13]—These are two reporting standards with a structured methodology for disclosure in the area of corporate responsibility. The goal of the GRI is to provide

7 UN Environment program finance initiative.
8 Principles for Responsible Banking – United Nations Environment – Finance Initiative (org.unepfi).
9 Home Page – Equator Principles Association (equator-principles.com)
10 https//: iris.thegiin.org/
11 Global Impact Investing Network
12 The Global Reporting Initiative is a standard created by the UN GRI, an international organization serving as the operational arm of the environmental agency of the UN that promotes rules for reporting in the area of corporate responsibility.
13 A global non-profit organization founded in 2011 in order to create a uniform reporting language on issues of sustainability.

organizations with a clear and uniform reporting standard for the benefit of investors and the public. The SASB standard is a similar US initiative that was created for publicly traded companies in the US.

- As noted above, the Banking Supervision Department is currently working on the development of an Impact Banking index, with the goal of creating meaningful social value in the activity of the supervised entities. The process of creating the index includes a survey of leading practices worldwide, as well as meetings with academics, civil society organizations, government ministries, and international organizations with the goal of understanding the change that is needed and accurately choosing the factors that are expected to generate change and the choice of impact measures.

Subjects that the Banking Supervision Department is focusing on as part of the process to formulate the index, which will help promote social impact:

- Accessibility of services to benefit a variety of populations and individuals with special needs—The degree of access to the full range of banking services and their usage is not distributed equally among all segments of the population. The goal of focusing on this area is to encourage the supervised entities to provide equitable, accessible and available service to the entire population in Israel, with the goal of increasing equality and economic growth.
- Social mobility—Social mobility is defined as movement on the socioeconomic ladder. A high level of mobility is manifested as a high rate of movement, regardless of background characteristics, such as geographic location, gender, ethnic group, etc. The banking system plays an important role in the development of the individual, family and business units, in that it supports the ability to exhaust economic potential and can serve as a bridge for the advancement of the social periphery. The supervised entities have the ability to support and encourage social mobility by means of employment, acquisitions, investment and contribution, as well as through their products and services.
- Diversification, inclusion and equality of opportunity—Employment diversification means providing equal opportunity in employment and the advancement of groups that have difficulty integrating or lack influence, power and connections. As a result, they are underrepresented in places of employment over time. Employment diversification creates conceptual diversity that in the long run generates greater problem-solving ability and openness to ideas. The chances of an organization achieving better economic outcomes increase as its labor force becomes more diverse.[14]
- Management of Impact Banking in the board of directors and senior management—The involvement of the board of directors and senior management is critical in the assimilation and successful implementation of Impact Banking principles. This includes the choice of the organization's impact strategy, policy, measurement tools and supervision.
- Dialogue with the community/stakeholders—This is the process of promoting structured mechanisms for mutual feedback, the creation of discourse and the utilization of the common interest to find solutions that optimally deal with shared social challenges. This dialogue requires

[14] Hunt V., Layton D., Prince C. (2015). "Why diversity matters", McKinsey & Company.

diagnosis and a comprehensive identification of the stakeholder groups, an understanding of needs and expectations and the formulation of mechanisms to manage the dialogue process. Creation of responsible, honest and meaningful dialogue will reinforce the trust between the supervised entities and customers.

- Contributing to the community and social involvement—Apart from the direct value of the supervised entities' actions, there is importance in the development of significant added value while advancing social and environmental values that will support social resilience. It is important to measure the effectiveness of social investment in terms of output and results rather than measuring inputs alone. The choice of targets and output-oriented indices will help to achieve the desired impact.

Box 3.2 Transparency in the activity of the Banking Supervision Department

- **The Banking Supervision Department attributes significant value to transparency in its work methods and to improvement of its connection with stakeholders, including the public and its elected representatives, social organizations, and the media. Enhancing transparency reinforces the public's trust and facilitates a deeper familiarity with the Banking Supervision Department's work and the challenges and issues that it faces.**
- **Transparency constitutes an important pillar in the activity of public entities, it increases accountability for areas under their purview and it reinforces the public's trust in them. In 2021, the Banking Supervision Department carried out a comprehensive self-assessment to examine the extent to which it meets the criteria of the IMF's voluntary Central Bank Transparency Code (CBT).**
- **The Banking Supervision Department complies fully with all of the transparency requirements in the Basel Core Principles for Effective Banking Supervision, an international standard for the work of banking supervision. With regard to the CBT recommendations, which are based on best practice in other countries and add on to the core principles, the assessment showed that the Banking Supervision Department is in compliance in most of the areas and in some areas—most of them involving the way information is provided—there is room for improvement.**
- **To expand transparency according to the code's recommendations, a workplan has been formulated for the closing of gaps, the expansion of scope of information, and the improvement of its accessibility for the public.**
- **The transparency of supervisory authorities is not absolute. The obligation of confidentiality with respect to specific information about supervised entities characterizes the work of financial supervisory authorities in Israel and in other countries, and constitutes a necessary condition and a basic infrastructure for the effectiveness of their work. This is in addition to other limitations on the providing of information that apply to all public entities.**

In recent years, the Banking Supervision Department in Israel has begun to expand the scope and quality of disclosure to the public, in order to comply with advanced international standards and to strengthen the trust of the public in the banking system and in banking supervision. The increase in transparency is also accomplished by the improvement of communication with the public and its elected representatives and with other stakeholders, to enhance their familiarity with the work of the Banking Supervision Department and the Banking Supervision Department's familiarity with the needs of the public.

Enhancing the transparency of the financial supervisory authorities is a global trend and it always done by maintain their independence and that of the central banks. It also includes an effort to maintain the necessary balance between the desire for transparency and the maintenance of confidentiality according to law.

Banking supervision authorities operate according to the Core Principles for Effective Banking Supervision, which are published by the Basel Committee (herein: the core principles).[1] According to the core principles, the Banking Supervision Department should be independent in its activities and protected from government interference, as well as interference from the supervised entities. It should operate only according to professional considerations, with the goal of maintaining the public interest for which it is responsible.[2] International financial entities, which set the standards for banking supervision worldwide, view the supervisory authorities' accountability and transparency as an important means for increasing their independence and preventing inappropriate interference.[3] The core principles delineate the main dimensions in which transparency is required.[4,5] These include a description of the supervision's goals and its responsibility; transparent processes[6], including processes that ensure the independence of the banking supervision's activity; processes for appointing the supervisor of banks and the members of the advisory entities; disclosure of the supervisory goals and the way in which they are to be achieved; and the publishing of aggregate information on the banking system.

In July 2020, the IMF published the new Central Bank Transparency Code (CBT).[7] This is a voluntary code that describes best practices in the area of transparency adopted by central banks in various countries. The process of revising the code—in which the Bank of Israel and the Banking Supervision Department took part—was a prolonged one. The transparency guidelines in the code are not mandatory and are not meant to replace the existing transparency guidelines set down by the Basel Committee for banking supervision authorities. Nor are they intended to assess the degree of central bank compliance in this area. Rather they are intended to serve as a tool for self-assessment of the degree of transparency relative to other central banks and to identify gaps that should be closed. The main goal of the code is familiarity with the best practices worldwide and an increase in the transparency and accountability of a central bank. This will contribute to the effectiveness of its policy, given the characteristics and legal environment of each country. The CBT guidelines are consistent with and add on to the Basel Committee's Core Principles.

The Banking Supervision Department assesses itself on a regular basis relative to the accepted practice worldwide. This is also the case for transparency. Based on a desire to be attentive to public criticism and based on the knowledge that improving accepted transparency practices will contribute to the work of supervision and will increase the public's trust in it, in 2021 the Banking Supervision Department carried out a comprehensive self-assessment in order to evaluate the degree to which it complies with the IMF code. It was carried out according to the five pillars of the CBT: **(1) Transparency in governance –**

[1] BCP – Core Principles for Effective Banking Supervision (2019) https: //www.bis.org/publ/bcbs230.htm

[2] "The operational independence, accountability, and governance of the supervisor are prescribed in legislation and publicly disclosed. There is no government or industry interference that compromises the operational independence of the supervisor. The supervisor has full discretion to take any supervisory actions or decisions on banks and banking groups under its supervision." (BCP (1) 01/67-01.66)

[3] IMF Working Paper WP/07/25, M. Quintyn, S. Ramirez, M.W.Taylor, The Fear of Freedom: Politicians and the Independence and Accountability of Financial Sector Supervisors (2007), p.6.

[4] BCP – Core Principles for Effective Banking Supervision (2019).

[5] Principle 2: Independence, accountability, resourcing and legal protection for supervisors
Principle 28: Disclosure and transparency, Essential Criteria No 5

[6] BCP – Core Principles for Effective Banking Supervision (2019), paragraph 01.66.

[7] https//: www.imf.org/external/datamapper/CBT/

The supervisory authority's vision and values; its goals and functions according to law; a description of its powers and its organizational structure; a description of the legal arrangements that ensure operational and professional independence; supervisory strategy; and arrangements for reporting to the Knesset and to the public; **(2) Transparency in policies –** Disclosure of policy processes in the area of regulation: the publishing of directives and various regulatory documents; disclosure of ongoing supervisory policy in the area of stability; compliance and protection of consumers; disclosure of supervisory measures, policy in the area of revision and enforcement; and policy in the area of licensing and of granting permits; **(3) Transparency in operations** taken by the Banking Supervision Department as part of the implementation of supervisory policy in various areas – informing the public of stability measures on the level of the banking system as a whole; publishing of general and aggregate data on the activity of the Banking Supervision Department as part of the evaluation and examination process and as part of the response to complaints from the public and the protection of the banks' customers; **(4) Transparency in outcomes** and actions that involve disclosure after-the-fact with regard to the effectivity of policy measures that have already been implemented; **(5) Transparency in official relations** with stakeholders, such as the legislature, the government and other public entities. This also includes reports by the Banking Supervision Department to the various Knesset committees (see below) and the publishing of memorandums of understanding with external entities.

The self-assessment showed that the Banking Supervision Department complies with most of the pillars of the code in accordance with its recommendations, while there is room for improvement in certain segments. Thus, for example, with regard to powers, functions and targets, and relations with other authorities, it was found that the Banking Supervision Department operates with full transparency, but that the content is not necessarily made accessible in a consistent, clear and organized manner. With regard to transparency in operations, policy and processes and transparency of outcomes, it was found that there is room to expand the disclosure of information contained in policy documents[8] and a need to create a uniform and consistent format for reporting. The basic platform for presenting information among financial supervision authorities and central banks worldwide is their Internet sites. The Bank of Israel is currently working to upgrade its website in order to make it easier to navigate and to improve the presentation of information, among other things.

With regard to the Basel core principles—which as noted require disclosure to the public of the supervision's goals and responsibility, the disclosure of supervisory processes, processes for appointing the Supervisor of Banks, the supervisory goals and the methods for achieving them and the publishing of aggregate information on the banking system—the self-assessment found that the work of the Banking Supervision Department is consistent with the requirements of the Basel Committee in this area. This finding is consistent with the conclusion of the IMF that the Banking Supervision Department is operating according to international standards.[9]

In order to increase transparency in accordance with the CBT, an operational supervisory plan was formulated that includes the improvement of disclosure in the area of the Banking Supervision Department's policy, its activity and the outcomes of its work, and the publishing of consistent series of publications, such as periodic surveys, and of drafts for comments by the public.

[8] A policy document for supervision, amendment and enforcement measures was published on January 11, 2022 on the Bank of Israel's website.

[9] Israel: Financial System Stability Assessment\ IMF, 2012

Prior to the publication of the CBT, the Banking Supervision Department took steps over the years in order to improve transparency. The Banking Supervision Department's reports to the Knesset as required by law were posted on the Bank of Israel website (categorized according to the Knesset committee):[10] annual reports including one to the Finance Committee on fraud in the banking system;[11] an annual report to the Constitution, Law and Justice Committee on checks returned due to reasons specified in the Reducing the Use of Cash Law;[12] semiannual reports including one to the Economic Affairs Committee on the prices of common banking services used by households and actions taken by the Banking Supervision Department in this area; and a semiannual report to the Economic Affairs Committee concerning a professional human response at the telephone call centers of the banks and credit card companies.[13] Starting from 2022, the Supervisor of Banks will submit his annual survey to the Economic Affairs Committee and will report to it on his activity during the past year and on the situation of the banking system.

At the same time, the Banking Supervision Department publishes information intended for the use of public on the Bank of Israel site. This information includes periodic surveys (semiannual and annual) of the banking system; a survey of the Banking Supervision Department's activity with regard to handling of public enquiries and complaints; surveys that present aggregate information from the examination processes carried out in the banking system in a wide range of issues;[14] various regulatory directives, including letters and circulars to the banking system and drafts published for the comments of the public; supervisory policy and methodology; financial sanctions imposed by the Banking Supervision Department on supervised corporations (the information appears on a designated page of the site);[15] and information on class action suits (for further details, see Chapter 3 in this survey).

The transparency of the Banking Supervision Department is not absolute: section 15a of the Banking Ordinance anchors the obligation of confidentiality that applies to the communication and exchange of documents between the supervised entities and the Banking Supervision Department.[16] In the fulfilment of its duties, the Banking Supervision Department is exposed to sensitive and confidential information about the supervised entities. The obligation of confidentiality applies to specific information about the supervised entities, such as notifications and documents received from them as part of the supervisory process and various supervisory measures that are carried out in the case of a specific supervised entity.[17] It is important to note that the obligation of confidentiality applies not only to the Banking Supervision Department, but also to the supervised entities. Thus, for example, a supervised body is not permitted to expose the details of an audit carried out by the Banking Supervision Department. The principle of confidentiality is in line with the Basel core principles, which recognize "the need to protect confidential information".[18,19]

10 https://www.boi.org.il/he/BankingSupervision/Pages/KnesetDivuah.aspx (Hebrew)
11 According to Section 8d2 of the Banking Ordinance.
12 According to Section 44(b) of this law, which is in effect until 2023.
13 Based on Section 5a3(d)(2) of the Banking (Service to the Customer) Law.
14 https://www.boi.org.il/he/BankingSupervision/Survey/Pages/reviewa.aspx (Hebrew)
15 https://www.boi.org.il/he/BankingSupervision/Pages/Financialsanction.aspx (Hebrew)
16 This is in addition to limitations on the obligation to submit information, which applies to all public entities.
17 Apart from announcing the imposition of sanctions.
18 This is emphasized in Principle 3 – Cooperation and Collaboration.
19 BIS, Report on the Impact and Accountability of Banking Supervision (2015)

The principle of confidentiality has been validated by the Israeli Supreme Court, which recognized the broad application of the principle and its importance in order to achieve supervisional effectivity.[20]

"Although the supervision and examination process is not voluntary, its quality and efficiency are naturally influenced by the degree of openness, transparency and willingness to cooperate on the side of the supervised banks. A concern that the information being exchanged between the Banking Supervision Department and the banks will be exposed is liable to hinder, prolong and complicate the auditing process. The confidentiality imposed by the legislature is therefore meant to encourage transparency and openness in relations between the supervising entity and the supervised entity, rather than transparency towards anyone…The risk is therefore that the exposure of examination reports will lead not only to the complication of the examination and the supervision process and the initiation of endless discussions, but will also lead to the erosion of cooperation between the banks and the supervising body. As stated by my colleague Justice Amit in a different context: "Much has been said and written about the principle of transparency and we have already learned and studied the eternal words of Justice Brandeis that "sunlight is said to be the best of disinfectants." But just as overexposure to the sun is also liable to cause damage, so too the principle of transparency is not absolute and sometimes must defer to other interests."

Notwithstanding the aforementioned, exceptions are made to the obligation of confidentiality. These include the publishing of decisions to impose financial sanctions; the providing of information for the purposes of a criminal investigation;[21] sharing of information with local regulatory entities;[22] and international cooperation with regulatory entities as part of cross-border supervision.[23]

The Banking Supervision Department attributes great importance to the integration of transparency in its work and improving its connection with the public and its elected representatives, which include nonprofit organizations and social organizations, the media, and representatives of various population segments. Enhanced transparency helps to strengthen the trust of the public and creates a deeper familiarity with the Banking Supervision Department's work and with the issues with which it deals. Improving communication with stakeholders helps to better assess the needs of the public and its challenges in the area of banking services; it contributes to their appropriate representation on the Banking Supervision Department's map of considerations; and it facilitates the ability of the Banking Supervision Department to examine alternatives to proposed regulation, to better assess its direct and indirect effects, to determine the date it should go into effect and to better comply with the requirement of the RIA (Regulatory Impact Assessment) requirements (for further details, see Box 3.3).

[20] The honorable Judge Yitzhak Amit in Administrative Appeal 5089/16 The Movement for Quality Government in Israel vs. the Bank of Israel (2018).

[21] The Governor of the Bank of Israel has the right to order the providing of confidential information to the Attorney General, as part of the professional assistance provided to investigators and prosecutors and the full cooperation with them.

[22] The Supervisor of Banks has the right to reveal confidential information or documents to an employee of the Bank of Israel, to the Financial Stability Committee, to the Israel Securities Authority and to the Capital Market Insurance and Savings Authority, on the condition that the document is required by the person receiving it in order to carry out his duties, subject to the commitment to maintain full confidentiality.

[23] The Supervisor of Banks has the right to reveal information to a supervisory authority abroad that supervises a foreign branch of an Israeli bank or a bank that has opened a branch in Israel, on the condition that this is required by that supervisory authority in order to carry out its role in supervising stability and on the condition of maintaining full confidentiality.

Box 3.3: Smart Regulation

- **In recent years, many countries have invested efforts to improve the quality of regulation. This is accomplished by a wide range of policy tools, the main one being the Regulatory Impact Assessment (RIA). This is a tool that sets out a structured methodology for the decision-making process in the adoption of regulation.**
- **A bill regarding the improvement of regulation and the reducing the regulatory burden in Israel through the use of various policy tools, and in particular the requirement to carry out an RIA, was approved as part of the 2021 Arrangements Law.**
- **As part of the law, regulators are required to follow a structured procedure when formulating regulation, including the preparation of an RIA report. The law also calls for increased transparency in regulation by means of publishing an annual workplan, among other things, as well as a periodic assessment of new regulation.**
- **The RIA process for regulators that are public corporations, such as the Banking Supervision Department, includes the publishing of an RIA report, enhancing transparency with respect to the regulation determination process, the adoption of an (internal) mechanism for monitoring the RIA, the publishing of an annual regulatory program, and a periodic assessment of regulation.**
- **In parallel, the Banking Supervision Department in recent years has worked to enhance transparency in its activities and its policies, and it monitors international developments on the subject of transparency on an ongoing basis.**

Background—what is ROB/RIA, what is being done worldwide and the history in Israel

In recent years, many countries have been advancing a wide range of policy tools that are intended to improve the quality of regulation. The most prominent of them is the Regulatory Impact Assessment (RIA). This is a tool that specifies a structured methodology for the process of deciding on the adoption of a regulatory rule. This involves a deep understanding and a precise characterization of the problem that will justify intervention, an examination of intervention alternatives; and a cost-benefit analysis using economic tools. Another step toward improving the regulatory process is the creation of a central supervisory entity to oversee government regulation, known as a Regulatory Oversight Body (ROB) whose composition, powers and location are decided on according to the characteristics of each country.

A survey carried out by the World Bank in 2018[1] indicates that most countries do not implement an RIA policy (Figure 1). Israel is considered a country that is implementing RIA, since the adoption of the reform was defined as a condition for joining the OECD. Furthermore, of 187 countries surveyed, only 24 have an independent entity that supervises regulation.

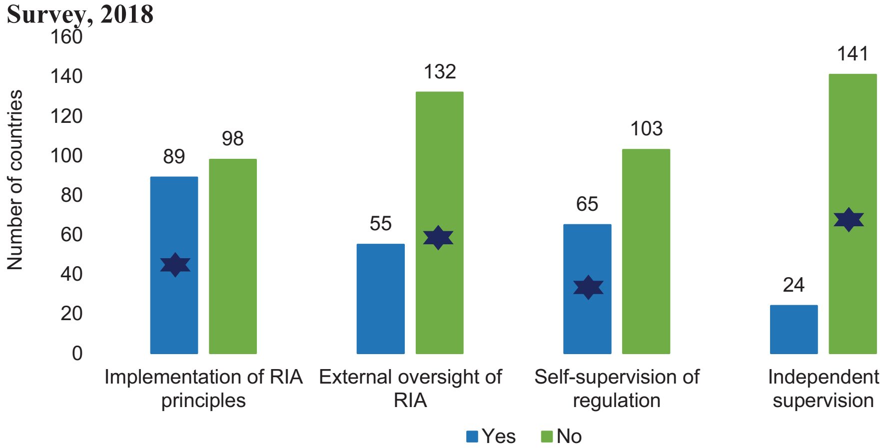
[1] https://rulemaking.worldbank.org/en/data/comparedata/challenging

What is happening in Israel – recent developments (the work of the joint workgroup)

Pursuant to Government Decision 4398 approved in 2018,[2] it was decided to establish a joint workgroup (the Ministry of Finance, the Ministry of Justice and the Prime Minister's Office) that would examine the principles for smart regulation and how to implement them. The workgroup examined the expansion of the RIA requirement for financial regulators (the Bank of Israel, the Capital Market Authority and the Israel Securities Authority), because they have so far been exempt from it and from being under the authority of an ROB that will oversee regulatory processes in Israel. Arguments were presented in favor of the exemption (for example, harm to the independence of the financial regulator and the prolonged duration of the process to introduce regulation, which would make it difficult for regulators to react in real time, in view of the dynamic nature of financial regulation) and against it (that the dispersal of supervision over the financial system leads to market failures, the exploitation of regulatory gaps and the absence of an overall perspective on the effects of the regulation). **The workgroup recommended that the financial regulators be subject to the RIA obligation but would not be under the authority the ROB,** based on the concern that reducing the independence of the regulator and the ability to base decisions on professional considerations, as well as the concern of irrelevant and undesirable considerations being introduced.

Most countries do not implement a regulatory impact assessment (RIA) policy.

Figure 1
Implementation of Regulatory Policy Tools, Answers from the World Bank Survey, 2018



Note: For some countries there are no data. The star represents Israel's answer to the survey.
SOURCE: World Bank data.

[2] Government Decision 4398 in 2018 regarding "Smart Regulation – Implications of the OECD Recommendations", which is based on the experience and conclusions arrived at based on Government Decision 4027 and 2118 and the recommendations of the OECD report published in July 2018.

The law and its goals; what was approved; and the exemptions

The joint workgroup's recommendations were included in the Arrangements Law in Chapter 7 – The Regulatory Principles Law. The goal of this chapter of the law, which was determined at the completion of the process, is to **promote optimal regulation, which includes ensuring the quality of new regulation, the improvement of existing regulation, and a reduction in the excess regulatory burden.**

The main principles intended to guide regulators within the framework of the law are: consideration of alternatives; examination of economic, social and environmental effects and the costs of compliance, on the basis of risk management; complying with international standards; a regulation determination process that is accessible to stakeholders; and creating regulation in a way that promotes the coordination and cooperation between regulators, with the goal of reducing the regulatory burden and the exploitation of regulatory gaps.

The law requires regulators to implement structured processes when establishing regulation, including among other things the preparation of RIA reports. It was also decided to create an ROB that would be a professional government body in this area. The new authority will advise regulators[3] when creating new regulation, will make recommendations to improve existing regulation, will advance processes of planning and coordination between the various regulators, will assist in training and development of skills in the area of regulation and will advise the government on regulatory policy. Furthermore, additional principles for regulation were decided on, such as increasing the transparency of regulation by means of publishing an annual workplan and a periodic assessment of new regulation, among others things.

The obligations that will be imposed on public corporations, including the Bank of Israel (with respect to the regulation of banking, acquirers, and credit data sharing), are: publishing of an RIA report; expansion of transparency related to the regulatory creation process; establishing an (internal) mechanism for control of the RIA; publishing an annual regulation plan; and a periodic regulation assessment. In this context, there will be no oversight by the ROB.

In view of the legal status and importance of maintaining the independence of the central bank (and in general the independence of public corporations), exemptions were specified in the law, such that regulation of subjects classified as exceptions (Appendix A) will be exempt from an RIA report, from the inclusion of regulation in the annual regulation plan and from a periodic assessment of the inventory of regulation.

What is happening now?

Currently, the **process of creating regulation at the Banking Supervision Department is in line with the spirit of the law** (Appendix B). For new regulation or a change in existing regulation, a study is carried out from the perspective of RIA and its costs, including consultation with stakeholders as part of the work

[3] Apart from regulators that are public corporations.

of the advisory committee[4] and with other professional entities (such as the Institute of Certified Public Accountants in Israel and the Israel Money Laundering and Terror Financing Prohibition Authority) and also the process of publishing draft regulation for comments by the public. **However, the implementation of the law will require several changes in the existing processes and in how they are presented to stakeholders.**

In order to maintain cooperation between regulators, the Banking Supervision Department is a member of the advisory committees of other regulators (the Israel Securities Authority and the Capital Market Authority) and they in turn are members of the Banking Supervision Department's advisory committee. In addition, the Bank of Israel's workplan also includes the workplan of the Banking Supervision Department.

At the same time, the Banking Supervision Department has in recent years been working to increase the transparency of its operations and its policy and is assessing the international developments in transparency on an ongoing basis. This is in view of the fact that the transparency of public entities, such as central banks and banking supervision authorities, constitute an important pillar in their activities to reinforce the trust of the public in them and to strengthen their responsibility for areas under their authority. **Transparency is being enhanced, while at the same time, the independence of the supervisory authorities and the central banks and the confidentiality of information is being maintained.** The Banking Supervision Department will in the future take additional steps that will include regulatory processes according to the language of the law and the principles specified in the law.

Appendix A – Exemptions from the obligation to publish an RIA report

- There is a fear of major adverse impact to a protected interest, because of which the regulation was urgently proposed (but only in the case of regulation whose application does not extend beyond two years; beyond a period of two years, the report has to be published within a reasonable time after the regulation is introduced).
- The expected direct and indirect implications of the regulation are not deemed significant.
- The publication of the report is liable to result in a negative impact to the stability of the financial system and its normal operations.
- The regulation, with the necessary modifications, is based on accepted rules and international standards.
- The regulation extends existing regulation (for a period of up to a year).
- The regulation concerns an essential infrastructure or it applies to a market in which there are no more than three participants, that together control at least 65 percent of the market.
- The regulation concerns the determination of rules for professional ethics.
- There is a concern that the publishing of the report will adversely impact the operations of those to which the regulation applies.
- The regulation is similar in nature or character to existing regulation.

[4] The Committee is meant to discuss banking and was created on the basis of Section 6(1) of the Banking Ordinance, 1941. The Chair of the Committee is the Supervisor of Banks and its members are representatives of the (supervised) banking system, a representative of the Association of Banks in Israel, the Commissioner of the Capital Market, Insurance and Savings Authority, the Chair of the Israel Securities Authority, the Accountant General in the Ministry of Finance—or a representative on their behalf, and other representatives of the public (5 representatives).

Appendix B – Milestones in the setting of regulations at the Banking Supervision Department, as they currently exist

- The various units in the Banking Supervision Department assess a new regulation or a change in an existing regulation from various perspectives: economic, fairness to the customer, technology, competition, licensing, reducing the regulatory burden, elimination of duplication in regulation and increasing efficiency of regulation.
- A quality indicator survey (QIS) is carried out for the main regulatory directives prior to publishing them, and for other directives the advantages, disadvantages and alternatives are considered from a qualitative viewpoint.
- A proposed regulation is discussed by the **advisory committee.**
- To maintain cooperation between regulators, the Banking Supervision Department is a member of the advisory committees of other regulators (the Israel Securities Authority and the Capital Market Authority) and they in turn are members of the Banking Supervision Department's advisory committee. There is also a forum of regulators whose members are chairs of the financial regulatory authorities. The Financial Stability Committee, whose chairman is the Governor of the Bank of Israel and whose members include all of the financial regulators in the economy, discusses systemic risks at least twice a year, and if needed, additional matters are brought up for discussion.
- The Banking Supervision Department maintains various forums that are meant to facilitate an open discourse with stakeholders on relevant matters.
- The Banking Supervision Department publishes draft regulations for comments from the public on the Bank of Israel site prior to its final publication.
- The Banking Supervision Department publishes an FAQ[5] on various matters in which clarification with regard to a new or existing regulation is necessary.
- A regulation in which there is public interest is accompanied by a press release that includes, among other things, the purpose of the regulation and an examination of its implications for the public and the banking system. The press release also relates to the extent possible to the burden of the regulation and its effect on the public and on the banking system.
- An ex-post examination of the regulation, which is meant to assess its impact and its actual benefit, is sometimes carried out and its results are published in the form of boxes for the public.
- The Banking Supervision Department semiannually publishes a survey of its work, the risks it faces, the various developments in the banking system, a survey of enquiries from the public and steps taken to protect the customers, as well as other publications if there are any (boxes, press releases, publishing of enforcement measures in the banking system, etc.).
- The Bank of Israel's workplan[6] also includes the highlights of the Banking Supervision Department's workplan.

[5] https://www.boi.org.il/en/BankingSupervision/SupervisorsDirectives/Pages/QuestionsAndAnswers.aspx
[6] The Highlights of the Bank of Israel Workplan, which is an annual publication that is also presented to the Knesset Finance Committee.

Box 3.4: Managing supervisory information and maximizing its value

- **In view of the evolving challenges in the financial system and the need to identify and deal with crisis situations, many supervisory entities worldwide, including the Banking Supervision Department, have enhanced their use of information as a basis for conducting supervisory policy. Enhancing the use of information and exploiting its inherent value make it possible to base policy on a more comprehensive, detailed, and more frequent picture of the situation in the areas over which the Banking Supervision Department is responsible.**
- **Basing the Banking Supervision Department's work processes on the analysis of information as part of a data-oriented policy is carried out on two levels: using information as a basis for decision making and using information to track and monitor activity in the banking system.**
- **The Banking Supervision Department intakes, analyzes and monitors data provided by the banking corporations. There are three types of reporting that are managed by the Banking Supervision Department's Data Management Unit: periodic reporting—which is received at varying frequencies, including ad hoc reports (immediate reports) based on the Reporting to Banking Supervision Directives and the Reporting to the Public Directives; a temporary/one-off report request—a request to provide data on a specific phenomenon for a one-off evaluation; and special situation (crisis) reports—a designated reporting directive for special situations in which the Supervisor of Banks has the option of defining specific tables that the corporations are to provide at a higher frequency or for the first time, according to the circumstances.**
- **In 2021, a database was created at the Bank of Israel that contains all of the time series data in the organization, based on SDMX, the international standard for describing statistical data.**
- **In order to allow users of the Bank of Israel's supervisory data to analyze time series that are concatenated historically, the supervisory data that is received from the banking system and the acquirers undergoes a process of historical concatenation, modeling according to the SDMX standard, and storage in the database.**
- **As part of the global trend of a deepening use of data, supervisory entities worldwide—including the Banking Supervision Department—are initiating processes to assimilate support technology (RegTech and SupTech) based on a forward-looking perspective.**
- **In collaboration with the Information Technology Department at the Bank of Israel and the Digital Israel organization, the Banking Supervision Department is leading a process to formulate a data strategy to strengthen the Banking Supervision Department's status as a data- and insight-driven supervisory entity, based on the use of advanced technology and analytics. The process of formulating the strategy emphasizes the assimilation of a digital workspace, the sharing of knowledge, the development of user-oriented investigation tools (for both internal and external**

users), and the advancement of AI-based and machine learning automation. This effort is intended to encourage innovative thinking and a change in orientation that will make it possible to improve analytical abilities and access while also easing the reporting burden.

Part A: Data-oriented supervisory policy

In view of the evolving challenges in the financial system and the need to identify and deal with crisis situations, many supervisory entities worldwide, including the Banking Supervision Department in Israel, have increased their use of information as a basis for conducting supervisory policy. Enhancing the use of information and exploiting its implicit value make it possible to base policy on a more comprehensive, detailed, and more frequent picture of the situation in the areas over which the Banking Supervision Department is responsible.

Basing the Banking Supervision Department's work processes on information analysis, as part of a data-based policy, is carried out on two levels:

1. Use of information as a basis for decision making

In order for the supervisory regulatory policy to be effective and to help achieve the goals of the Banking Supervision Department, the process of policy design is based on in-depth learning and investigation of the data that describe current trends in the banking system with respect to areas that are on the supervisory agenda.

Even after the publishing of the relevant directive or plan, there is ongoing use of information in order to monitor and evaluate the effect of the policy and whether the supervisory goal has been achieved.

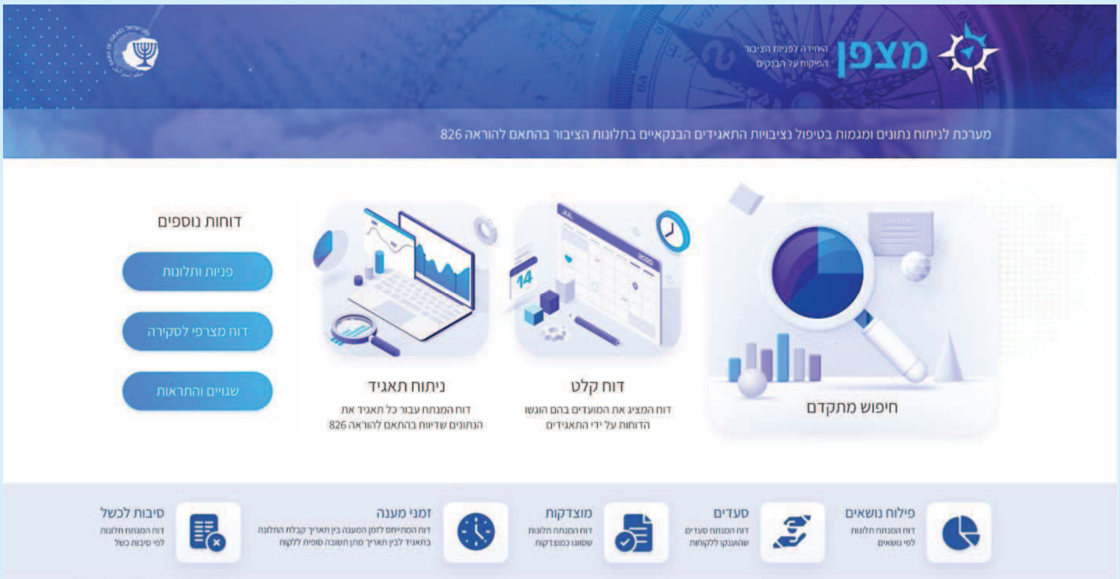
For example, to initiate a reform to boost competition in the mortgage market, which is expected to go into effect on August 31st, 2022, data that was gathered from the banks enabled the Banking Supervision Department to formulate a picture of competition in this market. The data included, among other things, the structure of approvals in principle, the mortgage options that were offered to customers, and the prices of mortgages (the interest rates).

The stage before the design of the reform included an analysis of the data and providing answers to some important questions: what is the effect of the customer's market survey and the customer's negotiating power on the level of the mortgage's interest rate; what are the most common mortgage options offered; etc.

2. Use of information to track and monitor activity in the banking system

In order to maximize the value implicit in the data that has been gathered from the banking system, data-based tools have been developed by the Banking Supervision Department, which monitor and track the activity in the banking system and are able to identify outliers in the data and changes in long-term trends.

These tools are based on statistical mechanisms for identifying outliers and on the visual presentation of results. For example, the Data Management Unit, in collaboration with the Banking Supervision Department's Public Enquiries Unit, developed a system that analyzes data and trends in the handling of complaints from the public by the ombudsmen at the banking corporations. It is based on the information provided via Reporting Directive 826, which deals with the handling of complaints from the public.



Furthermore, in order to identify systemic risks in their early stages of formation and to initiate actions to prevent them, warning systems were developed that are intended to track, monitor and supervise the risks. For example, the liquidity risk warning system integratively analyzes indicators from the banking corporations' reports and from the capital market and identifies statistical outliers and trends in liquidity risk. The system enables ongoing monitoring of the risk and provides a warning in real time of a negative development in liquidity, on the level of the individual bank and on the level of the banking system as a whole. It also warns of a deterioration in the situation of the financial markets in Israel and abroad.

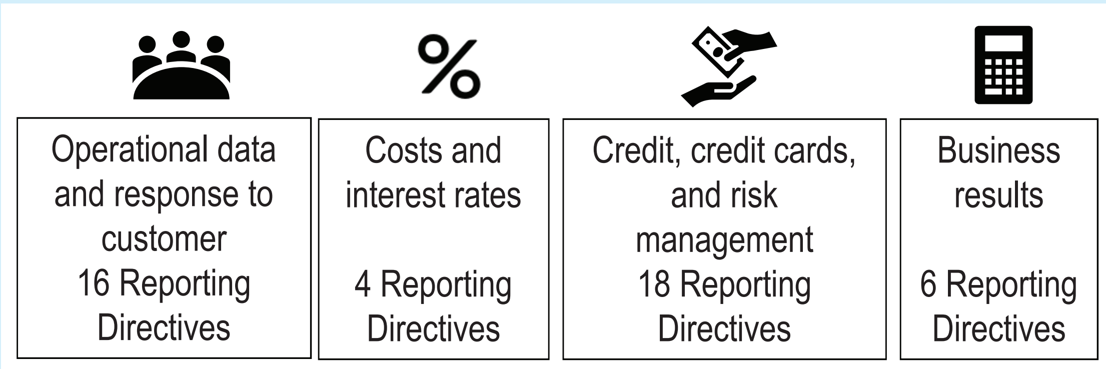
Part B: Intake of data and its management

In order to carry out its duties, the Banking Supervision Department analyzes and tracks developments in the areas of stability, competition and innovation in the banking system. This process is based on an ongoing analysis of up-to-date data received from the corporations in the banking system (banks and acquirers). The data are reported to the Banking Supervision Department by the power of the Banking Ordinance (1941). The Banking Supervision Department's Data Management Unit concentrates supervisory information needs, with a focus on increasing reporting efficiency and reducing the reporting burden on the supervised corporations; defining reporting requirements; managing the intake process and checking supervisory data; creating integrative content for investigation, based on the synthesis of information from various sources and making supervisory data accessible to users within the Banking Supervision Department and on the Bank of Israel website.

There are three types of reports managed by the Data Management Unit in the Banking Supervision Department:

Ongoing reporting – These are reports received on a monthly, quarterly, semiannual and annual basis. The reporting requirement includes the content of the report, the level of granulation (customer/transaction/reporting corporation), the dates for submission and the exact structure in which the banks and the acquirers are required to submit the information. The reporting is carried out by means of the eXtensible Business Reporting Language (XBRL), an international standard for conveying information that was developed and is supported by the international XBRL organization.

The Banking Supervision Department receives reports on an ongoing basis in compliance with about 50 Reporting Directives, which include over 500 tables that relate to the following areas, among others:



The upward trend in the amount of data that is gathered from the banking system and the global trend of basing work processes and decision making on complex information analyses, of which the Banking Supervision Department is part, has led to a continuous increase in the amount of data received by the Data Management Unit on an ongoing basis.

Below is a graph that presents the growth in the quantity of data[1] reported by means of the XBRL reporting standard since the launch of the system in 2017.

[1] The graph presents the number of values reported – each item of data for a particular entity for a particular date is counted once.

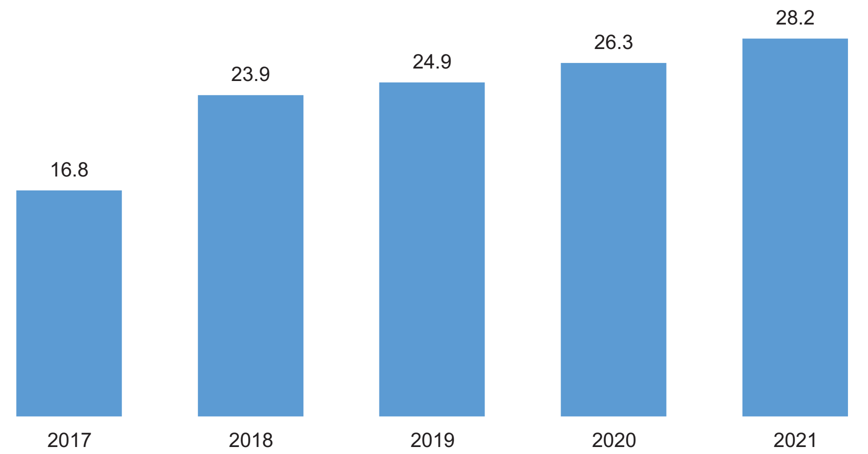
As part of the ongoing reporting, there are sometimes requests for an immediate (ad hoc) report. For example, in the case that fraud is discovered or in the case of a technological failure event or a cyber event, the bank is asked to make an immediate report to the Banking Supervision Department.[2]

Temporary report/one-off report request – This is a request for data on a specific phenomenon that is not expected to continue for a long period and therefore ongoing reporting is not justified. These reports are not received by means of the XBRL reporting standard. If, after a certain amount of time, it appears that the one-off request generates data that will be required over time, consideration is given to defining it by means of the XBRL as an ongoing reporting requirement.

For example, during the coronavirus pandemic and with the launch of the program for state-guaranteed loans for small businesses, the banking corporations were asked to submit reports on the loans provided as part of this program.

The quantity of data reported via XBRL has increased consistently since the reporting system was established.

Figure 1
Number of Data Items Reported[a] via XBRL, 2017–2021 (million)



[a] The number of valid data items, excluding errors for which reporting entities were asked to send an amended report.
SOURCE: Banking Supervision Department calculations.

[2] For further details on the immediate reporting of fraud, see Directive 808. For further details on the reporting of a technological failure event or a cyber event, see Directive 880.

In 2021, the banking corporations were asked to submit about 20 temporary reports, which were absorbed and processed by the Banking Supervision Department. Some of them include statistical data on the corporation level and some of them include specific data at the customer/loan level.

Reporting in a special situation (emergency) – There is a designated reporting directive for special situations in which the Supervisor of Banks has the option of defining tables for each corporation that are to be submitted at an increased frequency compared to ongoing reporting. The reports that are defined as those for which the frequency will be increased in an emergency include reports on market and credit risk, the deployment of branches, the availability of ATMs, liquidity risk, activity in checks, etc.

The reporting directive in an emergency also includes requests for new reports that are not part of ongoing reporting and that relate to a particular emergency situation. For example, during the pandemic the banking corporations were asked to submit data to the Banking Supervision Department on loan payment deferrals. These data helped to formulate and validate outlines for the deferral of payments on bank loans.

In 2021, and against relating to the COVID-19 crisis, about 13 corporations made more than 1,000 emergency reports that relate to five reporting directives with varying frequencies.

Part C: The time series database according to the SDMX standard

With the development of technology that makes it possible to store and process large amounts of information, and the development of Big Data and advanced analytical abilities, there is increasing recognition of the importance of proper management of data and its accessibility, in order to increase the efficiency of work processes, to improve the ability to generate insights, and to increase the effectivity of policy measures.

The growth in information and its number of sources in recent years and the desire to correctly and efficiently manage it, have highlighted the need to switch from the dispersed management of information (data silos) to the aggregation of information in one central location. This makes it possible to achieve uniformity in definitions and in the way of describing the "information about the information", namely the metadata.

Like many statistical entities around the world, in 2021 the Bank of Israel created a database of time series which brings together all of the time series data in the organization. The project was carried out by the Information and Statistics Department together with the Information Technology Department and the Data Management Unit within the Banking Supervision Department, with the goal of achieving uniformity in data definitions and in the metadata, based on the SDMX standard.[3] The creation of the time series database and the standardization of the metadata according to the SDMX standard enable the Bank of Israel to maintain uniform definitions across the various source systems, to avoid overlap between the data reported by the various sources so that every data point is stored only once, to connect between data

[3] This international standard was developed in 2001 by seven international organizations that are the predominant organizations worldwide in the gathering and dissemination of official statistics. The standard was developed in order to create a uniform standard for describing statistical data and thus to improve the processes of transferring information and statistical metadata between international organizations. For further details, see "Assimilation of the international SDMX standard in the characterization of statistical information" in Statistical Bulletin for 2021.

of different types and from different sources, and to more easily analyze the information by means of metadata characteristics.

To enable users to carry out analyses of supervisory information over time and to identify long-term trends, the data reported to the Banking Supervision Department in the form of tables undergo a process of historical concatenation, modeling according to the SDMX standard and storage in the time series database.

Storage of the supervisory information in the form of time series and their modelling according to an international standard that has been adopted by the Bank of Israel enable the use of AI tools, which provide abilities to make data visually and dynamically accessible, while presenting data from the banking system alongside financial data on the economy as a whole. Thus, end users can carry out a comparative survey, analyze trends, identify outliers and study various phenomenon quickly and easily, using designated dashboards that support the ongoing supervisory work processes.

The time series are created for each reporting corporation and stored in the time series database. In addition, aggregate series calculated by the Bank of Israel are also stored, such as an aggregate of the total banking system.

The process of creating time series and storing them in the time series database includes a process of defining information about the information, namely metadata, according to the SDMX standard.[4] This standard is based on an information model that combines the model itself—observations (measures)—and the characteristics of the information (concepts), where a closed list of values is defined for each of the information's concepts. The concepts of the data describe the characteristics of the data and essentially constitute detailed metadata (the information about the information) which can be used to identify, classify, and sort the information more easily.

During the modeling process, a group of meta-data concepts is defined for each group of time series that belong to a certain content category. For each concept, a value is chosen from the closed list of values, such that it precisely describes the significance or the manner of gathering of the data for the modeled series.

The process of modeling the data is carried out so that every series is modeled in a unique way, based on combining the characteristics in the model and the values attached to them. In other words, the result of the cross-referencing of concept values constitutes only one series.

For example, Table 1 below presents the aggregate balance sheet data for all the credit card companies, in millions of shekels, as reported in their financial statements for the fourth quarter of 2021. The group of time series that were created from the table's data belong to the content category of Financial Statements—Acquirers. Frequency, type of exposure, type of data, counterparty, and method of valuation have been defined for this content category.

During the process of creating the time series, there is a mechanism for identifying outliers and missing values. The gap in the data is usually the result of changes in the definitions of the XBRL reports or revisions of the reporting requirements. In these cases, a check is made of the economic nature of the data whose definitions have been changed. If the economic meaning of the data has been maintained despite the change in the reporting definitions, a concatenation will be carried out in the time series database between the new data reported after the change and the data reported before the change. If the economic meaning

[4] For further details on the standard, see: https//:sdmx.org/

Table 1: Total balance sheet of the credit card companies, 2021:Q4	
	Balance as of December 31, 2021
Cash and bank deposits	5046
Accounts payable due to net credit card activity	43,119
Securities	94
Other assets	2806
Total assets	51,065
Credit from the banking corporations	4688
Accounts receivable due to credit card activity	36,825
Other liabilities	3090
Total liabilities	**44,603**
Total shareholders' equity	**6462**
Total liabilities and equity	**51,065**

of the data has changed significantly, no concatenation will be carried out and a new data series will be created.

Alongside the process of concatenation and storage of the time series that are received as part of the banking corporations' reporting (raw series), there is also a process of creating calculated series that are based on raw time series. The calculated series that are uploaded into the time series database are those that are required on a regular basis by the economists in the Banking Supervision Department and their storage in the time series database increases the efficiency of work processes.

Storage of the supervisory data in the time series database is carried out under the most stringent security definitions, by means of an authorization system that is centrally managed by the Data Management Unit within the Banking Supervision Department. The authorization system is built such that time series on the different categorization levels will be accessible to certain groups of users.

The Bank of Israel is preparing to make some of the time series database available on the Bank of Israel website. To this end, each time series has been defined as to whether it can be made available to the public, such that internal users (employees of the Bank of Israel) will be able to differentiate between time series that can be exposed to the public and those for which there is only authorization for internal use.

Part D: Formulation of a data strategy and the assimilation of supportive technologies (RegTech and SupTech) as part of a future-oriented perspective

As part of the global trend of enhanced use of data, supervisory entities worldwide—including the Banking Supervision Department—are initiating processes to assimilate support technology (RegTech and SupTech) based on a future-oriented perspective.

In collaboration with the Information Technology Division at the Bank of Israel and the Digital Israel organization, the Banking Supervision Department is leading a process to formulate a data strategy that will strengthen the Banking Supervision Department's status as a data- and insight-driven supervisory entity, based on the use of advanced technology and analytics. The process of formulating the strategy is emphasizing the assimilation of a digital work space, the sharing of knowledge, the development of user-oriented investigation tools (for both internal and external users) and the advancement of AI-based and machine learning automation. This effort is intended to encourage innovative thinking and a change in orientation that will make it possible to improve analytical abilities and access while also easing the reporting burden.

The formulation of the strategy is being carried out in four stages:

Delineation of the current situation

Analysis of the starting point of use of information in the Banking Supervision Department, with a focus on the scope and content of gathered data, research capabilities of information users, technology and work processes.

Studying the steps taken in supervisory entities worldwide

An analysis of relevant case studies of similar organizations from around the world in which there is exhaustion of information and advanced analytical abilities.

In this context, processes carried out by financial regulators—including the ECB, the Banque de France and the Bank of England—were examined.

Mapping of gaps

Analysis of gaps between the optimal situation and the existing situation and identification of the main barriers to change.

Mapping of potential steps and their prioritization

Mapping of possible steps that will reduce gaps and prioritize them, which is done in regard to two aspects:

1. Creating value—Giving priority to actions that will produce significant added value to the core activity and will provide solutions to issues that arise during the gap analysis, such as presentation of the current situation in real time, identification of outliers, etc.
2. Facilitative infrastructure—Giving priority to actions that are possible as part of existing technology, while taking into account the estimated time and budget for implementation.

For example, one of the entity-level needs that arose during the gap analysis and the mapping of potential steps is the development and assimilation of natural language processing (NLP) technology. The potential applications that will improve the work of the Banking Supervision Department on the basis of this technology include the intake and automatic classification of documents and emails, the drawing of conclusions and identification of trends in text documents.

Prioritizing process for implementation is being carried out using a methodology that makes it possible to differentiate between projects that will quickly generate benefit—some of which will already be implemented in coming months—and projects that will produce high value but their implementation will take longer. These projects will be implemented by the Banking Supervision Department in the intermediate run, i.e., within two to three years.

Selected projects for implementation

Following are two projects that have been classified as quickly producing benefit:

Generation of warnings by subject – This is a tool that brings together information and data from external and internal sources and provides a warning with regard to various supervisory issues. The tool will provide warnings based on preselected laws and rules and on the basis of analytical models that use machine-learning algorithms. This project relates to various types of warnings: those related to various supervisory processes and their status, such as the input of a report from a supervised entity, enquiries not dealt with, etc.; warnings related to data reported to the Banking Supervision Department that are unreasonable or outlying, such as a statistical outlier with respect to past data or with respect to the rest of the banking system; warnings as a result of the identification of trends in the data, such as an increase in credit to a particular sector; warnings of events with supervisory significance, such as a major investment carried out by a supervised entity; and identification and estimation of immediate risks and forward-looking risks in the banking system, such as an increase in investment in a country identified as problematic.

The development of a warning system will improve the efficiency of data processing, primarily with respect to data received with high frequency or on a high level of granularity, and will reduce manual processing and analysis. Furthermore, the creation of warnings based on AI and machine learning will make it possible to generate complex insights from data reported to the Banking Supervision Department and thus will assist in the management of risk and the maintenance of the system's stability.

The accessibility of data for the public – Making information about the activity of the Banking Supervision Department and of the supervised entities accessible to the public on a frequent and ongoing basis, with the goal of increasing transparency and helping individuals make data-based decisions. Currently, supervisory information for the most part is made available on the Bank of Israel website in a raw state, by means of files in table format. This project emphasizes greater accessibility and transparency, such that the information will be made available in a more visual and innovative manner by means of charts and dashboards and at as high a frequency as possible. This project will be carried out in two stages: in the first, existing information will be made available in a more innovative and frequent manner, and in the second, additional indices will be developed and made accessible.

Box 3.5: Efforts to simplify banking products and services and make them more accessible to the public

The promotion of fairness as an organizational culture and increasing the public's trust in the banking system are among the main goals of the Banking Supervision Department. Simplifying the banks' products and services and making them more accessible is an important component in achieving these goals. Their aim is to improve the tools available to customers; to examine and understand the banking service and its terms; and to improve consumers' negotiating power, their ability to make informed decisions with respect to their financial situation, and to improve their overall situation as a result. To this end, the Banking Supervision Department is taking steps as part of its ongoing activity to benefit the public as customers of the banking system and will continue to do so in the future.

In this box, we will survey the main steps taken by the Banking Supervision Department during the past year, with the aforementioned goal of simplifying banking products and services and making them more accessible to the public and improving the effectivity of disclosure and communication between the banks and their customers. Some of these steps are intended to improve the tools available to customers in certain domains while others are intended to improve their situation in general.

Following are the issues presented in this box:

1. **Increasing competition and transparency in mortgages.**
2. **Presentation of data on activity in securities accounts.**
3. **Sending notifications to customers through communication channels and improving the effectivity of disclosure to customers.**
4. **Providing appropriate service to customers.**
5. **Advanced payment systems.**

Introduction

An organizational culture that adopts fairness toward the customer as its motto is the basis for providing fair and high-quality service to customers and increasing the public's trust in the banking system. This issues lie at the core of relations between the banks and their customers and at the focus of the Banking Supervision Department's endeavors.

The Banking Supervision Department expects every bank to adopt the value of fairness, based on an approach of placing the customer at the center. The supervisory expectation is that beyond compliance with consumer regulations, a bank will assimilate values that encourage a culture of fairness toward its customers and will embrace high-quality service as a central component in equitable behavior. There is a direct connection between fairness and the public's trust in the banking system and between the public's trust in the banking system and the banking system's stability.

The principles that stand at the center of fairness in banking include, among others, fair advertising and marketing, equity in the provision of banking services, effective disclosure and transparency, strengthening the ability to compare, effective communication between the banks and their customers, professional and available service, protection of special populations, etc.

The Banking Supervision Department has worked during the period being surveyed to achieve the goal of fairness in banking by means of new Proper Conduct of Banking Business Directives, revision of existing ones, and the distribution of letters on this subject within the banking system. This is alongside the development of a methodology for measuring fairness in banking and the encouragement of a process to evaluate it, which is currently being launched. The Banking Supervision Department will continue to consider steps to encourage fairness in banking and will work to assimilate this value within the banking system.

Following is a description of the steps taken during 2021 to simplify the banks' products and services and make them more accessible:

Increasing competition and transparency in mortgages

Taking out a mortgage is for most households the most important financial commitment they will ever take on, due to the size of the commitment and the complexity of the loan. The Bank of Israel is promoting a comprehensive change in mortgages that will make the situation easier for borrowers and will assist them in the process of taking out a mortgage. This will be accomplished in three ways: improving transparency and the ability to compare between banks; increasing simplicity and comprehensibility; and making the process more efficient.

The change, which is expected to go into effect on August 31st, 2022, focuses on improvement at three points in time and includes innovations to benefit individuals taking out a mortgage:

The stage of initial investigation

- General information on the conditions for obtaining a loan will be available to the public online.
- The banks will provide the public with an online calculator for simulated calculations, with the goal of illustrating the effect of changes in the various components and the mix of the loan on monthly payments and on the total amount to be paid by the end of the loan period. Thus, customers interested in a mortgage will be able to estimate the costs they will have to bear in the future.

The stage of approval in principle to provide the mortgage

- It will be possible to submit a request for approval in principle online and by telephone.
- Approval in principle and additional information will be provided online.
- A response to the request will be provided within five business days. In exceptional cases, of mortgages that will be defined ahead of time by the bank, it will be permitted to provide an answer within seven days, where a notification will be provided concerning the date of the response and the reason for it.
- The approval in principle will be presented in a uniform format that has been defined in a directive.
- The approval in principle will present, in addition to the mortgage option being offered by the bank, three uniform options for which the composition will be determined by the Bank of Israel. The period of the loans will be chosen by the customer.

- The uniform options have been determined based on the following guidelines: the fit to the household's preferences; coverage of a broad range of risk; and diversification of the mix in order to avoid a situation of overexposure to a particular risk factor.

Following are the compositions of the three uniform options:

a. 100 percent fixed rate, unindexed interest.
b. 33.3 percent fixed rate, unindexed interest; 33.3 percent variable prime rate interest and 33.3 percent five-year variable interest indexed to the interest rate on government bonds.
c. 50 percent fixed rate unindexed interest and 50 percent variable prime rate interest.

The approval in principle will provide uniform, clear and comprehensive information, with the goal of improving customers' decision-making ability. Among other things, the approval in principle will present the following:

a. The total expected interest (the actual cost of the credit) – a calculation of the total expected interest that takes into account forecasted changes in the interest rate based on data published by the Bank of Israel.
b. Total payment expected to be paid by the end of the mortgage period.
c. The highest expected monthly payment according to the forecasts.
d. The amount of the first monthly payment.

The provision of these data will increase the level of transparency in the mortgage transaction and will help borrowers to understand better the commitment implicit in the banks' offers. The information will be based on uniform calculation methodologies and will be made accessible in an identical way by all the banks.

During the period of the mortgage as part of weighing the worthwhileness of mortgage refinancing

As part of the information provided in order to assess the worthwhileness of early redemption, two items of data have been added: (1) "Total expected interest" which is meant to provide customers with beneficial information about the interest that applies to the mortgage and which includes within it forecasts and additional costs; and (2) "the interest rate for comparison", which is meant to allow the customer to determine the economic worthwhileness of refinancing the loan.

Note that in a previous change made by the Banking Supervision Department in 2018, it was specified that this information would be presented to bank customers on the bank's site and would be kept up to date.

In sum, the change will allow customers to understand better the terms of the mortgage being offered and the implications for future payments. It will enable them to estimate the effects of indexation and the expected changes in the future and to understand the risks implicit in the various tracks. Finally, it will allow them to compare offers from various banks wisely and more easily. The change will also enable customers to submit a request for a mortgage more quickly and more conveniently and to receive offers online and will cut down the amount of time between the submitting of a request by a customer and the receipt of offers from the banks. The aforementioned will increase customers' bargaining power during the market survey stage and the comparison between the various banks.

Following is an example of an approval in principle (translation of Hebrew original):

Approval in principle of a housing loan

Name of borrower and ID
Are guarantors required for the loan
Details of the asset
Total requested loan

Uniform basket 1	Uniform basket 2	Uniform basket 3	Offered basket
Fixed unindexed interest 100 percent	Fixed unindexed interest 33.3 percent	Fixed unindexed interest 50 percent	
	Variable prime interest 33.3 percent	Variable prime interest 50 percent	
	Five-year variable interest indexed to the interest rate on government bonds 33.3 percent		
Period (in months) Total predicted interest (including fees and forecasts) First monthly payment* Highest expected monthly payment according to forecasts** (month of the payment) Total of all payments expected by the end of the loan period***			According to the details presented below

* For the first full monthly payment.
** Note that this amount is based on forecasts derived from the capital market according to the economic situation at the time of the forecasts and it is possible that the amounts that will actually be paid will higher or lower than the presented amount. For further details, see the attached explanation page.
*** Subtracting the amount of the requested loan from this amount yields the expected payment for interest, indexation and fees.
Note: The calculations were made on the day that the approval in principle was provided and they can change according to the date on which the loan is granted.

Presentation of data on activity in a securities account

Information on a securities account is highly important to a customer and therefore the Banking Supervision Department has decided to work with the Israel Securities Authority to improve disclosure to customers, with the goal of enabling them to make wise decision as to their best investment channel, based on the examination of other investment alternatives.

According to the new directive published by the Banking Supervision Department, which will go into effect on January 1, 2023, the banks will be obligated to present information and data to customers about their securities account at the bank (both customers that receive investment advice from the bank and those that do not). The information will be presented in two ways:

1. A calculator that will be made available to customers will present the return for various periods (to be chosen by the customer and starting from daily frequency), in order to provide them with convenient access to information on the return in their securities account. The calculator will be available to the customer in his personal area, in a section that presents his activity in securities, using an application provided by the bank to its customers (such as the banking corporation's website or an app). For a customer that receives investment advice, the bank is also required to present the customer's level of exposure[1] in the portfolio, since these data are related. The calculator will be available for use by bank customers starting from January 1, 2023.

2. Once every quarter, a report will be presented to customers in a uniform format that presents the assets in their securities account and their value, a summary of transactions, the fees paid by the customer for the service and the cumulative rate of return (quarterly and relative to previous years). For customers that receive investment advice, the names of the advisors and the investment centers will also be presented, according to the format in which advice is provided, the level of risk in the securities account, and the degree of exposure to assets and foreign currency. A customer can also access periodic information that was presented in previous quarters of that same calendar year. The first quarter that will be presented after the directive goes into effect will be the first quarter of 2023.

[1] As defined in the Joint Investments in Trust Regulation (options, futures and short selling), 5761 – 2001.

Following is an example of a periodic reporting template (translation of Hebrew original):

Name of customer: Telephone number for enquiries:
Account number:

Securities account – as of [xx/yy/20zz][1]

Value of the securities account and additional assets and transactions in the account for the period of the report (from date until date)
Note that when there is activity that was not as a result of investment advice from the bank, the return also reflects the results of that activity.

Note: With respect to X% of the total assets, it may be difficult to sell them immediately.

Total assets at the beginning of the period [date]		XXXX
Acquisitions less sales of securities and financial assets	YYY	
Dividends, coupons and interest before fees and taxes	(PPP)	
Profit (loss) from an increase (decrease) in value[2]	XXX	
Total assets as of the end of the period [date]		XXXX
Tax paid	(TTT)	
Total fees collected for activity in securities	(XXX)	

Note: These amounts are deposited directly into your account.

Note: The tax paid is deducted directly from your account. The tax amounts are correct as of the date of the report.

Return on the account by period (%)[3]

	From the beginning of the year XXXX	XXXX	XXXX
Return on the account			
Return on the account (net of fees and management fees)			

Note: The return is correct for the funds that were in the account for the entire period of the calculation and therefore, in extreme situations when there are large withdrawals and contributions during the period of the return calculation, which are accompanied by volatility in the capital market, the calculated rate of return may not match the profit or loss in shekels in the account.

Sending notices to customers via communication channels and improving the effectiveness of disclosure to customers

The manner in which notifications are sent to customers is at the core of the relationship between a banking corporation and its customers, since this is one of the main channels of communication by which banking corporations provide information to their customers. The Banking Supervision Department is therefore working consistently to modify the rules for delivering notifications in order to keep up with technological developments.

During 2021, Proper Conduct of Banking Business Directive 420 – "Sending Notices via Means of Communication" was revised twice:

1. **Sending notification of presentation of a check without sufficient cover**—The first revision was intended to implement Amendment 14 to the Checks without Cover Law, 5741-1981, which establishes that if a check is presented for redemption and there are insufficient funds in the account, the bank shall send a notice to the owner of the account on which the check is drawn, to inform him of the need to deposit funds in the account. The law gives the Supervisor of Banks the power to issue directives in the matter, and Directive 420 was revised accordingly and published on February 25, 2021. The Directive provides instructions concerning the details of the notification, the addressees of the notification, the date of the notification and the channels for delivery to the customer. The new instructions went into effect on the day that Amendment 14 to the Checks without Cover Law, 5741-1981, went into effect, i.e., August 18, 2021. The mechanism specified in the law and in the directive is intended to provide the customer with a window of opportunity in which to deposit funds into the account in order to prevent the refusal to honor the check because of insufficient funds and thus avoid the implications of a check that is returned for this reason.
2. **Establishing guidelines for the efficient sending of notifications** – In view of the importance attributed by the Banking Supervision Department to the fair treatment of bank customers, and accordingly to banking corporations' and credit card companies' efficient communication with their customers, an additional revision to the directive was published on June 26, 2021. It established, among other things, the guidelines for efficiently sending notifications to customers. Following are the highlights of the guidelines:
   - The banks and credit card companies are to delineate the various notifications they send to their customers and to examine them, with the goal of choosing the most suited communication channel for sending each type of notification, according to the materiality of the information and how quickly it needs to be delivered.
   - In addition to this general instruction, a list of notifications was specified which due to their importance banks would be required to send to customers signed up for the service by two channels of communication simultaneously—one that allows for tracking, saving and printing, and another that allows immediate and accessible delivery, such as SMS.
   - In order to draw the customers' attention to notifications in their personal area and with the goal of making it easier for customers to monitor what is going on in their accounts, it was decided that customers should be presented with a clear announcement that they have new notifications waiting when they enter their personal area in the app offered by the banking corporation. The

banking corporation shall also allow its customers, to the extent that they are interested, to receive an announcement that a new notification is waiting for them in their personal area and they should have the option to easily cancel the announcement service at any time.

As part of the banking corporations' preparations for the implementation of the second revision of the directive and with the goal of optimizing this implementation, the Supervisor of Banks distributed a letter in the banking system on the subject of "Improving the effectiveness of disclosure in notifications to customers". In light of the importance that the information presented in a notification is delivered effectively and in a timely manner, also with respect to its content and form, the Supervisor of Banks emphasized in his letter the importance that the Banking Supervision Department attributes to the effectivity of disclosure and the need to choose a method of delivery that will ensure the actual notification of the customer, in a way that will reinforce the comprehensibility and effectivity of the notification. This matter was recently discussed in court rulings as well.

Providing appropriate service to the customer

It is important to the Banking Supervision Department that the banking corporations manage their business operations appropriately, that they look after their customer's interests and that they operate fairly. It views the matter of high-quality service as a central component in fair behavior. As part of this approach, the Banking Supervision Department distributed a letter to the banks on the subject of providing appropriate service to the customer. The letter was sent in view of technological developments and against the background of the COIVD-19 pandemic, as a result of which the banking corporations began making large-scale use of queuing systems. These systems have helped to regulate the arrival of customers at the branches and to shorten the waiting time there; however, the burden on the banking corporations' service centers, and in particular the telephone services, has grown. As a result, service is not always provided within a reasonable amount of time. Furthermore and in light of the increasing demand for housing loans, there has been an increased load on the banks' telephone centers resulting in a drop in the accessibility of banking services.

In his letter, the Supervisor of Banks made clear that the banks must make an effort to provide appropriate service and response to customers enquiring about the receipt of service by a variety of channels—telephone centers, digital/online channels and in the branches themselves. This includes identifying the professional and operational bottlenecks and increasing the efficiency of the work processes with customers, with the goal of meeting their needs. The banking corporations also need to examine ways of expanding the number of hours available for face-to-face meetings in the branches for services in which that is necessary, including using the time for dealing with customer enquiries more efficiently. The importance of providing appropriate service and response to all customers, regardless of the type of customer, was also emphasized. The Banking Supervision Department has made this clear in the context of housing loans and it expects that professional and accessible service will be provided to all customers in an equitable manner, with respect to both customers requesting new loans and customers seeking to refinance existing ones.

Box 3.6: Enforcement as a main component in the work of the Banking Supervision Department

- **In view of the sensitivity of financial systems to shocks and the adverse effects of financial crises on the economy, financial supervisory authorities, including the Banking Supervision Department, seek to prevent deficiencies and violations. To this end, the Banking Supervision Department works to identify the focal points of risk that change dynamically and often develop rapidly, and to focus its efforts there.**
- **Like other leading supervisory authorities, the Banking Supervision Department has, over decades, adopted a compliance approach, in accordance with international standards for effective supervision. This approach relates to enforcement on a broad scale, using a variety of means to prevent violations and incentivize compliance among the supervised entities. In this approach, punitive measures are used only when the desired level of compliance is not achieved.**
- **The enforcement activity of the Banking Supervision Department occurs on three levels:**
  - **The basic layer—strengthening controls and internal enforcement, including numerous Proper Conduct of Banking Business Directives, which set out detailed requirements in the areas of corporate governance, risk management and internal control. These are in addition to the applicable laws, such as the Companies Law.**
  - **The main layer—this involves ongoing supervisory activity to identify and rectify deficiencies. The lion's share of the Banking Supervision Department's work is devoted to monitoring, control and examination.**
  - **The supplementary layer—the imposing of sanctions is called for only when a sufficient level of compliance is not achieved or when the bank refuses to fulfill the requirements of the Banking Supervision Department.**

Introduction

> "Regulation that is just words on a page of rules—without bringing them to life with practical measures for enforcement and supervision—is not regulation in the full sense of the word, and certainly not with respect to judicial needs."[1]

The words of Supreme Court Judge Daphne Barak-Erez express a fundamental principle in the work of the Banking Supervision Department, alongside the work of regulation itself (determining policy and issuing directives). The main part of the Banking Supervision Department's resources is devoted to supervision and enforcement, with the goal of achieving its statutory goals[2], namely ensuring the proper management of the supervised entities;[3] preventing an adverse impact to their ability to fulfill their commitment to

[1] Verdict in: Supreme Court 1893/11 **National Organization of Security Enterprises v. National Labor Court** (2015).
[2] Paragraph 5(c1) of the Banking Ordinance.
[3] Banks, auxiliary banking corporations and acquirers (credit card companies).

the public, or in other words maintaining the stability of the supervised entities; supporting the financial system and protecting the interests of its customers.[4]

With regard to regulatory enforcement, it is conventional to differentiate between two main approaches: the punitive approach and the compliance approach. The former relates to enforcement in a relatively narrow sense, as in the use of punitive means after the fact (that is, after a violation has been discovered), and where the goal is deterrence. The compliance approach relates to broad enforcement, which involves a variety of means, starting from those intended to prevent the occurrence of violations as well as incentivize compliance by the supervised entities. This includes the use of soft measures, such as persuasion, education and consensus. Punitive measures are employed only when the desired level of compliance is not achieved.[5]

The approach adopted over the decades by the Banking Supervision Department is that of compliance, as in the case of the leading banking supervisory authorities and in accordance with the international standards for effective supervision.[6] The modern approach to enforcement relates to the concept of "enforcement" in a broad sense, which includes all of the means that could lead to the fulfilment of laws and regulations—not just sanctions but also a variety of incentives that lead to compliance with the law and without sanctions.[7]

In view of the sensitivity of the financial systems to shocks and the destructive effect of financial crises on the economy, the financial supervision authorities, including the Banking Supervision Department, seek to prevent the occurrence of deficiencies and breaches, with the goal of preventing or mitigating the harm to the public. This is the main objective of their efforts. To this end, the Banking Supervision Department is working to identify the focal points of risk, which change dynamically and often develop rapidly, and to focus their efforts there. The naturally limited resources of a supervisory body are first and foremost allocated to dealing with the largest risks, according to a professional and independent risk assessment, which is updated from time to time. This is in contrast to the investment of effort in the identification of violations after they have occurred, and imposing sanctions that do not achieve the main goal of financial supervision.

> "The risk-based process targets supervisory resources where they can be utilized to the best effect, focusing on outcomes as well as processes, moving beyond passive assessment of compliance with rules."[8]

4 The Consumer Protection Law, 5741-1981, does not apply to banks and acquirers, nor to insurance companies and providers of financial services or payment services (Section 39 of the law). The Banking Supervision Department, according to its powers as established in the Banking Ordinance and the Banking (Service to the Customer) Law, 5741–1981, serves as the authority meant to protect consumers of banking services.

5 See Dr. Sharon Yadin, **New Regulation: A Revolution in Public Law** (Nevo, 2018), p. 36. [Hebrew]

6 The Basel Core Principles for Effective Banking Supervision (BIS) constitute an accepted international standard for supervision of banks in advanced economies (hereinafter: BCP).

Basel Committee on Banking Supervision, BCP - Core Principles for Effective Banking Supervision (Bank for International Settlements, 2019).

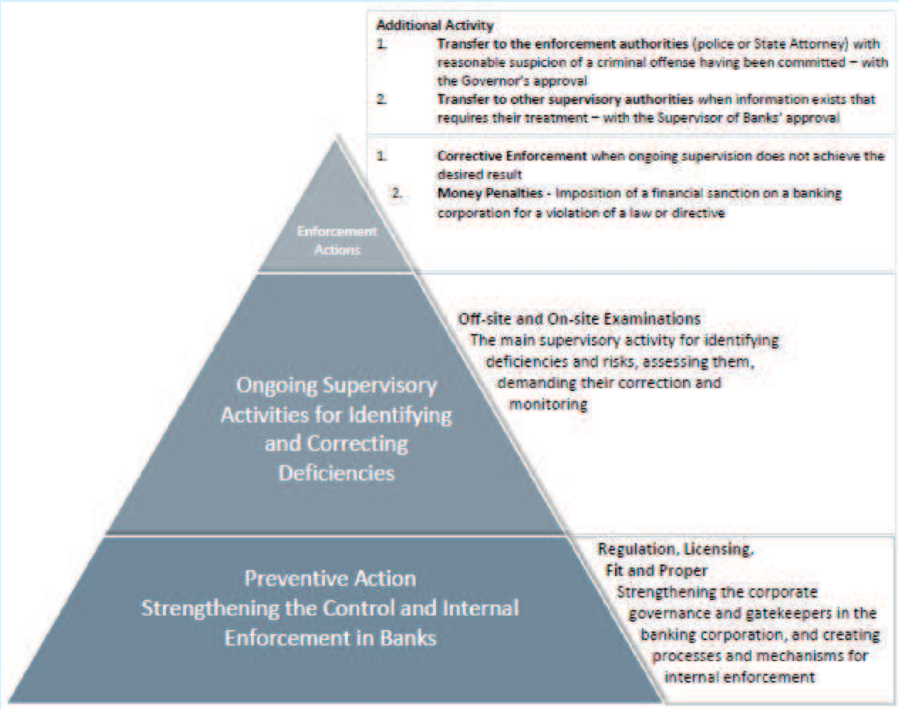
7 For example, Michal Agmon and Davida Lachman-Messer, The Enforcement Theory in the New Companies Bill, Mishpatim 26, 5756, p. 552. [Hebrew]

8 BCP, paragraph 01.9.

According to the compliance approach, punitive regulatory activity by means of sanctions is an additional and supplementary tool, which is reserved for those cases in which the supervised entity is not sufficiently compliant and is not working to resolve a problem.

The supervisory enforcement pyramid

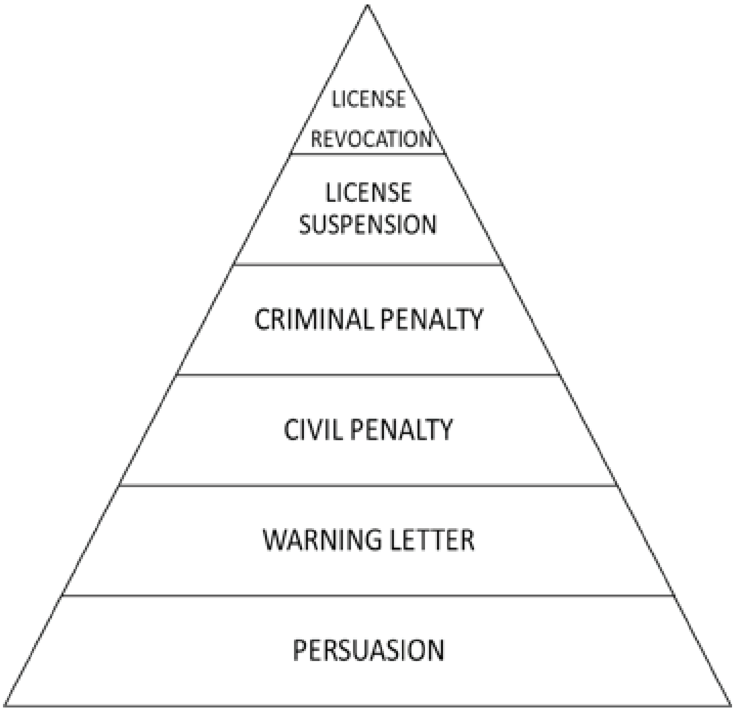
The diagram below, which is taken from "Supervision, Correction and Enforcement Actions Policy" published by the Banking Supervision Department,[9] illustrates the supervisory compliance approach, which is based on three main layers:[10]



Every supervisory authority must design the enforcement pyramid that is suited to the industry for which it is responsible.[11] As noted, the sensitivity of the banking system and the financial system to shocks, and the scope of the damage that may be caused in the case of major failure, require that the Banking Supervision Department invest significant efforts in prevention. As such, the enforcement pyramid includes a basic layer, which is composed of highly important constructing of control and enforcement mechanisms within the banking system, the goal of which is to create organizational discipline and a regime of compliance,

[9] https://www.boi.org.il/en/BankingSupervision/SupervisorMethod/Documents/202217en.pdf
[10] Ibid. p.10.
[11] Dr. Sharon Yadin, "Television channels: assessment of the enforcement model sued by the Second Authority", in "Regulation in Israel: Values, Effectivity and Methods" (2019) (eds. Ayal Tevet and Yizhak Gal-Nur), p. 327.

and thus to prevent violations. This includes filtering candidates for senior positions in the banking system and the strengthening of corporate governance; the management of risk, including compliance risk, using three lines of defense; and the creation of mechanisms to maintain gatekeeping and internal enforcement processes, including a deterrent disciplinary process. Apart from this layer, which characterizes the financial sector, the enforcement pyramid of the Banking Supervision Department is aligned with the widely accepted Ayres and Braithwaite Enforcement Pyramid[12] which appears frequently in the academic and administrative literature on regulatory enforcement and includes not only criminal punishment, but also persuasion and warning and when necessary the imposition of various sanctions.[13]



Source: Ian Ayres and John Braithwaite, Responsive Regulation – Transcending the Deregulation Debate, Oxford University Press, 1992, p. 35.

[12] The upper part of the regulatory enforcement pyramid includes license suspension or revocation (rare sanctions that are reserved for cases of banks in failure or close to failure, which is beyond the discussion here). See Ian Ayres and John Braithwaite, Responsive Regulation – Transcending the Deregulation Debate, Oxford University Press, 1992, p. 35.

[13] Criminal punishment, when necessary, is carried out by criminal enforcement mechanisms rather than the Banking Supervision Department. In cases where there is a suspicion of a criminal offense, the Banking Supervision Department conveys the information to the Attorney General, with the approval of the Governor.

Practical policy implementation

The basic level—strengthening control and internal enforcement

Many Proper Conduct of Banking Business Directives[14] provide detailed requirements in the areas of corporate governance, risk management and internal control and they apply in addition to the law, such as, for example, the Companies Law. Alongside risk-taking position holders, the management of a supervised corporation includes gatekeepers who deal only with risk management, supervision and control. The Banking Supervision Department has created independent mechanisms to encourage the independent exercise of discretion among gatekeepers. The supervisory requirement is that all gatekeepers and those involved in internal enforcement within the supervised corporations operate in an efficient and focused manner to detect and correct deficiencies. This involves taking the initiative, the independent exercise of discretion, the drawing of conclusions, the implementation of corrective measures, and the reporting of major deficiencies and the steps taken to correct them to the Banking Supervision Department. Nonetheless, the Banking Supervision Department does not rely only on the activity of the supervised entity's internal mechanisms, but itself implements a broad range of supervisory activities, as will be described below.

The use of a fit and proper test to approve candidates for senior positions in the banking system—with respect to both professional suitability and personal integrity—is meant to create a layer of professional and upstanding senior managers and gatekeepers.

The main layer—ongoing supervisory activity to identify and correct deficiencies

The lion's share of the Banking Supervision Department's work is devoted to monitoring, control, and examination. The Banking Supervision Department uses various methods to gather information: checks, surveys and examinations; analysis and assessment of information reported by the supervised corporations according to the requirements of the Banking Supervision Department; handling of public enquires and complaints from employees in the banking system, including anonymous complaints; and the gathering of information from external sources. The aforementioned information is monitored and analyzed consistently, with the goal of identifying weaknesses and deficiencies in the functioning of the supervised entities and bringing about their rapid correction. As part of this activity, the Banking Supervision Department provides instructions on how to correct the problems, including a specific problem in conduct, the correction of presentation in the banks' financial statements, compensation of customers (to the extent that the deficiency has caused them damage), changes in the compensation mechanism, an increase in capital, and even taking measures against individuals.[15] Part of the aforementioned activity includes supervision over the functioning of the board of directors, senior management, and the gatekeepers in the

[14] For example, Directives 301, 301A, 305, 307, 308, 308A, 310, 350, 357, 360, 361, and other directives, as well as sections in additional directives that discuss the function of gatekeeping and subjects that are relevant to risk management, a control environment, and internal control.

[15] Supervision, Correction and Enforcement Actions Policy, paragraph 4.2, page 14–16; with regard to measures of a personal nature, see Box C on page 18–20.

supervised entity, as well as the quality of corporate governance and internal auditing, including internal enforcement mechanisms.[16]

The supplementary level—The imposing of sanctions

If a bank fulfills the requirements that apply to it, there is no need to impose sanctions, apart from cases of significant violation of compliance. The use of sanctions is required only when a proper level of compliance is not achieved or the bank refuses to fulfill the Banking Supervision Department's requests. The words of Dr. Sharon Yadin are applicable in this case: [17]

> "…The choice of a regulatory tool for enforcement should be made in response to the behavior of the supervised entity with respect to the obligations imposed on it ("tit-for-tat", a kind of carrot and stick system) and the degree to which the regulatory goal is realized. When there is a deterioration in the supervised entity's level of compliance, one should move up the pyramid to more penalizing tools. In contrast, when there has been a positive change in the level of compliance, one should move down the pyramid from the deterrence approach to the tools belonging to the compliance approach (i.e., persuasion and warning)."

At this level, the Banking Supervision Department has two main powers available to it: the power to enforce the correction of deficiencies or to enforce the prevention of adverse impact—a kind of "positive commandment" and "negative commandment"—and sanctions that can be imposed when the "commandments" are not fulfilled, as well as the option of imposing financial sanctions—the power to impose money penalties for noncompliance with directives.

In general, it is sufficient that the power to impose sanctions exists and that the Banking Supervision Department always has the option of moving up the pyramid in order to create deterrence and encourage compliance among the supervised bodies. Thus, in practice these measures only need to be used infrequently.

The power to impose financial penalties for noncompliance is used according to the considerations of materiality and supervisory deterrence.[18]

In extreme and anomalous situations, a violation of the law or a violation of directives may be detected during inquiry of a failure that has already occurred. In this situation, the Banking Supervision Department takes into consideration the reasons for the development of the failure, including the degree of responsibility of the relevant position holder, the managers or the employees of the supervised entity.[19] A large proportion of sanctions imposed on key officers at US banks, for example, involves serious failure events, including

[16] Thus, for example, a large-scale examination process at all the banks was completed during the past year. Its purpose was to check and assess the actual functioning of the internal enforcement mechanisms with regard to fraud and other outlier events. For a survey of this activity, see:
https://www.boi.org.il/en/BankingSupervision/Survey/Documents/202127_en.pdf

[17] Yadin, Dr. Sharon (2019) p. 44.

[18] ibid., Supervision, Correction and Enforcement Actions Policy, Section 5.2, page 21–24.

[19] For example, the submitting of a criminal complaint in the case of the Chairman of the Board of Bank Hapoalim and assistance in the investigation and his prosecution.

the collapse of a bank, which are exceedingly rare in Israel. This is not to imply that every failure event should necessarily lead to the imposition of sanctions; sometimes risks are materialized even without there being any violation of the law or of the directives. In any case, the issue of responsibility for failure events is determined by the Bank of Israel and the Banking Supervision Department, in consultation with the appropriate legal authority.

Looking to the future

The Banking Supervision Department's policy reflects a desire to increase the effectiveness of enforcement, and when necessary, to enhance the use of financial sanctions.

Furthermore, it is the intention of the Banking Supervision Department to diversify and expand its powers in the area of sanctions. This will be accomplished by an amendment to the Banking Ordinance in the following areas: the possibility of imposing financial sanctions for the violation of Reporting to Banking Supervision directives; the possibility of imposing financial sanctions for nonfulfillment of a requirement included in an examination report; and the possibility of imposing a financial sanction for a delay in the submission of requested information to the Banking Supervision Department.

Box 3.7: Activities of the Banking Supervision Department regarding compliance and money laundering

- **The Banking Supervision Department works continuously to adjust supervisory processes according to the changes and developments in the operating and risk environments in the areas of compliance and money laundering, including the encouragement of innovation in the banking sector. Among other activities, the Banking Supervision Department frequently updates the regulatory framework in accordance with changes that occur in international standards in this area and developments in the business, technological and digital environment. Thus, for example, in 2021 the Banking Supervision Department's directives were revised according to the changes and developments in the payment world (payment apps and activity in virtual assets) and in the operating environment, while exemptions were granted in the management of an account to regulated licensed financial entities whose activities are subject to the Prohibition on Money Laundering Order.**
- **Leading countries have increased their efforts to eliminate unreported capital and tax evasion, including intense activity to identify funds held offshore. Accordingly, the obligation imposed by law on the banks to examine the activities of customers in their accounts has become markedly more stringent, with the goal of identifying suspicious activities, reporting them and in some cases preventing them. Banks that are not making the necessary efforts are exposed to the possibility of fines and significant other sanctions. As a result, there has been increasing friction between banking corporations and some of their customers, since because of the aforementioned activity the banks are carrying out more in-depth know-your-customer processes and are seeking to obtain explanations of fund transfers carried out to and from their customers' accounts.**
- **The Banking Supervision Department uses a variety of tools to assess the organizational compliance culture and the sufficiency of resources allocated to it, to follow the compliance risk to which the banking system is exposed, and the manner in which controls and quality monitoring systems are assimilated within it, according to the risk level and in order to better structure the regulatory directives in this area.**
- **Financial crimes are becoming more sophisticated and challenging as a result of the rapid pace of technological change worldwide. Therefore, the Banking Supervision Department views it as important that the banking corporations work to improve and upgrade their systems and controls.**

The Banking Supervision Department's activity in the area of anti-money laundering and countering the financing of terrorism

Apart from the Banking Supervision Department's ongoing monitoring of developments and events in each of the banks, and pursuant to examinations carried out in previous years in this area, the Banking Supervision Department in recent years has carried out a series of focused examinations of various banking corporations in areas that were identified as high risk with respect to money laundering and financing of terror, such as, for example, accounts with intensive cash activity or intensive cross-border wire transfers, and examinations related to the prohibition of terrorism financing.

In this context, the Banking Supervision Department is working to formulate a supervisory strategy regarding anti-money laundering and countering the financing of terrorism (AML/CFT). The goal is to provide a public expression, among other things, of its supervisory functions and objectives as part of the fight against money laundering and the financing of terror, and of the use of supervisory tools according to a risk-based approach.

The Banking Supervision Department's activity in this area also includes:

The sectoral risk assessment of the banking system, in accordance with the FATF recommendations. The FATF (Financial Action Task Force) is a leading international organization that determines the international standards in the fight against money laundering and the financing of terror, and it periodically examines their application in the various countries. As part of this monitoring, in 2020 the FATF asked Israel to update its AML/CFT national risk assessment, which was previously carried out in 2017. In this context, each financial regulator was required to carry out a revision of the risk assessment for the entities that they supervise. The Banking Supervision Department was asked by the Israel Money Laundering and Terror Financing Prohibition Authority (hereinafter: the Authority) to lead the workgroup of the financial regulators in order to formulate the risk assessment for the financial system. The Banking Supervision Department assessed the main focal points of risk, both existing and emerging, to which the banking system is exposed in the AML/CFT area. The Banking Supervision Department's recommendations on the national level were submitted to the Authority. The findings of the risk assessment were published in November 2021.[1]

As part of the national risk assessment, a national risk assessment in the area of terror financing in Israel was carried out separately. It was led by the National Bureau for Counter Terror Financing of Israel (NBCTF) and was carried out by all of the authorities in Israel that deal with the prevention of terror and the financing of terror. In this context, the Banking Supervision Department carried out a risk assessment for the banking system in the area of terrorism financing. The findings and recommendations were submitted to the NBCTF and the Authority with the goal of establishing a national policy and orders of priority in the area of terror financing according to a risk-based approach, with emphasis on the minimization and effective management of risks to which the banking system is exposed in this area. The findings of the national risk assessment in the area of terror financing have yet to be published.

The FATF examination report for the State of Israel—December 2018. The Banking Supervision Department attributes great importance to the adoption of the findings and recommendation of the examination report within the work of the Banking Supervision Department. Accordingly, the Banking Supervision Department considered the changes required in order to implement the findings, with emphasis on high-priority measures and the recommendation of the FATF.

1 https://www.gov.il/en/departments/General/risk-nra

Regulatory activity—The main channels of regulation in general, and in the area of compliance in particular, are issuing Proper Conduct of Banking Business directives, FAQs that include clarifications and positions taken by the Banking Supervision Department in response to issues raised by the banking corporations with respect to the implementation of the relevant laws, and supervisory letters on a range of subjects related to compliance and to the prohibition on money laundering. The Banking Supervision Department promotes AML/CFT regulatory activity, with the goal of strengthening the management of compliance risk among the banks and easing the activity of specific groups with the banking system in Israel. Thus, for example, in recent years a number of major revisions have been made to Proper Conduct of Banking Business Directive no. 411, (hereafter: the Directive), which deals with the management of AML/CFT risk.[2]

1. **Uniform supervisory regulation was formulated with respect to the process of identifying and verifying customers when providing payment services by banking corporations.** The regulation establishes that subject to certain constraints set out in the Directive, banking corporations may be exempted from part of the obligations included in the Money Laundering Order that applies to them and that alternative arrangements can be put in place. The background to this regulation is the development in Israel of advanced payment services in recent years, such as payment apps, with respect to both the scope of activity and possibilities for carrying out payments as part of the purchase of goods and services from businesses. In this context, modifications were made to the identification and verification requirements that apply to the banking corporations when providing payments services, the level of risk and the characteristics of the payment activity.
2. **Requirements were established in the management of AML/CFT risk in the context of providing payment services for activity in virtual currencies.** The activity in virtual assets involves various risks, and as a result, the global and domestic banking spheres view this activity as high-risk, including AML/CFT risk. The Directive creates guidelines that will allow the banking corporations to manage this risk in a cautious and meticulous manner while enabling customers to deposit funds that originate in activity in virtual currencies into accounts that are managed at the banking corporations. According to the Directive, the banking corporations will be required to carry out a risk assessment and will formulate policy and procedures for the transfer of funds whose origin is connected to virtual currencies. Consideration will be given to a risk-based approach and the identity of the virtual currency service provider. The banking corporations will also be required to carry out more stringent identification and monitoring processes with regard to this activity and in certain cases to examine the source of the funds that have been used to purchase the virtual currency, and the route the funds have taken from the time of purchase until conversion into a fiat currency (legal tender) and its deposit in the customer's account at the banking corporation.
3. **Modifications were made to the recommendations of the FATF.** The AML/CFT examination report submitted by the FATF in Israel in December 2018 indicated that there were some gaps between the international standards and the existing directives in Israel. These gaps were dealt with

[2] https://www.boi.org.il/en/BankingSupervision/SupervisorsDirectives/ProperConductOfBankingBusinessRegulations/411_et.pdf

in the revision of Directive 411. As part of the revision of the directive, the Banking Supervision Department made adjustments in line with the FATF recommendations, including with respect to the recording and verification of identifying details of the recipients in electronic transfers originating outside of Israel, and a requirement that the banking corporations provide details of electronic transfers within Israel immediately upon a request from enforcement authorities.

4. **Exemptions were issued with regard to the banks' obligation to record the beneficiaries and controlling shareholders of accounts of regulated financial entities (credit service providers and credit intermediation platforms) that have been granted a license by the Capital Market Authority and that are subject to the Prohibition on Money Laundering Order.** The goal is to ease the management of accounts by these entities at the banks. **Steps were taken to encourage competition and innovation in the banking system in Israel and to mitigate the challenges facing fintech companies**, including their interactions with the banking system. This is in view of, among other things, the challenges faced by fintech companies in their interactions with the banking system when opening and managing an account. Therefore, the Banking Supervision Department has taken a series of steps intended to eliminate barriers and ease the entry of fintech companies into the world of banking and payments. These primarily include the issue of guidelines to the banking corporations pursuant to the guideline issued in April 2018 and in view of the legislation of the Prohibition on Money Laundering Order for financial-asset service providers. According to the guidelines, each of the five large banking corporations was required to revise its policy regarding interaction with customers who are regulated financial-service providers, among others. This was with emphasis on the quantity of information required from the financial entity in order to manage risk and the restriction on the type and purpose of financial-service providers' activity and in particular those who are involved in providing a financial-asset service; the continuing operation of a help desk (on the Bank of Israel's website), the goal of which is to assist companies that are encountering problems in the opening or managing of a bank account;[3] operation of a fintech forum whose purpose is to facilitate open communication and understanding of the business needs of fintech companies as providers of services in the world of open banking; and managing an ongoing discourse with entrepreneurs and investors in fintech companies, which is helping to focus our activity to remove barriers and create facilitative regulation in these developing areas. As part of the notable challenges to the banking system in managing the risk inherent in the activity of the fintech companies in the providing financial-asset services—which has been classified as high-risk in the AML/CFT national risk assessment for 2021—the Banking Supervision Department will continue its efforts to remove regulatory barriers that these companies face in their interactions with the banking system.

5. **Exemptions were issued from certain obligations of the AML Order in order to allow for remote signup by customers who manage an account at the banking corporation for the purpose of investment portfolio management services.** Based on the low assessed AML/CFT risk in the case of the opening of a managed account by a customer that already manages an existing account, the Banking Supervision Department has issued certain exemptions from some of

[3] Link to the help desk: Fintech-pikuah@boi.org.il

the requirements included in the Order, for the purpose of remote signup of existing customers to investment portfolio management services.

6. **A draft letter to the banking system was published on the subject of salary payments to Palestinian workers by means of bank transfers.** As part of a broad national effort by several government ministries, and with the goal of ending the widespread use of cash in the payment of salaries to Palestinian workers[4], the Bank of Israel has sent a draft to the banking system to make preparations for the payment of these salaries by means of bank transfers from the accounts of their employers, as part of the management of AML/CFT risk.

7. **In addition, the regulatory coverage that will apply to the activity of the government company for correspondence services is being formulated.** Banking contacts between Israel and in the Palestinian Authority are currently based on correspondence banking provided by Bank Hapoalim and Discount Bank, which represent the banks that operate in the Palestinian Authority that have activity in the Israeli payment and settlement systems. In 2019, a government company called Correspondence Services Ltd. was created following a government decision on the matter. The goals of the company and its scope of activity according to the government decision are to provide representation services to the Palestinian banking system within the payment system in Israel, including the check clearing, Masav (ACH) transfers, and transfers of cash. The company will be supervised by the Governor of the Bank of Israel and the Supervisor of Banks according to the powers provided to them. In recent months, the Banking Supervision Department has been examining the main risks inherent in the company's activity and has decided on the format of supervision and the processes of enforcement that will apply to the company's activity. It is also working on a number of Proper Conduct of Banking Business Directives that will apply to its activity, in view of, among other things, the fact that it is a government company that is subject to the instructions of the Government Companies Authority in a number of areas.

[4] The payment of salaries in cash has adverse economic consequences, and in particular the encouragement of the unreported economy, and there is a concern regarding the violation of workers' rights, as well as implications for financial inclusion.

Appendix A Supervisory Directives issued in 2021[1]

January 10 **Proper Conduct of Banking Business Directive 311 "Credit Risk Management"**

In view of the duration of the pandemic and the continuing restrictions on movement in certain areas of the public domain, it appears that the low level of productivity is hindering the timely issuing of financial statement. Therefore, it was decided that in the case of a borrower who is a small or micro business, "the report shall be considered updated if submitted within 14 months from the date of the financial statement."

Proper Conduct of Banking Business Directive 315 "Industry indebtedness limitation"

The revision states that the liabilities of the construction and real estate industry shall not exceed 26 percent of the public's liabilities to a bank (replacing the previous limit of 24 percent). This will allow the banks to increase their supply of credit to construction projects in accordance with their risk policy and risk appetite.

Validity of the change – five years.

Amendment to Proper Conduct of Banking Business Directive 315 "Industry indebtedness limitation"

The definition of "indebtedness" was revised such that the liability an industry for which the bank has acquired protection will be classified as credit protection that is valid for purposes of credit risk reduction according to the industry of the protection provider.

January 18 **Letter on "Adjusting the price lists for advanced technology"**

The Banking Supervision Department contacted the banks and the credit card companies with regard to the pricing of banking services, in view of technological advancement in the banking system. In its letter, the Banking Supervision Department referred to the position that was submitted on its behalf in class action suit 920-09-15 with respect to the fee for "producing or printing documents found in the computerized database at the customer's request", and which referred to its position in class action suit 15282-02-10. In light of the broad implications of the Banking Supervision Department's position on this matter, it informed the banks in order that they examine the pricing of services accordingly.

January 31 **Amendment to the Reporting to the Public directives with respect to expected credit losses on housing loans**

Pursuant to the adoption of Reporting to the Public directives on the accepted accounting principles in the US with respect to expected credit losses (CECL), the amendment and the update of the FAQ file make clear how the rules should be adopted in order to measure credit loss provisions for housing loans.

[1] The full and binding description of regulatory actions appears on the Bank of Israel website.

February 2 **Revision of Proper Conduct of Banking Business Directive 202 "Regulatory Capital", Proper Conduct of Banking Business Directive 203 "The Standardized Approach – Credit Risk", Proper Conduct of Banking Business Directive 314 "Sound Credit Risk Assessment and Valuation for Loans", and Proper Conduct of Banking Business Directive 329 "Limitations on Issuing Housing Loans"**

Pursuant to the Reporting to the Public directives with respect to the adoption of accepted accounting principles in the US for expected credit losses (CECL), the Proper Conduct of Banking Business Directives were revised in order to cancel the requirement to maintain a group provision at a minimum level of 0.35 percent due to housing loans and in order to cancel the requirement to maintain a minimum provision for housing loans according to the extent of the arrears. Furthermore, the directives were revised in order to require the banks to deduct housing loans that are classified over time as nonperforming loans from their Tier 1 Equity Capital, with the goal of reflecting the difficulty in relying on collateral in the case of housing loans that are nonperforming and which have not been realized over time for supervisory purposes.

February 4 **Publication of Proper Conduct of Banking Business Directive 311A – "Consumer Credit Management**

This directive was issued following the expansion of household credit, which involves the risk of an excessive debt burden, particularly among the lower income deciles. It brings together the Banking Supervision Department's requirements of the banking system with respect to credit to customers in the consumer segment. It supplements the directives and instructions issued by the Banking Supervision Department in this regard in recent years.

The directive was written as part of the Banking Supervision Department's efforts to increase the banking system's fairness and transparency in its relations with customers. It relates partly to the following areas: an appropriate organizational culture; policy and procedures to ensure proper and fair credit marketing processes, particularly processes for the proactive marketing of credit; and credit approval processes that include, among other things, the obligation to provide credit according to the borrower's ability to repay the loan (alongside the borrower's own responsibility to manage his finances). The directive was written in collaboration with the Capital Market, Insurance and Savings Authority, with the goal of creating consistent and uniform standards and guidelines of fairness in consumer credit from all credit providers. The directive went into effect on November 4th, 2021. The clauses relating to the marketing of consumer credit went into effect on May 4th, 2021.

February 24 **Letter on "Assistance to women of indeterminate status as part of the Financial Accessibility Covenant"**

The Financial Accessibility Covenant is a set of voluntary guidelines adopted by the banks and credit card companies, at the initiative of the Association of Banks and with the support of the Banking Supervision Department. It is meant to provide financial guidance and assistance to abused women, including women of indeterminate status. This letter relates to assistance in opening an account.

February 25 **Amendment to Proper Conduct of Banking Business Directive 420 - "Sending Notices via Means of Communication"**

Following the adoption of Amendment 14 to the Checks Without Cover Law, 5741–1981, which established an obligation to notify a customer in the event that a check has been presented for redemption and there are insufficient funds in the account to cover it, and authorized the Supervisor of Banks to issue directives on the matter, the Directive was amended. The amendment implements this authorization and specifies the details, addressees, and timing of the notification, and the manner in which it can be sent to the customer. The amendment went into effect when Amendment 14 to the Checks Without Cover Law, 5741–1981 went into effect, on August 18th, 2021.

March 22 **Proper Conduct of Banking Business Directives 367 "E-Banking" and 420 "Sending Notices via Means of Communication"**

The exemptions specified in the directives are no longer necessary since the matter was dealt with in the FAQs of the directives.

May 9 **Letter on "Increasing the awareness of fee discounts for individuals with special needs"**

In view of the importance of informing customers about the fee discounts for which they are eligible, and with the goal of assisting customers in fully utilizing their rights, the Supervisor of Banks contacted the banks in order that they inform these customers accordingly. At the same time, the Supervisor of Banks contacted the National Insurance Institute and the Ministry of Defense with a suggestion to consider appropriate ways of informing these customers of the fee discounts. This is based on the idea that informing the customer at the time he becomes classified as handicapped will be the most effective method.

June 6 **Amendment to Proper Conduct of Banking Business Directive 420 "Sending Notices via Means of Communication"** The purpose of the amendment is to adapt the directive to technological developments, improve service, and increase the effectivity of sending notifications to the banks' customers. Among other things, the amendment establishes that the bank will choose the appropriate channel of communication for sending a particular notification to a customer, according to the relevance of the information and the speed necessary for its delivery. In addition to this general instruction, the amendment specifies a list of notifications that are sufficiently important for the bank to send by two parallel channels of communication: one that allows for monitoring, saving, and printing and another that will ensure immediate and accessible delivery, such as by SMS. Furthermore, in order to attract the customers' attention to the notification in their personal area and with the goal of making it easier for customers to monitor the activity in their account, it was decided that a warning will appear in the bank's app when the customer enters his personal area, informing him that he has new notifications. Furthermore, the bank is required to enable the customer to receive a message that there is a new notification in his personal area, to the extent that they are interested, and also to allow the customer to easily and quickly cancel the receipt of such messages at any time.

June 16 **Revision of Proper Conduct of Banking Business Directive 336 "Pledging Assets of a Banking Corporation"**

In view of the increasing scope and variety of activity for which the banks require the pledging of an asset, the quantitative restriction on pledged assets was removed and replaced by a requirement to appropriately manage the pledging of assets.

June 21 **Revision of Proper Conduct of Banking Business Directive 359A "Outsourcing"**

The directive was revised so as to permit proactive contact with a household in order to request that they contact the bank, subject to the bank implementing the requirements specified in Directive 311A "Marketing of Consumer Credit".

Proper Conduct of Banking Business Directive 222 "Net Stable Financing Ratio"

The directive concerning the net stable financing ratio, which is based on the Basel Committee recommendations, establishes a minimum net stable financing level for the banks. The net stable financing ratio is meant to improve the resilience of the banks' liquidity risk profile in the long term, by requiring the banks to maintain a stable financing profile according to the composition of their balance-sheet assets and their off-balance-sheet activities.

June 30 **Letter on "Improving the Effectivity of Disclosure in Notifications to Customers"**

As part of the groundwork to implement the revision of Proper Conduct of Banking Business Directive 420 on "Sending Notices via Means of Communication", which in part provides the guidelines for effectively sending notifications to customers, the banks and credit card companies are required to map the variety of notifications that they send to their customers and to assess them. As part of this effort, and in view of the importance of the effective and clear delivery of the information reported in a notification, including from the perspectives of both content and format, the letter emphasized the importance that the Banking Supervision Department attributes to the effectiveness of disclosure.

July 1 **Banking (Customer Service) (Transferring A Customer's Financial Activity Between Banks) (Amendment), 5781–2021**

As part of the groundwork for implementing paragraph 5b1 of the Banking (Service to the Customer) Law, 5741–1981, an amendment was made to the banking rules published in 2019 regarding moving between banks. As part of the amendment, provisions regarding the transfer of the customer's financial and checking activity were added, and paragraphs dealing with the types of financial activity that will be transferred even after the date of the customer's transfer (the routing period) were revised, in accordance with the Governor's authority. The rules regarding the customer's checking activity were revised further to legislative amendments to the Settlement of Checks (Scanning, Storing and Producing an Output of the Digitized Check) Rules, 5777–2016 and the Check Settlement (Storage of Checks) Rules, 5777–2016, which were required in order to implement the provisions of the law.

July 20 **Proper Conduct of Banking Business Directive 355 "Business Continuity Management"**

In view of government decisions to cancel some of the restrictions on activity and other exemptions, the exemptions provided as part of the temporary directive no longer apply. As such, all banking system branches will be open to receive customers and they will provide all of the services provided prior to the pandemic.

July 25 **Revision to Proper Conduct of Banking Business Directive 367 "E-banking"**

In view of the experience accumulated in the Israeli banking system in recent years with respect to the remote opening of an account, particularly the experience accumulated in the use of remote identification and verification technologies in order to open an account online, the Banking Supervision Department, in accordance with the guidelines in the directive and after consulting with enforcement agencies in Israel and with the appropriate officials in the Ministry of Justice, decided to allow a bank to suggest to its customers to carry out activities in an account that is opened remotely and which is not classified as high-risk with respect to money laundering and the financing of terrorism, immediately upon opening the account, such that the customer will not have to wait until a representative of the bank carries out a manual background check. Instead, the bank will carry out a sample check of these accounts as soon as possible after they are opened.

July 26 **Proper Conduct of Banking Business Directive 331 "Distribution of Dividends by Banking Corporations"**

In view of the improvement in economic activity and increased return to its precrisis level, the banks restored their capital buffers to previous levels. However, there is still a risk that the crisis may continue to have an effect. Therefore, banks have been allowed to distribute dividends, but only in a limited manner. The Banking Supervision Department's position is that the distribution of an amount exceeding 30 percent of its 2020 profits will not be viewed as prudent capital planning. The Supervisor of Banks expects that the banks will continue to use their capital and liquidity surpluses in order to provide further credit and support economic activity, rather than to pay a dividend, particularly in view of the fact that the banks exploited the exemption that allow them to reduce their capital requirements.

Proper Conduct of Banking Business Directive 329 "Limitations on Issuing Housing Loans"

In view of the continuing crisis and its effect on the incomes of the self-employed in 2020, the self-employed may not be able to meet the limit on the "payment-to-income ratio" as specified in the directive when taking out a housing loan in 2021. This revision allows the bank to rely on the self-employed individual's precrisis income, namely his average income according to his tax returns for 2018–2019, when estimating his income.

August 3 **Amendment to the Reporting to the Public directives on the implementation of disclosure requirements according to Basel III – Disclosure of the net stable financing ratio and presentation of the return on equity and the quarterly rates of income and expenses on an annual basis**

The disclosure requirements are intended to improve the transparency of the regulatory liquidity requirements, improve market discipline, and reduce uncertainty in the market with regard to the implementation of the net stable financing ratio. Furthermore, the directives were amended in order to align the manner of presenting the return on equity and rates of income and expenses calculated on a quarterly basis with the accepted practice among banks in the US of presenting on an annual basis.

August 19 **Amendment to Proper Conduct of Banking Business Directive 448 "Transfer of a Customer's Activity between Banks"**

Paragraph 1b5 of the Banking (Service to the Customer) Law, 5741–1981 establishes that the banks are required to allow customers to transfer their financial activity from one bank to another and to do so online in a convenient, reliable, and secure manner and without any cost. The goal is to encourage competition in the banking system, and to reduce barriers faced by the customer in switching banks, by means of simplifying the process while protecting the customer's rights and the continuity of financial activity. Proper Conduct of Banking Business Directive 448 provides the rules that the banks are to apply in accordance with the law and the Governor's rules when handling a customer's online request to transfer his financial activity. The directive was revised as a supplementary step to the amendment of legislation with respect to the transfer of a customer's checking activity. Furthermore, various revisions were made as necessary, in view of the needs that arose as a result of the progress in the implementation of the law and the banking rules during the period since the publishing of the original directive on December 16, 2019.

September 13 **Letter on "Collection of an operating fee for early redemption of a housing loan"**

In a letter to the banks, the Banking Supervision Department clarified its position that only one operating fee is to be collected for the early redemption of a mortgage, even the mortgage is composed of several tracks. The subject of the collection of an operating fee for early redemption of a housing loan is discussed in class action suit 11593-10-13 Ayala Maimon v. Leumi Mortgage Bank et al. As part of the discussion of the request for approval of the class action suit, the Banking Supervision Department submitted its position on the matter. It stated that if a customer wishes to pay off a housing loan early, even if the loan is composed of a number of tracks, the bank has the right to collect only one operating fee for early redemption. In view of the importance of the matter and in order to verify that all of the banks are complying with this position, a supervisory letter was distributed within the banking system.

September 30 **Proper Conduct of Banking Business Directive 311 "Credit Risk Management"**

The period for which a financial statement is considered to be up-to-date was lengthened if the statement was submitted up to 11 months from the date of the statement. If the borrower is a small or micro business, then it will be considered up-to-date up to 14 months from the date of the statement, up until December 31, 2021.

Proper Conduct of Banking Business Directive 329 "Limitations on Issuing Housing Loans"

In light of the return to business as usual, the increase in the LTV limit on all-purpose loans—other than for the purchase of land—from 50 percent to 70 percent was cancelled, subject to a declaration by the borrower that the loan is not intended for the purchase of a home.

October 3

Proper Conduct of Banking Business Directive 314A "Management of Debt Restructuring and Collection of Large Troubled Debts"

The directive was in response to a growing number of large debt restructurings in recent years and as part of the lessons learned from those events. The directive clarifies the optimal manner for handling large troubled debts by having a designated unit with the appropriate expertise handle it, rather than the business unit responsible for the underwriting and routine management of credit. Handling by a designated and independent body with expertise and sufficient resources will contribute to the success of the collection process and will minimize the loss to the bank.

Revision to Proper Conduct of Banking Business Directive 311 "Credit Risk Management"

The revision is in response to the publication of Proper Conduct of Banking Business Directive 314A "Management of Debt Restructuring and Collection of Large Troubled Debts." Since this matter is an integral part of credit risk management, a reference to this directive was necessary.

Proper Conduct of Banking Business Directive 350A "Transition Away from the LIBOR Rate"

On December 31, 2021, LIBOR interest rate quotations were discontinued in four currencies: the pound sterling, the euro, the Swiss franc, and the Japanese yen, for period of one week and of two months. On June 30th, 2023 LIBOR interest rate quotations will also be discontinued for the US dollar and for all other periods. The discontinuation of LIBOR interest rate quotations requires the banks to switch from the LIBOR rate to an alternative basic interest rate, and the transition is expected to have an impact on the banks and their customers. With the goal of ensuring that the banks are adequately prepared for the transition away from the LIBOR, and given the possible risks and considerations of fairness and transparency with respect to customers, the Banking Supervision Department published guidelines for the implementation of the transition.

October 17

Letter on providing appropriate service to customers

The Banking Supervision Department made clear in a letter to the banks that they must invest effort in providing appropriate services and solutions to customers who wish to receive services by means of a variety of channels: telephone call centers, digital/online means, and/or physically at the branches. This includes the identification of professional and operational bottlenecks and streamlining the work processes with the customer, with the goal of meeting customer needs. The banks were also required to consider various ways of expanding the availability of hours for face-to-face meetings for services that require such meetings at the branches, while streamlining handling times for customer enquiries. It was also stressed that it is important to provide solutions and appropriate service to all types of customers. In the case of housing loans, this includes the expectation that professional and accessible service will be provided equitably, both to customers requesting new loans and to those seeking to refinance existing loans.

October 26	**Revision to Proper Conduct of Banking Business Directive 411 "Prevention of Money Laundering and Financing of Terror, and Customer Identification"** The revision was in response to the development of advanced payment services in Israel, such as the payment apps, from the perspective of volume of activity and the possibilities of making payments in order to acquire goods and services from businesses. The regulation will apply to certain payment services, as defined in the Payment Services Law, 5779–2019, which are provided by a bank to a service recipient.
November 24	**Revision to Proper Conduct of Banking Business Directive 366 "Reporting of Technological Failures and Cyber Events"** Some of the banks control corporations that are not included under the directive according to Paragraph 3(a) (herein: a corporation). The revision establishes that in the case of a technological failure event or a cyber event that occurs in a corporation controlled by a bank, and which will have a material effect on the bank, on the entire banking group, or on the banking system as a whole from a technological, reputational, financial, or other perspective, a report must be submitted to the Banking Supervision Department at the Bank of Israel by way of the controlling bank.
December 1	**Revision of Proper Conduct of Banking Business Directive 203 "The Standardized Approach – Credit Risk"** Proper Conduct of Banking Business Directive 203A "Measurement and Capital Adequacy – Counterparty Credit Risk"; Proper Conduct of Banking Business Directive 204A "The Internal Ratings-Based (IRB) Approach to Credit Risk – Risk Components"; and Proper Conduct of Banking Business Directive 208A "Measurement and Capital Adequacy – Adjustment of Value Due to Credit Risk (CVA)" The directives were revised in order to conform to the Basel working framework.
December 5	**Revision of Proper Conduct of Banking Business Directives on "Disclosure to the Public on ESG"** The amendments to the Reporting to the Public directives update the disclosure requirements relating to environmental, social, and corporate governance in banking activity. The amendment is part of the steps being taken by the Banking Supervision Department in order to strengthen the banking system's contribution, both in Israel and worldwide, to the environment and to society by means of disclosure on these matters.
December 13	**Revision of Proper Conduct of Banking Business Directive 301A "Compensation Policy at a Banking Corporation"** The revision to the directive requires that the Internal Audit will evaluate the implementation of a bank's compensation policy at least once every three years, instead of once every two years as of now.
December 19	**Letter on Counting of checks without cover in order to send a warning to the customer** A letter sent to the banks expressed the Bank of Israel's position regarding the implementation of the obligation to send a warning to a customer according to paragraph 2(a1) of the Checks Without Cover Law, 5741–1981.

December 26 **Revision of Proper Conduct of Banking Business Directive 301 "Board of Directors"**

The revision is in response to the publication of Basel Committee guidelines regarding external auditing of the banks. It established that the bank's Board of Directors must verify that the abilities of the Auditing Committee members are consistent with its responsibility and tasks, and that the committee is allocated sufficient resources in order for it to supervise the work of the accountant-auditor.

Revision of Proper Conduct of Banking Business Directive 203 "The Standardized Approach – Credit Risk" and 208A "Measurement and Capital Adequacy – Adjustment of Value According to Credit Risk (CVA)"

The amendment establishes that due to their low level of risk, it was decided to reduce the risk weight attributed to insurance companies, provident funds, and mutual funds, and to equalize it to the risk weight attributed to the banks.

Revision of Proper Conduct of Banking Business Directive 313 "Limitations on the Indebtedness of a Borrower and of a Group of Borrowers"

The definition of "control" in the definitions section of the directive, according to which the holdings set out in Paragraphs (1) and (2) above shall not apply when an institutional investor's holding of the means of control in a corporation does not exceed 20 percent, was revised.

New Proper Conduct of Banking Business Directive on the Presentation of data on activity in a securities account

Through this directive, the Banking Supervision Department, in cooperation with the Israel Securities Authority, established a uniform format for the presentation of information and data to a customer about his securities account at the bank. In this context, information on the returns in the securities account, the assets included in it, and a disclosure of the activity in the account and the fees that the customer pays for the service will be presented to the customer. Information on the securities account is of great value to a customer and is intended to improve his ability to make informed decisions with respect to choosing his optimal investment channel, while examining investment alternatives.

December 27 **Revision of Proper Conduct of Banking Business Directive 301 "Board of Directors"**

In view of technological developments and the improved ability to hold discussions using advanced means of communication, it was decided to allow a director—in order to meet the obligation of participation according to the directive—to participate in board meetings by means of advanced means of communication, on the condition that the proportion of meetings in which he participates in this way does not exceed 25 percent of the meetings in a calendar year.

Proper Conduct of Banking Business Directive 329 "Limitations on Issuing Housing Loans"

The revision established that in order to calculate the capital requirement as mentioned in Proper Conduct of Banking Business Directive 201, the bank must increase its Tier 1 Equity Capital target by a rate that equals 1 percent of its housing loans for the purpose of financing the acquisition of land.

Issued in early 2022

January 18 **Revision of Proper Conduct of Banking Business Directive 301 "Board of Directors"**

Based on the Banking Supervision Department's policy of strengthening the banking system's contribution to environmental, social, and corporate governance (ESG), gender equality is viewed as an important issue that should reflect the composition of the population and of society. Therefore, the directive was revised with a new paragraph, which states that, without detracting from the requirements of the directive, there will be appropriate gender representation on the Board of Directors. To this end, the Board of Directors will establish a policy for its gender diversity rate, including a timetable for achieving the target and its milestones.

January 31 **Revision of Proper Conduct of Banking Business Directive 312 "A banking corporation's business with related parties"**

As part of the Banking Supervision Department's policy to reduce the regulatory burden on banks to the extent possible and to simplify some of the directives, a number of changes were made to Proper Conduct of Banking Business Directive 312, the goal of which is, in part, to make it easier for the banks to comply without changing its main underlying principles.

Amendment of Proper Conduct of Banking Business Directive 451 "Procedures for extending housing loans"

The Bank of Israel is promoting a comprehensive change in the area of mortgages in order to make it easier for borrowers seeking to obtain a mortgage. This involves three aspects: improving transparency and the ability to compare between banks; simplification and comprehensibility; and streamlining the process.

As a result of this change, customers will be able to better understand the terms of the mortgage being offered and the implications for future payments. They will be able to assess the implications of the indexation methods and the changes that are expected in the future. They will be able to understand the risks implicit in the various tracks and to more wisely compare the offers they get from a number of banks. The change will also enable customers to submit a request for an offer quickly and conveniently and to receive the offers online and in a simple manner. This will shorten the time from the submission of the requests by the customer until the receipt of offers from the banks. The amendment will go into effect on August 31, 2022.

February 16 **Letter on Increasing transparency in consumer-related enforcement by the Banking Supervision Department** In an effort to increase transparency for the public and the supervised bodies, the letter clarified the Banking Supervision Department's intention to expand the information published on the Bank of Israel's website on the subject of consumer-related enforcement.

Letter on Disclosure of service costs – Part 11 of the full price list

The letter presents the Banking Supervision Department's position with regard to the disclosure of third party expenses that appear in Part 11 of the full price list, as expressed in the positions presented by the Banking Supervision Department in class action suits on this matter.

March 14 **Letter on Involving the banks and credit card companies in the process to evaluate fairness in the banking system**

The Banking Supervision Department has begun to develop a methodology for measuring the fairness of the banking system's organizational structure based on qualitative and quantitative indices. In the letter, the Banking Supervision Department invited the banks and the credit card companies to carry out an internal brainstorming process on the evaluation of fairness and to submit suggestions for upgrading the methodology to the Banking Supervision Department.

Letter on Restricting a closed checking account – delivering notification to the customer

The letter clarified to the banks that, according to the law, there is an obligation to send notification regarding the imposition of a restriction on an account, even in cases where the restriction is imposed on a closed account.

March 15 **Proper Conduct of Banking Business Directive 203A "Measurement and capital adequacy – Treatment of counterparty credit risk"**

Questions and answers were integrated into the directive in order to clarify various issues.

March 24 **Draft of a new Proper Conduct of Banking Business Directive – "Advanced payment services"**

This directive supplements the provisions of Payment Services Law, 5779–2019 regarding payment activities. It establishes the disclosure obligations that apply to banks regarding payment activities carried out on payment apps. The directive lists the data that will be presented to payers and beneficiaries about payment activities by means of apps, and it establishes rules for the transfer of information from the banks to customers and between the bank payment apps and the banks.

April 5 **Revision of Proper Conduct of Banking Business Directives on "Auditor reports"**

The revision to the directives was required following the Supervisor of Banks Circular regarding auditor reports, which included a requirement of disclosure of critical audit issues within the auditor's opinion, according to the auditing standards adopted in the US and following the publication of Auditing Standard 701 by the Institute of Certified Public Accountants in Israel regarding the "Communication of key auditing matters within the auditor's report".

April 7 **Proper Conduct of Banking Business Directive 203 "The standardized approach – Credit risk"; Proper Conduct of Banking Business Directive 218 "Leverage ratio"; and Proper Conduct of Banking Business Directive 313 "Limitations on the indebtedness of a borrower and of a group of borrowers"**

In Directive 203, the paragraphs that regulate the old approaches to the calculation of exposure as a result of trading in financial derivatives and trading with principal counterparties were cancelled. Furthermore, revisions were made to Directive 203A to replace Appendix III of the directive. In Directive 218, it was decided to adopt the SA-CCR method in its entirety for the purposes of the leverage ratio, in order to reduce the operational burden due to the calculation of the exposure.

In Directive 313, the references in the definition of liability were revised such that the calculations with respect to financial derivative instruments will be carried out according to Directive 203A instead of Appendix III of Directive 203.

April 10

Revision of Proper Conduct of Banking Business Directive 301 "Board of Directors" and Proper Conduct of Banking Business Directive 301A "Compensation policy at a banking corporation"

The amendments to the directive were adjusted to the law's requirements of the chairman of a bank's Board of Directors, particularly in the case of a bank without a controlling core. The amendment is meant to strengthen the status and independence of the director and to increase the relevance of his work.

May 2

Draft amendment to the directive – Simplification of customer agreements

In view of the fact that the amendment to Directive 451 "Procedures for extending housing loans"—which establishes a format for the approval in principle of loans including the "forecasted general interest rate" (the actual cost of credit)—will go into effect on August 31, 2022, modifications were made to Directive 449, so that the method of calculating the "forecasted general interest rate" (the actual cost of credit), which is presented according to this directive on the first page of the credit agreement, will conform to the method of calculation appearing in Directive 451.

May 9

Revision of Proper Conduct of Banking Business Directive 411 "Prevention of money laundering and financing of terror, and customer identification"

The directive was revised in view of the growth in activity in virtual currencies and the resulting increase in the number of requests from customers to transfer funds from this activity to payment accounts managed in the banking system or to transfer funds from these accounts for the purpose of the aforementioned activity. It now includes special requirements of the banking system in the management of AML/CFT risk that is implicit in the provision of payment services that are part of activity in virtual currencies.

The Banking Supervision Department