CHAPTER 1

DEVELOPMENTS AND RISKS IN THE BANKING SYSTEM

1. INTRODUCTION

The Israeli banking system remained strong and stable in 2020 despite the challenges of the COVID-19 pandemic and its economic effects. This resilience is a consequence, inter alia, of a lengthy series of measures led by the Banking Supervision Department over the years, including the implementation of insights gleaned from the Global Financial Crisis and other developments. These steps placed the domestic banks in a good opening position to cope with crises, including the COVID-19 crisis under way at this writing. Furthermore, in recent years the Banking Supervision Department has steered the banking system toward greater efficiency and helped it to adjust to the changing competitive and digital environment. Due to this range of measures, the banking system was able to support households and businesses during the crisis year by expanding credit supply, tailoring it to their needs, and continuing to deliver banking services even during periods when the country was in lockdown.

With the outbreak of COVID-19 worldwide, governments and central banks adopted a series of expansionary fiscal and monetary measures to help the public cope with the intensity of the economic impact of the crisis and to stimulate economic activity. Measures by Israel's government included unemployment compensation for those on unpaid leave, a universal grant, and the establishment of state-guaranteed credit funds for businesses in conjunction with the banking system. Concurrently, **the Bank of Israel utilized a range of monetary tools: buying government and corporate bonds, intervening in the foreign exchange market in accordance with the economy's changing needs as the crisis unfolded, and introducing special loan programs to bolster credit supply for small and micro businesses. These monetary tools, which helped to raise sources inexpensively, also bolstered the supply of credit from the banking system to its customers in a way that illustrated the importance of synergy between monetary policy and banking regulation. (For elaboration, see Box 3.4 in this survey.)**

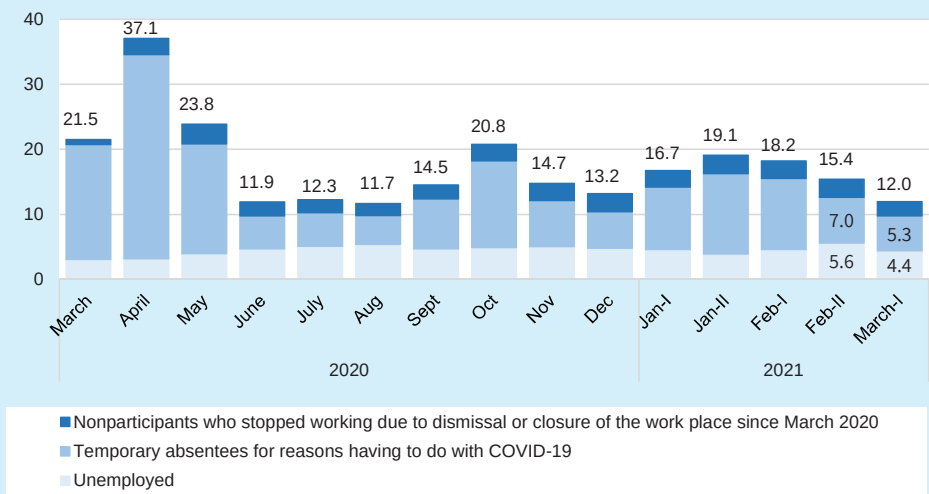
In the past decade, the Banking Supervision Department, like regulators abroad, gained meaningful insights from the 2007–09 global financial crisis, understood the existing and evolving risks, and gave the banks guidelines for their preparedness to cope with them. By implementing these guidelines, the banking system headed into the current crisis in a position that allowed it to stand firm and offer the domestic economy meaningful action to help it cope with the crisis. The series of measures included the enhancing of capital and leverage requirements, such that capital ratios were high at both the beginning and the end of the year and were calculated to accommodate risks and absorb losses if they came to pass; liquidity ratios that remained high and even rose appreciably during the crisis as the public undertook a flight to safety;

efficiency ratios that mirrored the considerable improvement in the banking system's performance, allowing the banks to cut losses even at times when their income declined perceptibly; and improvements in the banking system's risk-management array such that the system is better able to detect risks intrinsic to its activity and take maximum action to mitigate the economic harm that may occur if they come to pass. The Banking Supervision Department also encouraged the banks to improve their efficiency and align it with the evolving business and technological environment; its measures enabled the banks to continue providing the public with direct banking services in the midst of the COVID-19 crisis even as they reduced the number of branches that gave in-person service.

The COVID-19 crisis and its effects on the Israeli economy were different from other crises in recent years. The economic impact was a direct outcome of mobility restrictions that were imposed among various measures to deal with the health crisis. The restrictions impaired the ability of many households and businesses to participate in economic activity in their usual way, causing their income flows to taper. Thus, the economic slowdown mirrored the strength of the mobility restrictions, its adverse effects growing when lockdowns were imposed and easing when they were relaxed. As a result, the intensity of the adverse economic impact varied considerably from quarter to quarter, as reflected in the results reported in the banks' financial statements. For example, the first lockdown, imposed at the end of the first quarter of 2020, pushed the broad unemployment rate to a record 37.1 percent, followed by a retreat to 11.9 percent (Figure 1.1). The volume of economic activity affected the banks' results.

Deepening the lockdowns led to a decline in economic activity, which was reflected in the unemployment rates, and ending the lockdowns led to economic acceleration.

Figure 1.1
Unemployed Under the Broad Definition as a Share of the Labor Force, by Unemployment Component
(percent, original data, ages 15+, March 2020–February 2021)



SOURCE: Based on Central Bureau of Statistics.

The contraction of activity and the uncertainty resulting from it had major effects on demand for credit in the various activity segments; conversely, they affected capital in view of volatility in the capital market and necessitated an increase in loan-loss provisions due to concern about large-scale insolvency among borrowers.

The crisis, initially typified by uncertainty about the extent of its detriment to the economy, had immediate, direct, and major impacts on bank customers' behavior in all activity segments and on the banks themselves. At first, all market participants in Israel and abroad fled to safe liquid and stable assets. The domestic banking system was perceived as a safe haven; therefore, customers diverted funds from direct and indirect portfolio investments to bank deposits at the same time as business customers utilized credit lines and deposited their funds at the banks. All these behaviors contributed to an increase in the banks' liquidity. The same circumstances, however, reduced the value of riskier securities (equities and corporate bonds) in the Israeli and foreign capital markets. The acute market volatility and the decrease in asset prices also boosted collateral requirements against activity in derivatives generally and equity derivatives particularly, foremost US ones. This took place in Israel and most advanced economies, so demand for US dollars rose in Israel and around the globe. Financial institutions sold massive quantities of shekel securities, impairing their prices as a result, and converted domestic currency into dollars in ways that included FX swaps with the banks. The banks, in turn, had to deposit liquid collateral abroad even before they received liquid collateral in dollars from the financial institutions while meeting other customers' needs as well. In the first days of the crisis, this triggered a severe US$ liquidity crunch in all world markets including Israel's. To help the markets supply the dollar liquidity that the banks needed, the Bank of Israel carried out FX swaps with domestic banks. (For elaboration, see the Liquidity Risk section of this chapter.)

In addition, throughout the months of the crisis, the Bank of Israel adopted a series of measures to mobilize the banking system to help the public and thereby mitigate the blow to households and businesses. (For elaboration on these measures from an international perspective, see Box 3.4.) These steps were also meant to keep the banking system fully operable and give the public ongoing access to vital banking services. (For elaboration from the consumer's perspective, see Box 3.3.) The principal measures that supported credit supply included (1) easing capital requirements during the crisis under the Banking Supervision Department's leadership, allowing the banks to continue expanding credit supply even during the quarter when considerable losses eroded their capital ratios due to fear of credit loss and falling prices in the capital market; (2) amending the Reporting to the Public Directives concerning the accounting treatment of restructured troubled debts; (3) provisions allowing households and small business to defer loan repayments, which enabled the banks to ease the burden on borrowers who had been adversely impacted by the crisis (for elaboration, see Box 1.1); and (4) Bank of Israel programs in which banks were provided with monetary loans against credit extended to small and micro businesses. Concurrently, the Ministry of Finance's state-guaranteed funds enabled the banks to lend to businesses that had been

negatively impacted by the crisis and that had credit risk in excess of the banks' risk appetite, thereby increasing credit supply even more and directing it to customers who were suffering from the crisis. These measures as a whole helped credit in the banking system to continue growing at the pace typical of recent years even as the crisis caused economic risks to escalate considerably.

The adverse impact to households and businesses varied. Some industries, primarily art, entertainment, and hospitality, as well as airlines, fashion, and energy, were more badly affected than others. (For elaboration on the adverse impact on industries to which the banking system was exposed, see Box 1.5). Households in low income deciles, in contrast, sustained higher unemployment rates, but at the same time they had a broader safety net. (For elaboration, see the Bank of Israel Annual Report for 2020.) The differential impact of the crisis on households is commensurate with their income and is also reflected in a major decrease in the public's line of credit use, powered in large by less use of credit lines by wealthier population groups, evidently due to withdrawals from mutual funds. (For elaboration, see the Balance Sheet section of this chapter.)

The economic outcomes of the COVID-19 crisis remain unclear, as reflected in many respects: Some loans in which repayments were being deferred have not yet returned to repaying status (for more, see Box 1.1), the state-guaranteed funds continued to perform although with declining celerity, and most credit loss allowances during the crisis were made on a group basis that reflects the banks' concern of default among borrowers whose exact identity is not yet known. (For elaboration, see the Credit section in this chapter.) The Banking Supervision Department will continue to track market developments and take further measures as needed.

2. BUSINESS RESULTS[1]

The banking system's net profits fell by 23.2 percent due to the effects of the COVID-19 crisis.

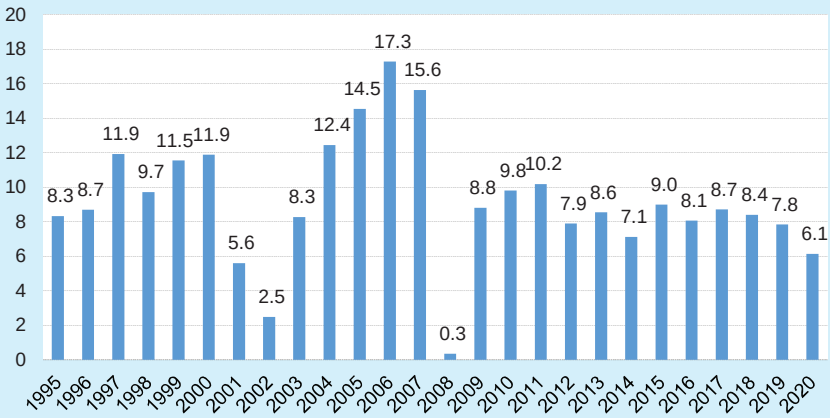
The net profit[2] of the banking system decreased significantly during the first half of 2020 relative to the corresponding period a year earlier (by 23.2 percent)1 due to the effects of the COVID-19 crisis and was about NIS 7,543 million. Return on equity (ROE) stood at about 6.1 percent, its lowest level since 2008, compared to 7.9 percent during the same period in 2019 (Figure 1.2). The impairment, however, was uneven throughout the year; the banking system's business results improved in the second quarter compared with the first quarter as loan-loss provisions each quarter had a major effect (Figure 1.3). Thus, from an annual perspective, ROE rebounded gradually from 2.4 percent at the end of the first quarter (annualized) to 6.1 percent at year's end.

[1] The balance-sheet data as of December 2020 in this Survey include the total for the banking groups and the Bank of Jerusalem. The results as of December 2020 include the banking groups in total, the Bank of Jerusalem, and Union Bank until the last-mentioned merged with Mizrahi-Tefahot Bank (September 30, 2020). Comparative figures relative to previous periods include the banking groups in total, Union Bank, and Bank of Jerusalem, as reported in the public financial statements as of December 31, 2019.

[2] Net profit credited to banking corporations' shareholders.

The ROE declined to its lowest level since 2008.

Figure 1.2
Return on Equity (ROE) After Tax, Total Banking System, 1995–2020[a]
(percent)

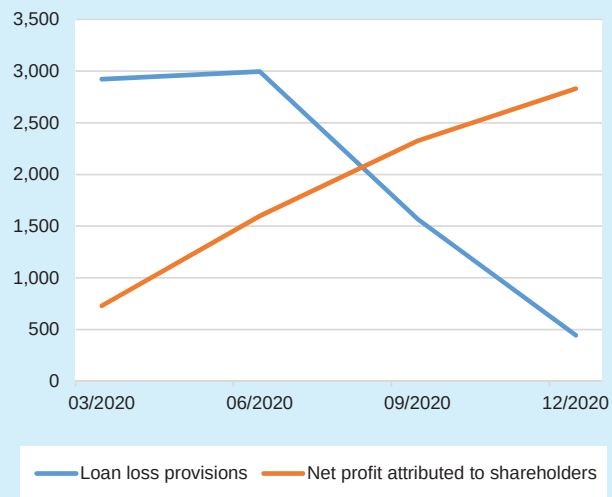


[a] Until 2013, the measure was in relation to the five banking groups. Since 2013, it is in relation to the total banking system.
SOURCE: Based on published financial statements.

Net profit was adversely affected by loan-loss provisions (up 151.4 percent compared with year-earlier),[3] which accounted for most of the detriment to profit (Figure 1.3). **Income flows, in contrast, did not change perceptibly** from 2019: Net interest income, noninterest financing income, and income from fees increased by 1.3 percent, 2 percent, and 1.8 percent, respectively. In parallel, the negative impact on profitability was compensated for by a decrease in operating expenses (5.2 percent,

The volume of loan loss provisions during each quarter had a signifanct impact on net profit.

Figure 1.3
Net Profit and Loan Loss Provisions in Each Quarter, 2020
(NIS million, total banking system)



SOURCE: Based on published financial statements.

Net profit was impaired by a 151.4 percent increase in credit-loss provisions relative to 2019.

[3] The slowing of growth in the loan-loss provision rate as against a year earlier, in comparison of quarters during 2020, traced inter alia to increases that some banking groups had already made in their 2019 statements, given that some of them had been published after the COVID-19 crisis began.

Were it not for a decline in operating expenses relative to year-earlier, ROE (after tax) would have been 3 percentage points lower than it was.

as against 1.1 percent a year earlier), led by a 5.8 percent contraction in payroll and related expenses (as against a 0.1 percent increase a year earlier), mainly due to smaller provisions for bonuses in the banking system against the background of the system's poorer financial results (Figure 1.4; for elaboration, see the section on Efficiency). **Had it not been for the decrease in operating expenses compared with 2019, ROE (after-tax) would have been 3 percentage points lower than actually calculated.**

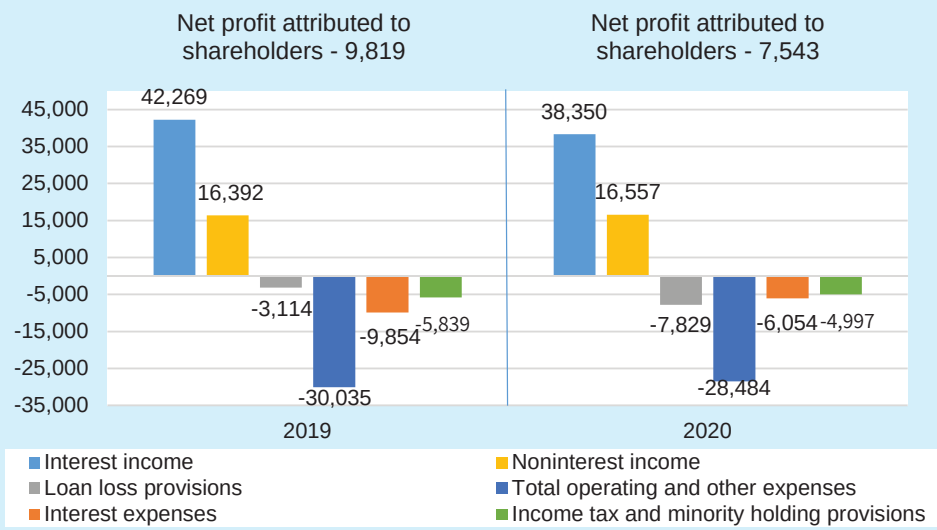
The pandemic and the uncertainty about its future implications affected borrowers' ability to repay their loans in various industries, which was manifested inter alia in loan repayment deferrals and **a sizable increase in all banking groups' loan-loss provisions.** (For elaboration, see the Credit section.)

The net interest margin slipped relative to 2019.

The net interest margin, which reflects the banking system's ability to generate net interest income from total assets that generate financing income, declined to 2.05 percent as against 2.21 percent a year earlier **due to a strong 9.3 percent increase in total interest-bearing assets as against a more moderate 1.3 percent upturn in net interest income** (Figure 1.5; for elaboration on the net interest margin parsed by activity segments, see the Credit section of this chapter).[4] Concurrently, **the interest rate spread**—the difference between the rate of interest income on credit to the public

The decline in interest and operating expenses during 2020 offset the decline in profit relative to 2019.

Figure 1.4
Expense and Revenue Components, 2020 Compared with 2019
(NIS million, total banking system)



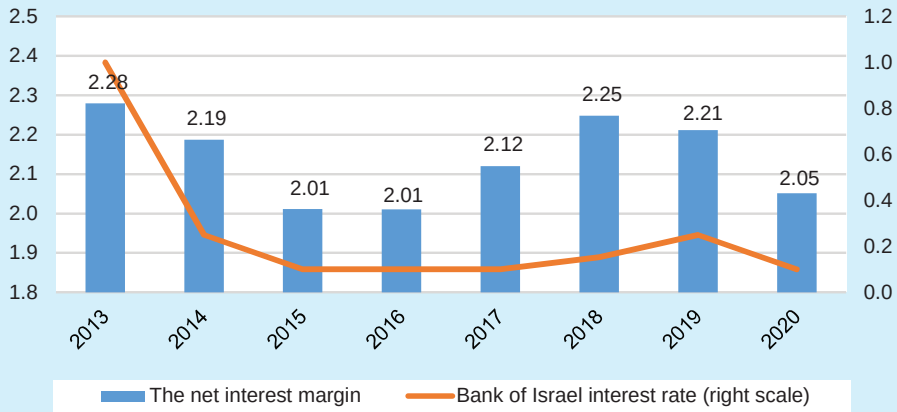
SOURCE: Based on reports to the Banking Supervision Department.

[4] Particularly interest-bearing assets set aside as deposits with central banks, which are typified by relatively low financing-income rates and explain some 73.5 percent of the total increase in interest-bearing assets during the year.

and the rate of interest expenses on the public's deposits with the banks—was basically unchanged from 2019 at 2.9 percent. **Although the rate of income from credit to the public declined, the downturn was fully offset by a decrease in the rate of expenses on the public's deposits** (Figure 1.6, Table 1.4).

The net interest margin declined in 2020, following an upward trend in recent years.

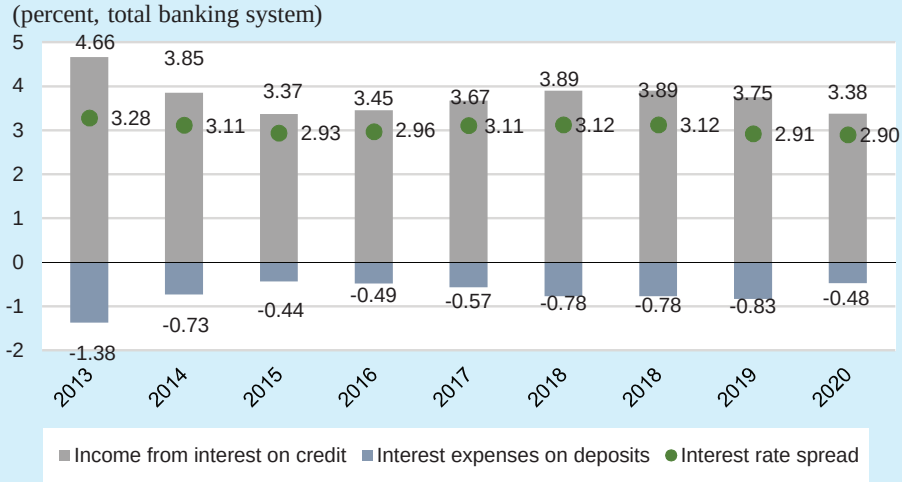
Figure 1.5
Net Interest Margin[a] and the Bank of Israel Interest Rate[b], 2013–2020
(percent, total banking system)



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

The interest spread gap remained unchanged relative to 2019.

Figure 1.6
Income from Interest on Credit to the Public, Interest Expenses on the Public's Deposits, and the Interest Rate Spread, Dec. 2013–Dec. 2020
(percent, total banking system)



SOURCE: Based on published financial statements.

Interest income

Net interest income was basically unchanged from a year earlier, even though the balance of interest-bearing assets, including banks' deposits with the central bank and commercial banks—typically characterized by little risk, and in return, paying low interest—grew at a rapid 47 percent pace (Table 1.4). **The price effect acted in a negative direction and was the main source of impairment to this income line** (Table 3), for several reasons: faster growth in lending to segments that deliver relatively low returns, including housing loans and credit via state-guaranteed loan funds, which yield less interest income than does credit issued outside the funds; an increase in banks' deposits with the Bank of Israel; and a 0.15 percentage-point rate reduction at the beginning of the second quarter. These developments left their imprints on all activity segments as the net interest margin on credit activity relative to the outstanding balance narrowed during 2020. (For elaboration, see the Credit Risk section.) **The negative price effect on net interest income was offset by a positive quantity effect, particularly in credit to the public**. Furthermore, the banks' interest expenses on their liabilities fell by 40 percent relative to a year earlier (Figure 1.4), helping to offset the moderation in net interest income. Several main factors explain the decrease in net interest expenses. First, the public's deposits grew briskly (up 20.9 percent as against 6.2 percent in 2019)[5], foremost in demand deposits[6], accounting for 89 percent of the increase in total deposits of the public during the reviewed year (as against 61 percent in 2019). Also contributing to the narrower spread between deposit-receiving activity and the average balance of deposits from the public[7]—1.02 percent in 2020 as against 1.21 percent on average in the previous three years—was an increase in the balance of the public's deposits during the year, most in current accounts. Second, the decline in shekel and US dollar interest rates helped to reduce liabilities of the respective types.[8] Third, the bond component of liabilities, a more expensive source for raising sources than others, contracted by 4.6 percent (Table 1.4).

Noninterest income

Interest income was adversely impacted by the price effect of interest rates but the decline was partly offset by the positive quantity effect.

Noninterest income, composed of noninterest financing income and income from fees, increased by 1 percent (Table 1.2)[9] relative to 2019, with wide variance among the banking groups in how this type of income developed in both of its types.

5 Unindexed, residents and nonresidents.

6 Accounts from which depositors may withdraw funds at any time. The most salient example of such a deposit is a checking (demand) account.

7 Parsed by supervisory activity segments, total activity in Israel.

8 Domestic currency and foreign currency.

9 The data for the Mizrahi group were affected by the integration of Union Bank's business results from the last quarter of 2020 onward.

Noninterest financing income increased by 2 percent in 2020[10] relative to 2019, with considerable variance among the banking groups regarding this revenue item (both noninterest financing income as well as fees income). The main effect on noninterest financing income was produced by developments during the first quarter, when such income declined steeply by 90 percent relative to a year earlier. Most of the decrease traced to losses on derivative instruments and exchange-rate differentials, given the acute volatility that struck the markets when the crisis broke out. Bond yields, particularly on government instruments, jumped upward sharply at the beginning of the crisis, creating a loss for the banking system through the fair-value adjustment of bonds available for sale. The downturn in bond yields from the second quarter onward, however, pushed up the prices of bonds available for sale, offsetting the impairment to this kind of profit for the rest of the year and gradually eroding the entire decrease in profit during the first quarter. Bond yields generally, and those on government instruments particularly, have an inverse effect on comprehensive other profit. (When yields rise, the value of liabilities falls and leads to an increase in total profit.) The increase in yields reduced liabilities on account of employees' entitlements and thus enhanced comprehensive other profit. Thus, from the second quarter to year's end, the total other profit recorded in the first quarter eroded but was not totally offset. (For elaboration, see the Capital Adequacy, Leveraging, and Market Risk section.)

Income from fees increased slightly compared with the corresponding period of last year, with wide variance among types of fees.

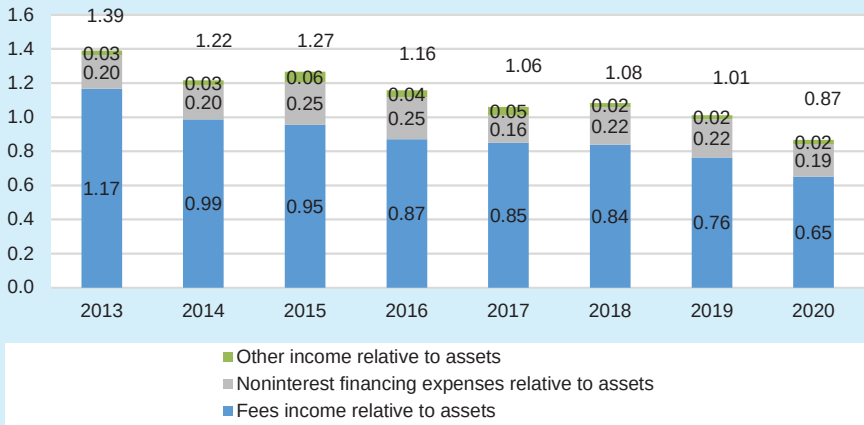
Income from fees increased by 1.8 percent in 2020 and its share in total assets continued to contract (Figure 1.7). **However, income from fees varied considerably among the various channels and was affected by implications originating in the development of the crisis. On the one hand, bank customers increased their activity in securities and derivative instruments, financing transactions, and conversion differentials** (by 18.1 percent, 5.2 percent, and 4 percent, respectively, as against -3.3 percent, 3.4 percent, and 0 percent in 2019) in order to hedge their exposures to evolving risks in view of market volatility after the crisis erupted, especially in the first quarter. Accordingly, income from fees in these avenues of activity grew (Figure 1.8). These data are consistent with those from the Tel Aviv Stock Exchange, which reported a 38 percent upturn in trading volumes in equities in 2020 as against a 2.6 percent increase in 2019.[11] **Yet at the same time, income from fees for account management and handling of credit fell by 5.8 percent and 1 percent, respectively** (as against -3.2 percent and +3 percent in 2019), partly because the restrictions on economic activity that accompanied the crisis resulted in fewer transactions along these channels (Figure 1.9).

[10] In 2020, the banks generated no income by selling shares in subsidiaries (as against NIS 314 million in income from the sale of Leumi Card in 2019; for further information, see Note 36f of the financial statements as of December 31, 2018).

[11] For further discussion, see https://info.tase.co.il/Heb/Statistics/ResearchReviews/2021/Pages/Stat_141_Research_2021_01_381334.aspx

Noninterest expenses as a share of total assets continued to decline in 2020.

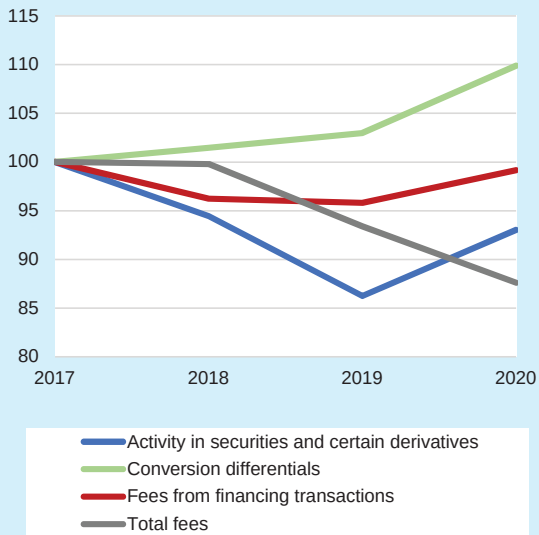
Figure 1.7
Composition of Noninterest Income as a Share of Total Assets[a], 2013–2020[b]
(percent, total banking system)



[a] In annual terms.
[b] The sharp decline in 2014 was due to an accounting reclassification of income from credit activity, following a Supervisor's directive. The declines in the ratio between 2018 and 2019 and between 2019 and 2020 was influenced by the divestment of the credit card companies from the large banking groups.
SOURCE: Based on published financial statements.

Income from securities and derivatives activity, conversion differentials, and financing transactions increased in 2020.

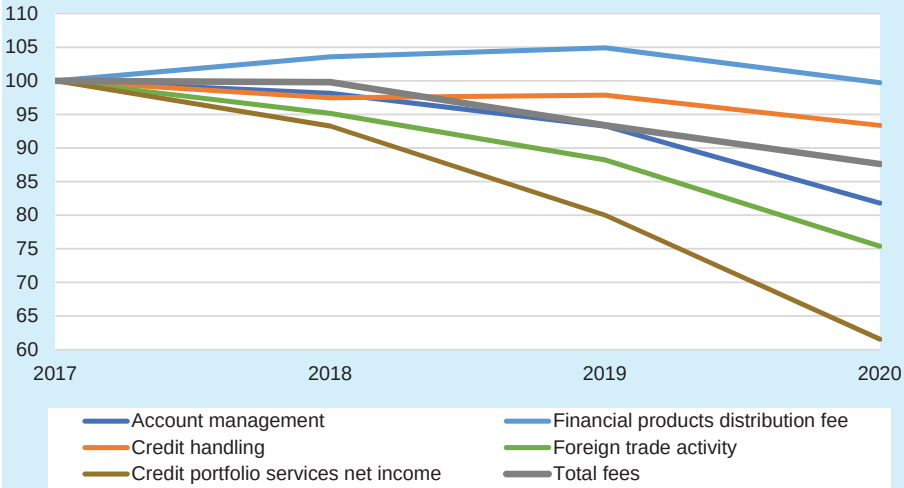
Figure 1.8
Development of Fees Income, 2017–2020
(index, total banking system)



SOURCE: Based on published financial statements.

Income from most account management, and particularly credit handling, fee channels declined in 2020.

Figure 1.9
Development of fee income, 2017–2020
(percent, total banking system)



SOURCE: Based on published financial statements.

a. Efficiency measures

In recent years, the Banking Supervision Department has been encouraging the banks, by applying numerous and diverse tools, to increase their efficiency and adjust to developments in their business and technological environment. Indeed, the banking system has boosted its efficiency considerably by pruning expenditures on staff, real estate, and additional matters while investing more in technology. The trend continued in 2020. It is for these reasons—the increase in efficiency in recent years and the banking system's adjustment to its evolving business and technological environment—that the banks were able to continue serving the public during the pandemic even while severely reducing the number of branches open to the public by delivering banking services via telephone, the Internet, digital applications, and automated teller machines.

The system has continued its trend in recent years of increased efficiency, and its operating efficiency ratio[12] decreased from 61.5 percent in 2019 to 58.3 percent in 2020. The improvement traces to a 5.2 percent decrease in operating expenses, partly offset by a downturn in net interest income and noninterest income. Operating expenditure fell in 2020 after several years of high outlays due to US authorities' investigations of

[12] The ratio of total operating and other expenditure to total net interest income and noninterest income (cost to income).

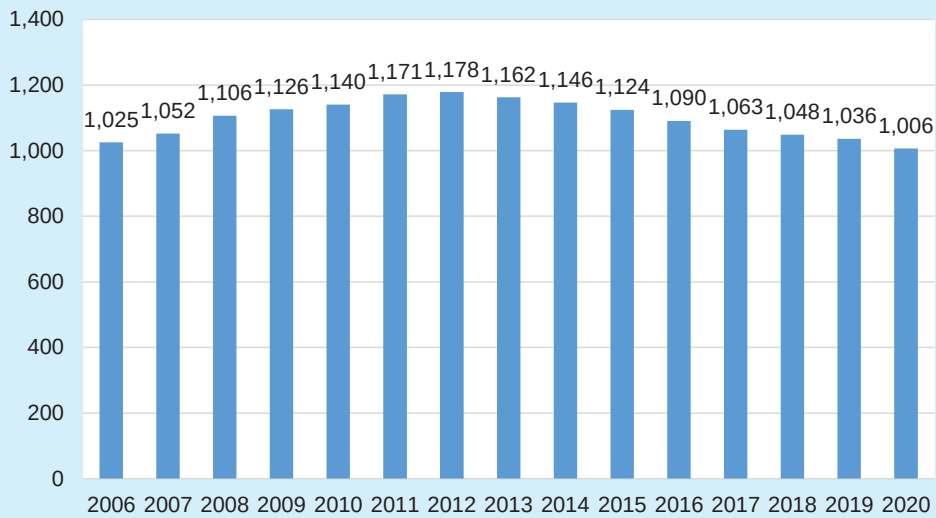
two banks (Hapoalim and Mizrahi-Tefahot). All constituents of the banking system other than Israel Discount Bank improved their Efficiency Ratio. Average unit output cost[13] also improved, falling from 1.9 percent to 1.6 percent. This was abetted by a 10 percent increase in the banking system's average asset balance and the decline in expenditure. This ratio, unaffected by nonrecurrent changes in income, declined among all Israeli banks (Table 1.5).

Payroll and related expenditure decreased for reasons including a downturn in payout of grants in view of the COVID-19 crisis and the elimination of employee posts throughout the banking system in recent years. (This also happened in 2020, despite an upturn in wage and related expenditure on account of voluntary-retirement programs; the saving is expected to manifest in the next few years.) In 2020, payroll and related expenditure contracted by 5.8 percent (Table 1.2) due to smaller payout of bonuses and the continued elimination of employee posts (following a 2.5 percent decrease in posts—approximately 1,000 posts. The trend of closing of branches in past years, as part of the banking system's efficiency measures and its adaptation to digital banking, also continued: Thirty additional branches (net) countrywide (3 percent of all branches; Figure 10), most in centrally located cities (Tel Aviv and Central districts), closed their doors in 2020. As branches continue to close, customers are making increasing use of direct banking channels (Figure 1.11) in light of changes in their preferences alongside improvements in the quality and diversity of direct services.

Households continued to make increasing use of direct channels for their banking transactions.

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

Figure 1.10
Number of Branches[a], Total Banking System, 2006–2020

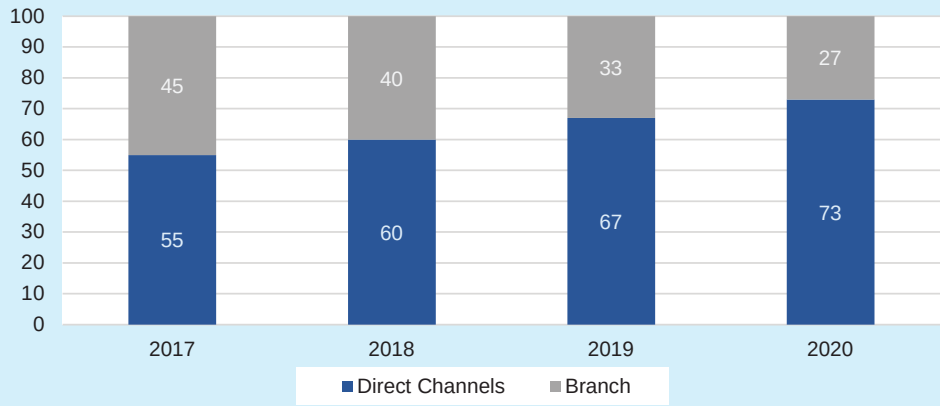


[a] Activity in Israel. Excluding representative offices, departments, and performance units.
SOURCE: Based on reports to the Banking Supervision Department.

[13] The ratio of total operating and other expenditure to average cost of assets.

The upward trend in the rate of household transactions made via direct channels continued throughout the crisis.

Figure 1.11
Household Transactions via Direct Channels[a] as a Share of Total Household Transactions, Compared with Transactions at the Branches, 2017–2020
(percent)



[a] The banks' websites, cellular applications, ATMs, and call centers (excluding response by a teller at a branch). Transactions: transfers, check deposits, ordering checkbooks, issued credit, deposit/withdrawal of a deposit, purchase/sale of securities.

SOURCE: Reports by the five large banks to the Banking Supervision Department.

3. CAPITAL ADEQUACY AND LEVERAGING

After a decade of changes, regulatory capital and its composition fell into line with the risk profile of the banks and the domestic economy, positioning the banks at a good starting point to cope with crises including that brought on by COVID-19.

The Banking Supervision Department works to strengthen the stability of the banking system. This activity, over many years, contributed to the banks' stability and, in particular, their ability to cope with financial crises. Thus, Israeli banks remained stable during the global financial crisis (2007–09), which caused a little negative impact on the domestic economy compared to other advanced economies. Nonetheless, after learning the lessons of that crisis as did its counterparts abroad, the Department took further actions during that time to enhance the stability of Israel's banking corporations. They included the adoption of advanced international metrics and complementary micro- and macroprudential measures, foremost raising capital requirements, decentralizing the credit portfolio, reducing exposure to large borrowers and large borrowing groups, and mandating the creation of a capital buffer against exposure to the housing market. After a decade of changes, the level and composition of supervisory capital were adjusted to the risk profiles of the banks and the domestic economy. It was these measures that positioned **the Israeli banking system in a very favorable position for dealing with crises, including the COVID-19 pandemic.**

In the first quarter of 2020 there were multiple shocks in the markets, and at the banks in particular, that had major effects on banking capital. However, the solid capital adequacy in the banking system, which was adjusted to stress events over the years, **enabled the Banking Supervision Department (like supervisory**

The banking system's solid capital level enabled the Banking Supervision Department (like supervisory authorities abroad) to relax supervisory-capital requirements at the very outset of the crisis in order to make more bank credit available to the public.

authorities abroad) to reduce its regulatory-capital requirements[14] in the very first days of the crisis in order to expand the supply of bank credit to the public. This countercyclical move was meant to allow the banks to continue making credit available without an effective capital constraint. This decision was accompanied by instruction from the Department to the heads of the banks to reexamine their dividend and share buyback policies,[15] prompting the banks to announce that they did not intend to distribute dividends in 2020 in view of the COVID-19 crisis.

The banking system's Tier 1 capital ratio stood at 11.1 percent in December 2020 after dropping to 10.6 percent in the first quarter of the year against the background of the onset of the COVID-19 crisis. Despite the sharp downturn in the first quarter, the ratio began to trend upward from the second quarter of 2020, so that at year's end its level was similar to that at the end of 2019, before the crisis (11.2 percent, Table 1.6). Within this generality, **no bank in the system fell below the minimum Tier 1 capital requirement even before the requirements were relaxed**. The main factors behind the recovery in the ratio were the increase in capital alongside only a minor upturn in risk assets, as explained at greater length below.

a. The capital base

The banking system's total common equity increased by about 4.3 percent in 2020, to about NIS 127.9 billion. Most of the upturn traced to an accumulation of profit that began to increase gradually in the second quarter. (For elaboration, see the Business Results section.) The nondistribution of dividends figured importantly in the buildup of capital (because no dividends were distributed during the year, apart from those approved for distribution before the crisis began). Another contributing factor to the increase in Tier 1 capital was an upturn in total other comprehensive income (OCI), as described below (Figure 1.12).

Total other comprehensive income is strongly affected by developments in the capital market and by Israeli and US government yields and yields on AA-rated US corporate bonds. Accordingly, this item showed volatility commensurate with developments in the markets during the year. Other comprehensive income comprises two main items. The first is fair-value adjustments of bonds available for sale. This item, recorded as an asset on the banks' balance sheets, inflicts a loss on the banking system whenever the value of the portfolio declines (as happens when yields rise). The second item is employees' rights, in which the system has a liability surplus. Therefore, whenever

[14] For a broader look, see media releases on the topic of lowering the banking system's capital requirements: (1) an announcement from the Department about lowering the banks' capital requirements and instructing them to reconsider the distribution of dividends in order to make more credit available to the economy, March 29, 2020, and (2) an announcement concerning dispensations in issuing housing loans in view of the COVID-19 crisis, April 21, 2020.

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

yields rise, the level of liabilities falls and the banking system records a profit. Notably, the employees' rights item is especially weighty at Bank Leumi.

Bond yields generally and government yields particularly rose steeply at the beginning of the crisis, imposing a loss on the banking system via the fair-value adjustment of bonds available for sale. Contrastingly, the increase in yields, as well as the widening of AA-rated US bond spreads (on the basis of which the discount rate for employee compensation liabilities is calculated), reduced employee compensation liabilities and, in turn, boosted other comprehensive income. For the system at large, the increase in yields improved equity in the first quarter of the year, largely on account of sizable other comprehensive income at Bank Leumi.

The decline in bond yields in the second quarter caused the value of bonds available for sale to rise but it had a stronger upward effect on employee-rights liabilities (all the more so in view of the rebound of US corporate yields). Thus, from the second quarter to the end of the fourth quarter, the total other profit recorded in the first quarter eroded gradually but not totally. (For further on the effects of market indicators on the banks' results, see the Market Risk section.)

In the last quarter of the year, Israel Discount Bank posted a large loss in total other comprehensive income due to an adjustment of the statements of Discount Bancorp, Inc.,[16] its currency of activity is different than the currency of its activity in Israel.. Similarly,[17] total Tier 1 capital in the banking system also climbed during the year, at a 4.1 percent pace that brought it to NIS 129.5 billion at year's end (Table 1.6).

As for the components of Tier 1 and Tier 2 capital, the additional components of Tier 1 capital and the components of Tier 2 capital that do not qualify for inclusion in the regulatory capital base continued to erode. Some of the decrease in Tier 2 capital was offset by new debt issues that include a structured mechanism for the absorption of losses (CoCos)[18] by the five large banking groups. **The total capital base came to NIS 168.3 billion at year's end, as against NIS 162.9 billion a year earlier**—up 3.3 percent (Table 1.6).

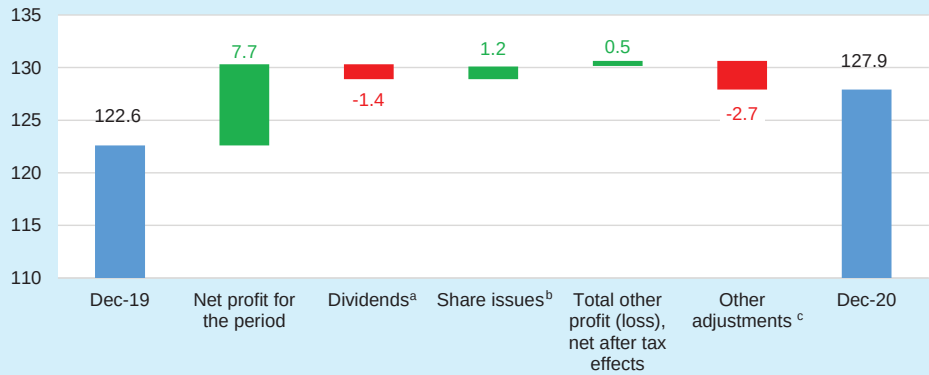
[16] Discount Bancorp, Ind., is a fully owned subsidiary of Israel Discount Bank that has a 100 percent stake in, and full control of, IDB New York.

[17] Trends in the Tier 1 capital ratio were different from those in equity during the year because the Department gave Bank Leumi a dispensation concerning the method of calculating the discount rate of employee-entitlement liabilities for the purpose of estimating the Tier 1 capital ratio. Pursuant to the dispensation, the discount rate for use in calculating the bank's liabilities to its employees was worked out on the basis of average market yields across eight quarters.

[18] Contingent Convertible Capital Instruments.

Most of the increase in equity during the year came from accumulated profits in the banking system.

Figure 1.12
The Effect of Various Factors on the Development of Tier 1 Capital During 2020
(NIS billion, total banking system)



[1] Including the effect of the merger of Union Bank and Mizrahi-Tefahot Bank.
[2] In view of the merger between Union Bank and Mizrahi-Tefahot Bank.
[3] Dividends that were approved for distribution prior to the crisis in respect of 2019 profits, and were distributed in the first quarter of 2020.
SOURCE: Based on published financial statements.

b. Risk assets

Risk assets in the banking system increased by 4.5 percent during 2020 (in contrast to 3.6 percent average growth in the preceding three years). Most of the growth traced to an upturn in credit risk, bringing total credit risk (after risk-weighting) to NIS 48.7 billion, up 4.8 percent, reflecting an increase in the banking system's total credit exposure, although at lower risk weight. (The main effect of this is on the leverage ratio; see elaboration below.) Thus, the average system-wide weight of credit risk fell from 57.4 percent in December 2019 to 52.2 percent a year later. One of the major factors behind this change was a change in the composition of the credit portfolio, mainly centering less on consumer credit ("individual retail," risk-weighted at 75 percent on average) and more on housing credit (risk-weighted at 54 percent on average). Also noteworthy was a major increase in sovereign exposure (up by 50 percent—NIS 200 million), to which the banking system is exposed, inter alia, via its holdings in government bonds and its deposits at central banks. Due to its zero risk weight, this exposure pushes the average weight of credit risk downward.

Credit risk developed unevenly during the year. When the COVID-19 crisis began and concern about liquidity distress arose, domestic corporations utilized their credit lines to greater extent, inducing a sharp increase in the banks' corporate exposure (weighted at 93 percent on average) and a steep upturn in total credit risk (by NIS 31.5 billion in the first quarter). When market volatility eased, the corporations paid back some of the credit that they had taken, leading total credit risk to decline in the second quarter. From the third quarter onward, total credit risk assets continued to grow, mainly via housing credit. (For elaboration, see the Credit section.)

In addition to credit risk, market risk headed upward during the year, foremost in the first and second quarters against the background of rising market volatility. Thus, market risk was estimated up to June 2020 at NIS 18.7 billion (as against NIS 14.6 billion on the eve of the crisis—28 percent up in half a year). However, after the markets calmed down in the second half of the year, market risk waned as well and ended the year at NIS 15.2 billion, up 4 percent for the year all told.

c. Leverage ratio

During the year, the leverage ratio eroded gradually due to a steep increase in the system's total exposure, particularly to the Bank of Israel (via deposits with it).

Despite the increase in Tier 1 capital during the year, **the leverage ratio edged downward due to a steep increase in total system exposure** (up 15 percent in 2020, as against 2.9 percent on annual average in the previous three years). The leverage ratio requires the banks to set aside a minimum level of capital commensurate with the scale of their activity and irrespective of their risk characteristics; thus, it differs from risk-based capital ratios. When the COVID-19 crisis began, the public's deposits increased sharply (for further discussion, see Box 1.4 in this chapter), which on the uses side led to an increase in cash and deposits at the Bank of Israel. (For elaboration, see the section on Liquidity.) Although this exposure did not lead to an increase in risk assets (as it was not accompanied by risk to the banking system and therefore has a risk weight of zero), it did lead to the same significant increase in the banks' total exposure.

Like its dispensations on capital requirements at the beginning of the crisis, **the Banking Supervision Department announced in November 2020 a reduction in the leverage ratio requirements of the banking system**, to a minimum of 5.5 percent for large banks (as against 6 percent before) and 4.5 percent for small and medium banks (vs. 5 percent).[19] Thus, **the leverage ratio of the total banking system declined from 6.88 percent on the eve of the crisis to 6.22 percent at year's end** (Table 1.7).

4. BALANCE-SHEET AND OFF-BALANCE SHEET ACTIVITY

Balance-sheet activity

The balance sheet grew mainly due to a sizable upturn on the supply side (deposits from the public).

The aggregate balance sheet of the banking system ended the year at NIS 1,932 billion, an exceptional 16.2 percent (annualized[20]) increase (Table 1.8). The upturn derived mainly from marked growth in deposits from the public on the sources side (18 percent; 18.4 percent net of the exchange-rate effect. For more about the determinants of the upturn in deposits during the COVID-19 crisis, see the section on Liquidity and Box 4 in this chapter). The increase in deposits from the public is explained by vigorous growth of retail and small-business deposits (53 percent of the upturn) and an increase in deposits of up to NIS 10 million (explains 60 percent of the upturn), with 98 percent of accounts of this size held by retailers and small businesses and typified by relatively small transactions (reflecting market developments, for example) in comparison with

[19] See press release on the topic, November 1, 2020.
[20] All data in this section are annualized.

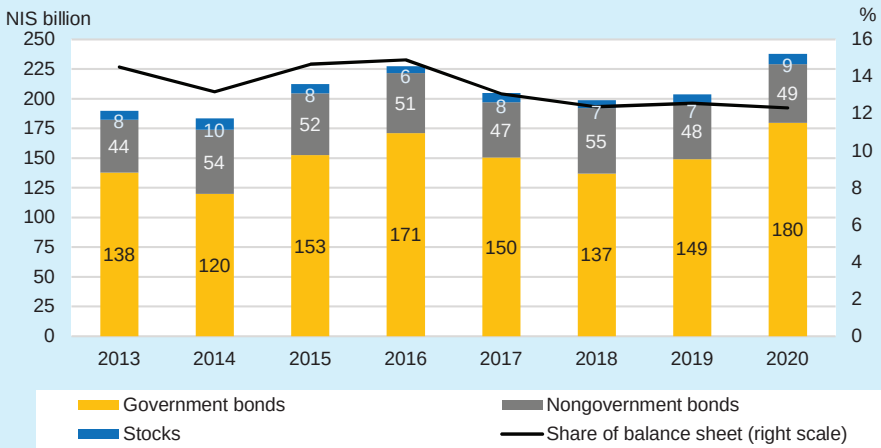
wholesale accounts. The development of the balance sheet during the year was also affected by shekel appreciation against the currency basket and, particularly, against the US dollar (-6.97 percent), leaving the increase in the banking system's balance sheet net of the exchange-rate effect at 16.4 percent.

Large increases were observed in cash and deposits with the Bank of Israel and in the securities portfolio.

The assets side saw considerable growth both in cash and in deposits with the Bank of Israel (up 60.7 percent, or 60.9 percent net of the exchange-rate effect; for more, see the section on Liquidity) and in the securities portfolio (up 12.2 percent, or 12.9 percent net of the exchange-rate effect) in view of purchases of government bonds (domestic and foreign, Table 1.9). The resulting rapid 16 percent increase during the year (Figure 1.13) led the share of cash and deposits at the Bank of Israel combined with the securities portfolio, out of total assets of the banking system, to increase from 30.2 percent in December 2019 to 36.4 percent at the present writing. Net credit to the public increased by 4.4 percent during the year (4.6 percent net of the exchange-rate effect). Most of the banking groups continued to accumulate capital[21] (up 4.3 percent or 2.6 percent net of the exchange-rate effect; for elaboration, see the section on Capital and Capital Adequacy).

The banks' securities portfolio increased in the past year thanks to purchases of domestic and foreign government bonds.

Figure 1.13
The Total Securities Portfolio[a] of the Israeli Banking System[b]—Size and Composition, 2013–20



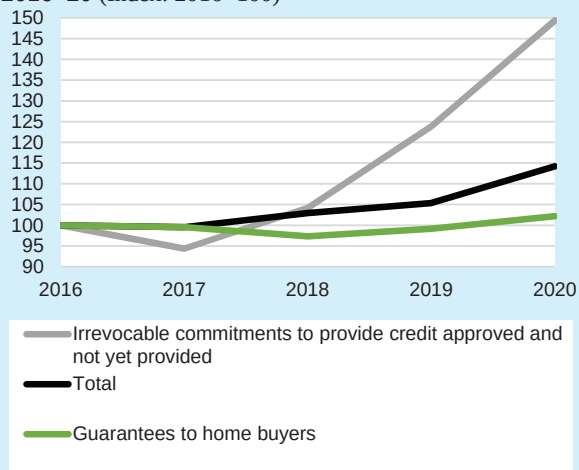
[a] Excluding consolidated companies.
[b] Including the five banking groups (Leumi, Hapoalim, Discount, First International, and Mizrahi-Tefahot), as well as Union Bank, Bank of Jerusalem, and Dexia.
SOURCE: Based on published financial statements.

[21] The difference between total assets and total liabilities on the books.

Off-balance-sheet activity

Irrecovable commitments to provide credit that was approved and not yet provided accounted for about half of the banking systems' off-balance-sheet exposure in 2020.

Figure 1.14
Development of Selected Items of Off-Balance-Sheet Activity (in Israel), Total Banking System, 2016–20 (Index: 2016=100)



SOURCE: Based on reports to the Banking Supervision Department.

In the banks' off-balance-sheet activity, total guarantees and credit commitments increased at a vigorous 9.5 percent pace (compared to 4.4 percent in 2019) and came to NIS 560 billion. Most of the upturn (58.5 percent) originated in irrevocable commitments to issue credit in which approval was given but not implemented, and in undertakings to issue guarantees (Figure 1.14). Increases in housing and large-business credit have been accelerating since 2018. When credit is allocated to areas of activity such as national infrastructure, construction, and real-estate development, when approval in principle is given for housing loans, and when homebuyer guarantees under the Sales Law are created in the course of project financing, there is a lapse of time between the approval of credit to borrowers and its actual allocation. During this interval, the credit is classified as an irrevocable undertaking to issue credit that has been approved but not yet created. Thus, there is a correlation between growth of total activity vis-à-vis the large-business and housing segment and an upturn in liabilities of this kind.

Most of the increase in guarantees and credit commitments originated in irrevocable commitments to extend credit in which approval was given but not implemented and in a 58.5 percent surge in guarantee commitments.

Unused current-account credit facilities and unutilized credit facilities increased by 11.6 percent (NIS 9.3 billion, Figure 15), accounting for 23.3 percent of the total increase in off-balance-sheet liabilities and explained by a similar contraction in the balance of utilized credit facilities (NIS 9.4 billion). Several factors supported this. (1) When the COVID-19 crisis broke out, the government and the Bank of Israel took steps in order to support the economy, creating fiscal and monetary expansion, respectively, which in turn contributed to a powerful upturn in deposits from the public. (For elaboration, see the section on Liquidity Risk.) In addition, the public responded to the acute volatility in the markets by shifting assets from the capital market to the banks (especially in the first few months of the COVID-19 crisis), which were perceived as safer and that offered a funding alternative to the use of facilities. (For elaboration, see Box 4 in this chapter.) (2) This development may reflect an upturn in the public's awareness of less expensive and more advantageous funding alternatives than greater use of credit

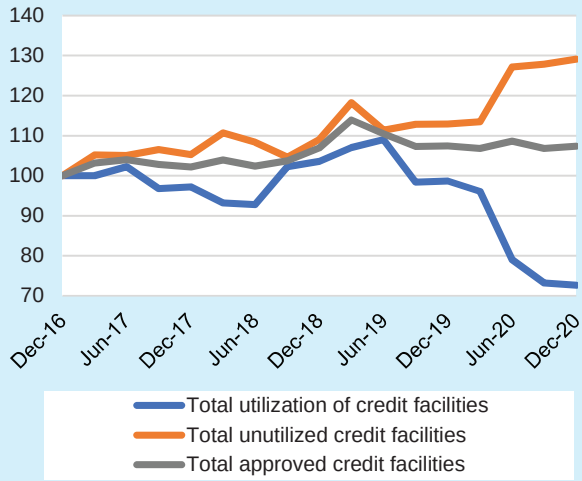
Customers in the highest income category (E) accounted for 40.4 percent of the decline in use of credit facilities on the basis of income categories.

facilities.[22] Some 40.4 percent of the contraction in use of facilities parsed by income categories[23] originated in a cutback among those in the highest income category, Category E. Assuming that people in the higher income categories have more savings in the capital market than do others, it may be estimated that they are among those who moved assets from the capital market to bank deposits.

In continuation of the foregoing, credit card facilities approved within the banking system climbed by 3.1 percent. The share of such facilities that was unused increased by 6.2 percent (after contracting by 8.1 percent in 2019), explaining 10 percent of the growth in off-balance-sheet guarantees and liabilities in the banking system.[24] Utilized credit facilities contracted by 9.1 percent (after growing by 1.9 percent in 2019) due, inter alia, to the slowdown of economic activity during the reviewed year with crisis-induced restrictions in the background. The trend in less use of credit card facilities that by bank customers, on the basis of income categories, was such that the highest income category (E) explains 59 percent of the total system-wide decrease and is part of the implementation of competition-enhancing measures recommended by the Strum Committee. (For elaboration, see Box 3.2.)

The trend from the second half of 2019 of a decline in utilization of credit facilities continued in 2020.

Figure 1.15
Utilized and Unutilized Credit Facilities and Total Approved Facilities, Total Banking System, 2016–20 (Index: 2016=100)



SOURCE: Based on reports to the Banking Supervision Department.

[22] An example of a relatively inexpensive funding channel that was put to greater use during the year is all-purpose credit secured by a dwelling. Outstanding credit of this kind climbed to NIS 24 billion, up 10 percent, in view of a dispensation by the Department to raise the share of all-purpose lending backed by a dwelling from 50 percent to 70 percent. (For elaboration, see the section on Credit Risk.)

[23] There are five income categories, A– E, ranked from lowest to highest. For further detail, see Reporting to the Banking Supervision Department Directive 836.

[24] This is a consequence of the provisions of the Enhancement of Competition and Mitigation of Concentration in the Israeli Banking System (Legislative Amendments) Law, 5777-2017 (hereinafter: "the Law"). According to the Law, from January 31, 2021, to January 31, 2024, total credit card credit facilities of bank customers whose activity is large in scale, each year, shall not exceed 55 percent of total said facilities as had existed in 2015. This may reduce total facilities among the large banking groups and, in turn, total unused facilities, in coming years.

5. RISKS

a. Risks including reference to the Risks Survey and the COVID-19 crisis

The banking system is exposed to a wide variety of risks. Some are typical of banking systems in view of the essence of bank activity, such as credit risk, market risk, liquidity risk, and operational risk. Additional risks pertaining to the development of the business, technological, and regulatory environment in Israel and abroad are gathering strength; they include technology risk, cyber risk, conduct risk, compliance risk, and business-model risk, to name only a few. Beyond microprudential risks that affect individual banks and flow from the nature of their activity and exposures, the banking system is susceptible to macroeconomic risks that originate in a blow to the real economy and the capital markets. When macroeconomic risks come to pass, the correlation among different risks grows, possibly making make the banking system even more vulnerable.

The intensity of the financial risks waned in recent years until the COVID-19 crisis arrived. The reasons for this include the positive macroeconomic reality in the past decade and the close attention that the Banking Supervision Department and the banking system have devoted to these risks in recent decades. The latter factor is manifested in ongoing monitoring and management of risks, including testing the system's resilience to various stress situations and toughening regulatory requirements in different areas in order to detect the system's vulnerabilities and ensure the banks' stability even if these risks are realized.

These measures overall reflected among other things in higher capital quality and capital ratios than in the past, improved quality of the credit portfolio, a decrease in portfolio concentration, and high portfolio liquidity, placed the banks at a good starting point to cope with the COVID-19 crisis and allowed them to absorb expected losses due to the pandemic. Nevertheless, the crisis presents the banking system with major challenges including the growth of many risks—financial, operational, and technological.

Credit risk is the risk originating in the probability that a borrower or group of borrowers will fail to honor its undertakings to the bank, as in failure to make payments of principal and/or interest, eroding the bank' expected profit.

Market risk is the risk originating in the probability that unexpected changes in market prices—interest rates, price indices, exchange rates, equity prices, etc.—will degrade the bank's income or capital[25] due to balance-sheet and off-balance-sheet positions that are affected by change in the fair value of financial instruments on account of change in market conditions.[26]

[25] From David Ruthenberg, Banking Management in Israel, Management of Assets, Liabilities, and Risks (in Hebrew), Jerusalem: Keter, 2002.

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

Liquidity risk is the risk originating in uncertainty about unexpected withdrawals of deposits and unexpected demand for credit that the bank must satisfy immediately, making the bank unable to meet its undertakings to depositors.[27]

Operational risk[28] is the risk of a loss to the bank or the impairment of its business continuity due to the inadequacy or failure of its internal processes, human resources, or systems, or due to exogenous events.

Risk survey among senior banking officers.

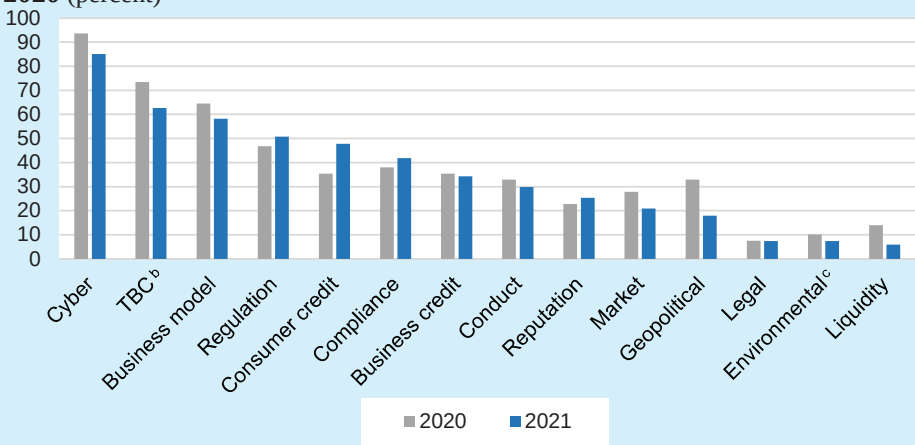
The Banking Supervision Department, for the third consecutive year, conducted a survey among senior banking-system officials in order to help in formulating a risk assessment of the economy by examining the evolution of these risks from bankers' perspective. The participants were asked, among other things, to specify the risk they find most concerning among the risks that threaten their institutions. It was found that, as in 2019, cyber risk remains the banking system's most troubling risk, along with technology and business-continuity risk (Figure 1.16), but the share of senior bankers who are concerned by these risks was considerably lower than in 2019 (by approximately 10 percentage points). In contrast, the proportion of respondents who are upset by consumer-credit risks climbed steeply (by 13 percentage points relative to 2019), unlike that of participants troubled by business-credit risk, which remained at roughly the 2019 level.

The COVID-19 crisis changed the intensity of the risks that the banking system faces (Figure 1.16). Certain risks, particularly consumer-credit risk, became more significant. As in previous economic crises, **the correlation among the risks increased** with COVID-19; this was reflected in concurrent upturns across the set of risks to which the banking system is exposed. This escalation demonstrates the importance of **ERM—Enterprise-Wide Risk Management**—including preparedness for holistic stress scenarios, as against management of individual risks from a "silo" perspective only. Despite these changes, the Department will continue to monitor the totality of risks that the banking system faces and wield diverse tools to assure their adequate management, in order to keep the system resilient and stable under any scenario that the system faces today and may face in the future, thereby assuring the safety of the public's deposits.

[27] Ibid.
[28] Proper Conduct of Banking Business Directive no. 350, "Operational Risk Management," Section 5.

There are many risks that are worriesome to the banking system, with the COVID-19 crisis illustrating the importance of Enterprise Risk Management (ERM).

Figure 1.16
Risks that are Worriesome[a] to the Banking System, 2021 Compared with 2020 (percent)



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

b. Cyber risk

Global cyber risk increased in 2020 amid a sizable increase in the number, types, and diversity of cyber events during the year; the sophistication and complexity of some of them; and the resolve of those behind them. The COVID-19 crisis and the way it was confronted—mandatory lockdowns and social distancing—resulted in more use of digital channels and tools as many organizations put remote work to greater use and as customers became more active on digital channels. This allowed customers and organizations to continue functioning almost "ordinarily," but it also expanded the attack surfaces and cyber adversaries indeed seized the opportunity.

It is for good reason that the banking system continues to see cyber risk as one of its most troubling risks, as reflected inter alia in the results of three years of Department risk surveys among senior banking officials.

Consequently, Israel's banking corporations and credit card companies are keeping their continuous, ongoing efforts to be better prepared for cyber events in a way that will enable them to handle cyber event realizations and risks associated with them. They are adjusting their defensive efforts to new and evolving threats in accordance with, inter alia, regulatory requirements while emphasizing, in tandem with prevention efforts, their early detection abilities and rapid respond and recovery, enabling a banking corporation to recover from a cyber event faster and as unscathed as possible.

The Banking Supervision Department, in its system-wide supervisory activities and in various ways, applies a range of supervisory tools to improve banking corporations' and credit card companies' cyber resilience. The Department's actions in 2020 included updating its cyber reporting directive; maintaining and strengthening cooperation with the National Cyber Directorate and the Financial CERT; enhancing the sharing of information and knowledge in respect to cyber risk, including a sectoral professional cyber-defense forum; issuing a supervisory letter on the topic of remote work; developing cyber risk evaluation tools as an infrastructure for the creation of an ongoing and up-to-date picture of the level of cyber defense in the banking system and the extent of preparedness of banking corporations and credit card companies to cope with cyber risk; examining and assessing the banking corporations from the standpoint of cyber defense; and completing a uniform-scenario cyber stress test process.

The Department also kept abreast of developments in three cyber events that had much potential influence on the banking system and its customers: a data leakage event from the PayBox payment application (January 2020), an extortion attempt including the threat of a systemic denial of service (DoS) attack (September 2020), and a data breach at the Shirbit insurance company (December 2020), which, although involving a nonbank entity, had implications that could impact the banking system and its customers. Within this frame of reference, the Department shared relevant information and knowledge with banking-system participants in real time, analyzed potential implications of the effect of the events on the banking system's constituents and customers, established ongoing relations with state-level cyber-defense institutions including the National Cyber Directorate, carried out learning processes, and so on.

Cyber threats escalated in 2020

Cyber threats surged in 2020, with increases in attacks and attempted attacks, the range of types of attacks, the diversity of the attackers including growing involvement of state elements, and the extent of sophistication. The trend was manifested nationally and internationally. The upturn in cyber threat was also associated with the COVID-19 crisis, which induced organizations to make greater use of remote work and encouraged customers to resort more intensively to digital channels, affording cyber attacks a wider "launching pad."

Evidence of the increase in the scale and number of cyber events in 2020 is found in the FBI's 2020 Internet Crime Report,[29] which found 69 percent more calls to the IC3 center in 2020 than in 2019. The BIS also reported[30] a significant increase in cyber attacks during the COVID-19 crisis, from fewer than 5,000 per week in February 2020 to more than 200,000 in April. The following graph in the BIS report illustrates the increase in cyber attacks on targets in the financial services:

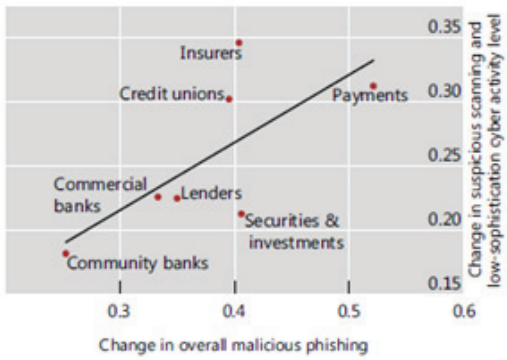
[29] https://www.fbi.gov/news/pressrel/press-releases/fbi-releases-the-internet-crime-complaint-center-2020-internet-crime-report-including-covid-19-scam-statistics

[30] COVID-19 and Cyber Risk in the Financial Sector https://www.bis.org/publ/bisbull37.htm

Organizations' adoption of remote work created new opportunities for cyber attackers:

Working from home (WFH) opens up new possibilities for cyber attacks

Cyber attacks increased during the Covid-19 period, with differences across financial firm types[2]



Source: BIS, 2021.

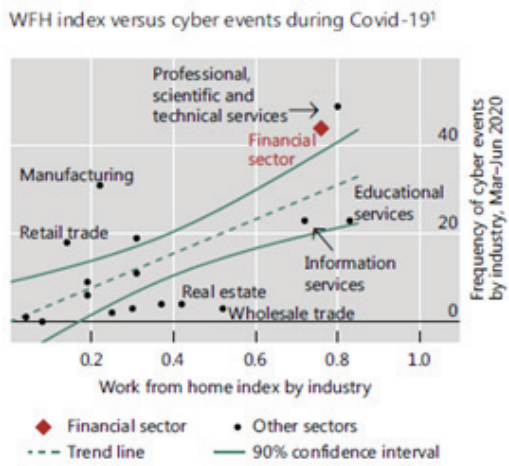
The similar trend was seen in Israel. According to the National Cyber Directorate in its final report for 2020,[31] the number of cyber events reported to the Directorate increased by 50 percent between 2019 and 2020. As for trends in the types of attacks, noteworthy increases were seen in ransom events including Double Extortion,[32] fraud (phishing, vishing, smishing), and information leakage; attacks meant to destroy or damage computer systems; actualizing and exploiting publicly acknowledged weaknesses in order to carry out attacks; attacks on distance-work infrastructures; exploitation of cloud weaknesses; attacks by means of the supply chain, and so on.

At the international level, cyber criminals singled out the financial-services sector as an attractive target for assault for reasons including the extensive use of remote work by financial-service organizations during the COVID-19 crisis, as the graph below shows.[33] In Israel, too, the financial-service sector was noted as one of those most targeted for attack.[34]

31 https://www.gov.il/he/departments/news/annualsummary2020
32 Ransom events that combine file encryption and information theft.
33 BIS, Cyber Risk in the Financial Sector; see link at Note 30.
34 National Cyber Directorate, final report for 2020; see link at Note 31.

During the COVID-19 crisis, cyber attacks on the financial sector increased.

The financial sector has been hit by cyber attacks during the pandemic



Source: BIS, 2021.

Among the many cyber attacks that occurred during 2020, there were several significant events in terms of type of attack, characteristics and complexity, extent of damage, impact, and/or the identity those behind it. Details about a few of these events are given below in order to demonstrate the risks, characteristics, and potential implications of cyber events and the evolution of this threat in 2020.

- **Travelex**—This British firm, a world leader in foreign-currency conversion and settlement, experienced a major ransomware event in January 2020 that disabled its sites and systems for several weeks. One of the factors that allowed this to happen was the attacker's ability to exploit vulnerabilities in order to invade the company's digital network. The assault included encryption of information and files and a threat to leak and publish customer information. The incident had a ripple effect on additional financial-service entities that use the company's services, including large banks. As stated, **it took Travelex several weeks to return to full normality; whether it actually paid the ransom is not clear**.
- **Garmin**—This company, known mainly as a manufacturer of sports watches and navigation gear, suffered a ransomware attack in July 2020 that disabled its systems for several days. According to various assessments and publications, the firm may have paid the ransom, which had been set at US$ 10 million. However, Garmin reported no details apart from its admission that it had experienced a cyber attack; there were no indications of disclosure of users' personal information.

- **The New Zealand National Stock Exchange**—In August 2020, the NZX sustained **a DoS attack** that **degraded its functioning and services for four consecutive days and disabled some of its activities**.
- **SolarWinds**—One of the most savage and consequential cyber attacks in recent years came to light in December 2020. It was perpetrated by exploiting a supply chain to invade the SolarWinds firm, apparently back in March 2020, and to insert a backdoor to a company product used by tens of thousands of companies, organizations, and government authorities worldwide. These additional players, which interacted with SolarWinds as part of their supply chain, included US government authorities (the Homeland Security and Treasury departments, among others), Microsoft, and FireEye (a leading cyber protection firm). According to published sources and estimations, the perpetrators may have been state players who sought to gather information from the targeted companies.
- **Shirbit**—This Israeli insurance company experienced a ransom attack in November 2020, comprised of information leakage from the company system including personal data on insured persons.[35] The intruder published some of the information on Telegram and demanded a ransom as a condition for refraining from further uploads. According to various publications, Shirbit refused to pay up. The intrusion was facilitated by exploiting an unrepaired weakness, among other tactics.

Additional severe attacks in 2020 included an attack on Twitter, in which company customers were defrauded; an information leak at Experian (a South African credit rating company), and invasions at Marriot (the second such attack in two years), MGM Resorts, the World Health Organization (as part of a wave of attacks against health organizations during the COVID-19 crisis) and Zoom, and serious ransomware events at Finatra (a software provider for financial-service organizations), Magellan (a health insurer), the University of California at San Francisco, and others.

Israel, too, experienced several significant events in 2020. They included information leakage from the PayBox payment application, a ransomware event at Tower Semiconductor, attempted assaults on the water system, a campaign against forwarders and logistics companies, an attempted systemic shakedown of several entities in the banking system including a threatened DoS attack, a ransomware incident at Habana Labs, an event at the cyber protection firm Portnox, and others.

In sum, 2020 was an especially challenging year not only due to the COVID-19 crisis and its repercussions but also in terms of the global escalation of cyber threats. Looking ahead to 2021, we expect digitization to continue trending upward: remote work will continue to grow, as will customer activity on digital channels, amid continued adoption and advancement of innovation and digitization in the banking system, including increasing use of cloud. Thus, the attack surface for cyber attacks

[35] See National Cyber Directorate, final report for 2020, and Shirbit, Ltd., periodic report for 2020, https://www.shirbit.co.il

will expand. Perpetrators are improving at quickly exploiting weaknesses, diversifying their abilities and goals (including state actors), and continuing to use supply chains and exploit opportunities that make cyber assault possible. Given this assessment, organizations need to maintain their regular defense efforts, minimize the attack surface as much as possible, continually review the evolution of threats and opportunities, and readjust their defense efforts accordingly. As they go about all of this, they must internalize the realization that the threat cannot be totally obviated. Accordingly, while stressing prevention, they should place stringent emphasis on their ability to detect, respond to, and manage an event rapidly and effectively once it becomes real.

c. Credit portfolio and credit risk

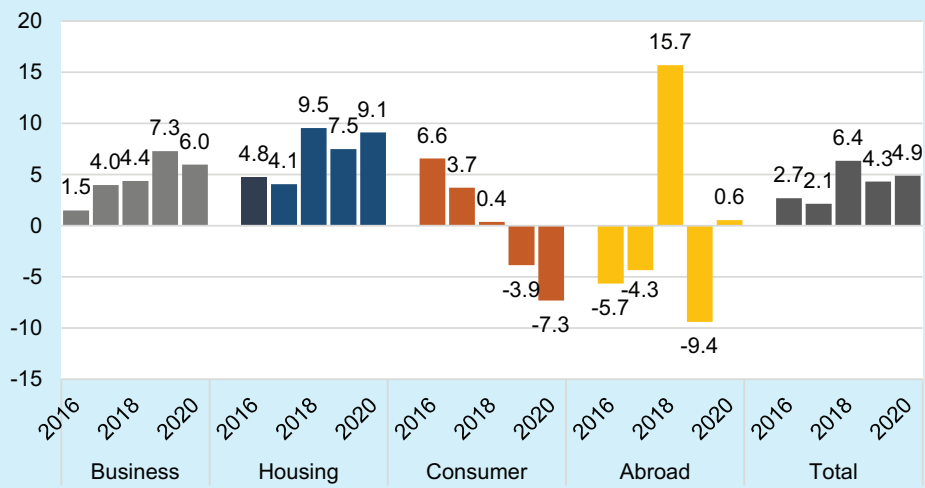
Main developments[36]

Outstanding credit to the public increased by 5 percent even though GDP contracted.

Outstanding credit to the public increased by 5 percent, approximating the average rate of growth in the previous two years (Figure 1.17) even though GDP contracted by 2.6 percent in 2020. Much as in recent years, the leading determinants of growth were housing credit (up 9 percent) and business credit (6 percent), foremost in construction, real estate, and large businesses. In contrast, the contraction of exposure to consumer credit accelerated (-7 percent) as the slowing of economic activity damped demand

Outstanding credit increased at a rate similar to that of 2018–19.

Figure 1.17
Rate of Change in Outstanding Balance Sheet Credit in the Main Segments, Total Banking System, December 2016 to December 2020 (percent)



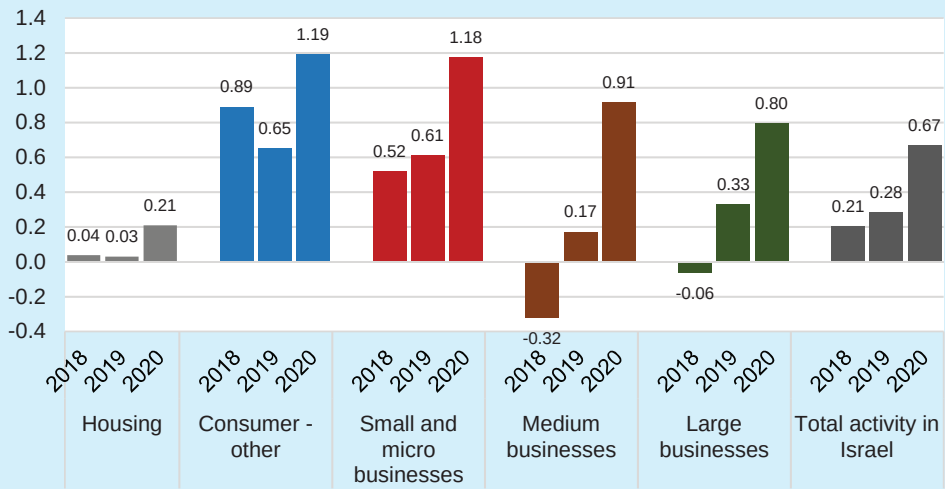
SOURCE: Based on published financial statements and reports to the Banking Supervision Department.

[36] The Mizrahi-Tefahot Bank data for 2020 include the balance-sheet data and the allowance and write-off data for the last quarter of Union Bank.

for this credit. High rates of credit loss allowances were recorded during the year as the quality of the banks' credit portfolio slipped and economic uncertainty mounted (Figure 1.18). Uncertainty about the future course of the crisis and the nature of the economic recovery are expected to affect the banks' credit portfolio in coming years. Notably, however, most of the allowance was part of the group allowance and not individual allowances, due to the large share of credit for which payment was deferred and uncertainty about how the crisis would develop.

There was a sharp increase in loan loss provisions in all activity segments.

Figure 1.18
Loan Loss Provisions as a Share of Credit Balance to the End of the Period, Various Activity Segments, Total Banking System, December 2018 to December 2020 (percent)



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

Households

The downward trend in consumer credit gathered speed in 2020. Outstanding consumer credit fell by a steep 7 percent (NIS 11 billion) relative to 2020 (-4 percent, Figure 1.17). Most of the decrease[37] (more than 80 percent; Table 1.16) originated in a cutback in all-purpose ("other") credit. The domestic economic slowdown that depressed private consumption (-9.5 percent relative to 2019) and expenditure using credit cards also mitigated demand for consumer credit. The decrease in private consumption was steeper and deeper than that of product (-2.6 percent), allowing the savings rate to rise[38]; this was manifested, inter alia, in declines in the use of current-account facilities

The downward trend in consumer credit accelerated as the slowdown in economic activity damped private consumption and credit-card spending.

[37] Credit to private individuals that was not classified for housing and not deferred between the time of purchase and the time the credit card was charged.

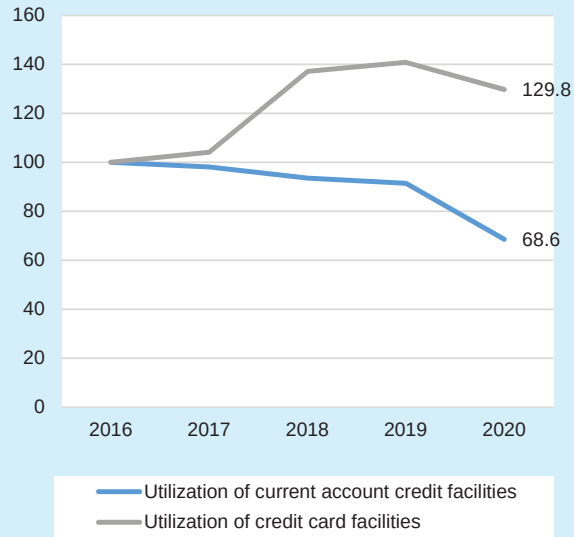
[38] For further discussion, see Chapter 1 in the Bank of Israel Annual Report for 2020, April 2021.

Some of the decrease in consumer credit may have traced to an upturn in all-purpose credit backed by a dwelling.

and bank credit cards (for further discussion, see the section on Off-Balance-Sheet Activity) by 25 percent and 7.8 percent, respectively, during the year, as against a 2.2 percent decrease in use of current-account facilities and a 2.7 percent upturn in use of credit card facilities in 2019 (Figure 1.19). The downturn in demand for consumer credit was also reflected in a decrease in the average interest rate—5.14 percent in 2020, down 0.5 percentage point from 2019 (Figure 1.20). Credit margins remained stable despite the upturn in risk (Figure 1.21), possibly indicating a decline in the banks' funding costs. The decreases in interest and the cost of raising sources owe their origins to measures taken by the Bank of Israel during the crisis, including an interest rate reduction in April 2020[39] and other macroprudential steps.

There was a reduction in the utilization of current account and bank credit card credit facilities during the year.

Figure 1.19
Utilization of Current Account Credit Facilities and Bank Credit Card Facilities, Total Banking System, 2016–20 (Index: 2016=100)



SOURCE: Based on reports to the Banking Supervision Department.

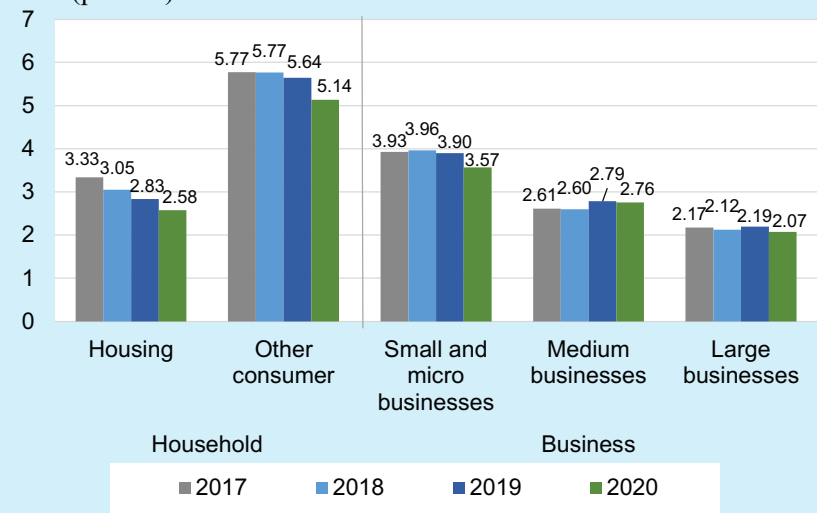
Some of the downturn in consumer credit may have originated in an increase in all-purpose household loans secured by residential property. During the year, the Banking Supervision Department allowed the LTV (loan-to-value) ratio in all-purpose borrowing by households secured by residential property to rise to 70 percent (as against 50 percent before the easing) in order to ease the burden on households.[40] Consequently, outstanding all-purpose credit climbed by NIS 2.3 billion (10 percent; Figure 1.22), to NIS 23.9 billion. Most of the upturn originated in all-purpose loans secured by residential property that were taken at LTV ratios of 60–75 percent; these accounted for 55 percent of all such credit volume during the year. **It is also noteworthy that the payment deferral program, in which NIS 2.2 billion in payments were postponed, helped many households during the COVID-19 crisis and provided households that had lost income due to the crisis with an alternative source of credit**.

[39] The Monetary Committee decided on April 6, 2020, to lower the rate by 0.15 percentage point, to 0.1 percent. https://www.boi.org.il/en/NewsAndPublications/PressReleases/Pages/6-4-2020a.aspx

[40] "The banking system: regulatory leniencies and services to the public in view of the spread of the coronavirus," https://www.boi.org.il/en/NewsAndPublications/PressReleases/Pages/15-3-2020.aspx

The average interest rate declined in all activity segments.

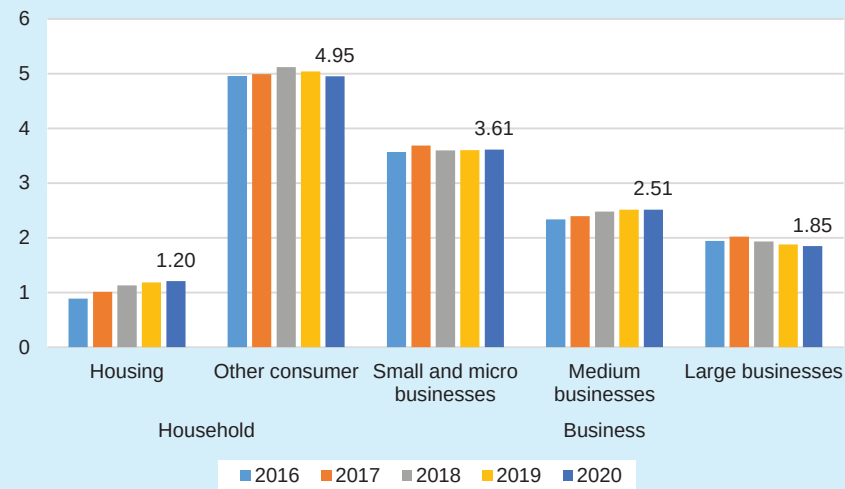
Figure 1.20
Average Interest Rate on Unindexed Credit Issued to the Public In the Various Activity Segments[a] Total Banking System, 2017–2020 (percent)



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

Credit spreads were stable in 2020 despite the increase in risk due to the crisis.

Figure 1.21
Credit Spread in the Various Activity Segments, Total Banking System, 2016–2020 (percent)



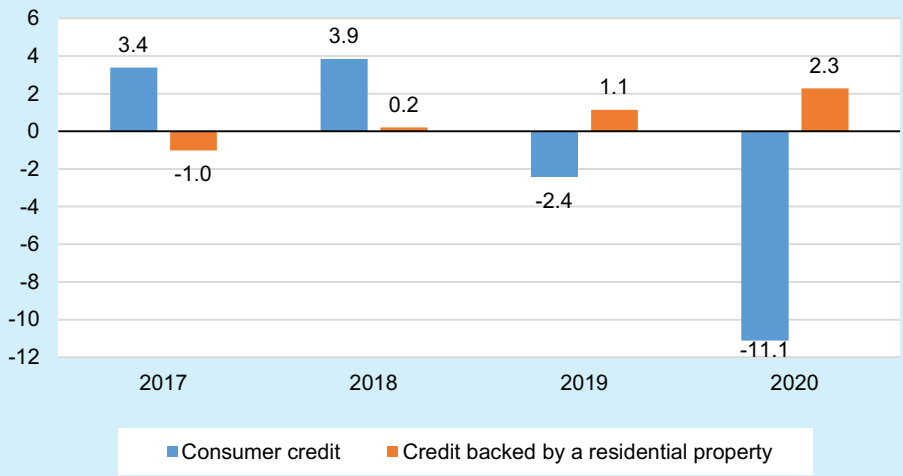
SOURCE: Based on published financial statements.

Consumer credit contracted not only at banks but also at the credit card companies. Outstanding consumer credit was NIS 197 billion, down 3.7 percent after 2.9 percent average growth in 2018–19. Most of the decrease traced to credit issued by the banking system and the credit card companies,[41] which shrank by 1.5 percent after 12.8 percent average growth in the previous two years. These developments coincided with a 13.6 percent increase in nonbank lending to NIS 3 billion, causing the share of nonbank entities in the consumer-credit market to rise (2 percent) and that of bank credit to fall (74 percent; Figure 1.23).

The adverse effects of the COVID-19 crisis degraded the measures of consumer-credit quality (Table 1.12), such that the rate of credit loss allowance on outstanding credit climbed from 0.6 percent in 2019 to 1.06 percent in the review year. **Notably, most of the allowances were based group allowances meant to absorb losses not yet realized**[42] in view of uncertainty about where the crisis was heading and how the economy would rebound from it in coming years.

Outstanding credit backed by a residential property increased compared with a decline in outstanding consumer credit.

Figure 1.22
Total Change in Outstanding Consumer Credit and in Credit Backed by a Residential Property, Total Banking System, 2017–2020
(NIS billion)

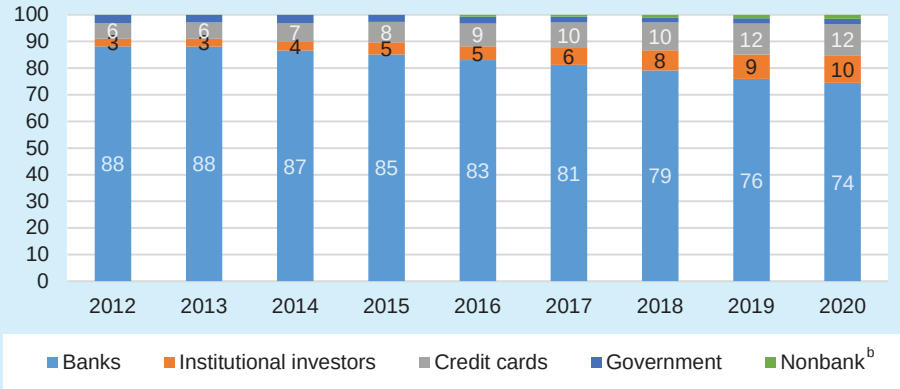


SOURCE: Based on published financial statements.

[41] Without bank liability or guarantee.
[42] Individual allowances are meant for the same purpose.

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

Figure 1.23
Distribution of Outstanding Household (Nonhousing) Credit by Sources[a], 2012–2020 (percent)



[a] Credit from banks includes loans that are not for the purchase of a dwelling but were issued with a dwelling as collateral. Credit from credit card companies excludes credit that is the responsibility of or guaranteed by the banks, which is included in outstanding credit of the banks. Nonresidents provide 0 percent of household credit.
[b] The data include credit from the Mimun Yashir, Derech Credit (a subsidiary of Shlomo Holdings), and Albar Credit (a subsidiary of Albar) companies.
SOURCE: Based on published financial statements.

Housing credit

Mortgage-loan volume set another record, at NIS 78 billion.

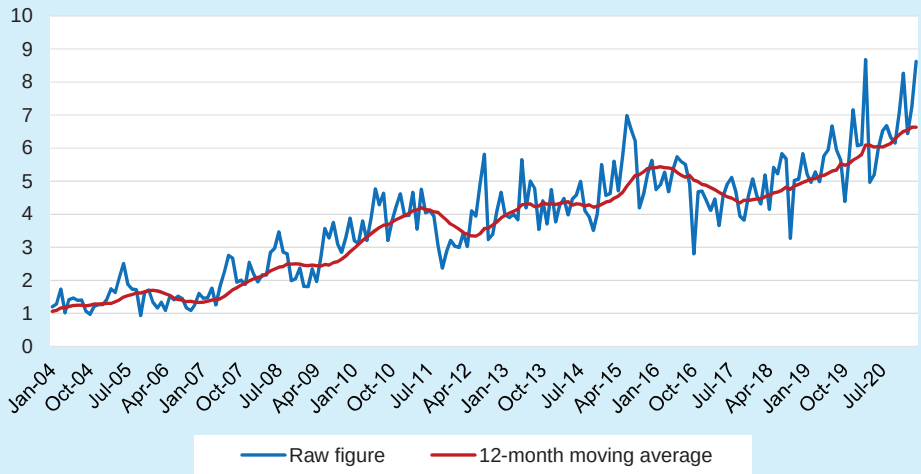
Housing credit continued to climb in 2020 even though the detrimental effects of the COVID-19 crisis on the economy and, particularly, on households, included an additional increase in housing prices after a slight dip in 2017–18.[43] The housing-credit portfolio grew by 12 percent as against 8.5 percent annual growth in 2018–19 (Figure 1.17). Around 100,000 mortgage-loan transactions took place during the year (4 percent more than in 2019) at a total scope of NIS 78 billion, up 16 percent from 2019 (NIS 67.7 billion, Figure 24).

The brisk activity in housing credit (in transactions and in volume) issued traced largely to (1) a continued increase in the share of sole-dwelling purchases, particularly under the Buyer's Price program. The share of such purchases in total volume climbed from 48.3 percent in 2019 to 50.3 percent on average in 2020 (Figure 1.25) due to the maturation of Buyer's Price projects. This brought the contribution of the Buyer's Price program to total performance to NIS 11.5 billion, up 65 percent from 2019 (Figure 1.26),[44] due to maturation of winnings in draws under this program and, possibly, to borrowers' wish to take their loans early because of concern about

[43] For further discussion, see the section on real estate in the Financial Stability Report for the second half of 2020.
[44] Data on Buyer's Price activity became available in March 2019; the 2019 data were standardized to annual terms.

There was a further record high in new mortgages during the year.

Figure 1.24
New Mortgages Issued, Total Banking System, January 2004–March 2021
(raw data and 12-month moving average, NIS billion)



SOURCE: Based on published financial statements.

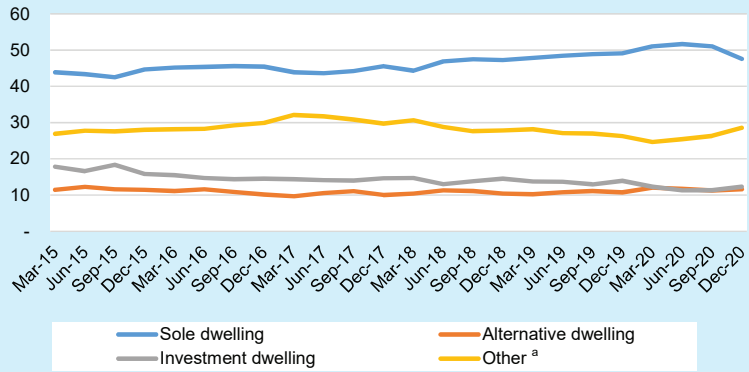
The high level of activity in housing credit originates in a continued upturn in the share of sole-dwelling purchases, particularly under the Buyer's Price program, occasioned by an upward trend in refinancing mortgage loans.

an increase in interest rates; **(2) the upward trend in the number and scope of mortgage-loan refinancing continued and even accelerated during the year**. The share of refinancing transactions (interbank) in total volume rose to 7 percent as against 4 percent in 2018–19. In addition, total mortgage-loan refinancing (inter- and intra-bank) was NIS 20 billion (Figure 1.27), up 70 percent from 2019, and 35,000 transactions took place, twice as many as in 2019. The growth rate of interbank refinancing was almost twice as high as the rate of increase in intra-bank refinancing (103 percent as against 57 percent) and the average interbank refinancing transaction was 50 percent larger than the average intrabank transaction (NIS 770,000 as against NIS 520,000).[45] In view of the barriers to switching banks, the cost of refinancing a loan may have dissuaded customers who had small balances from settling their loans and refinancing with another bank, whereas customers with large balances found that these costs were offset by the expected total savings from refinancing. The increase in total refinancing also seems to originate in low interest rates by past standards and, in respect to some loans, it may reflect an attempt by borrowers and banks to attain a better fit of loan repayment to borrowers' needs in light of the effects of the economic crisis on household income. **Net of the impacts of these factors (Buyer's Price performance and the upturn in refinancing), volume and transactions grew by 5 percent relative to 2019**.

[45] For further discussion, see the section on credit to the private sector in the Financial Stability Report for the second half of 2020.

The increase in purchasers of single dwellings as a share of new mortgages with high LTV rates continues.

Figure 1.25
Distribution of New Mortgages by Loan Purpose, Total Banking System, 2015:Q1–2020:Q4 (percent)

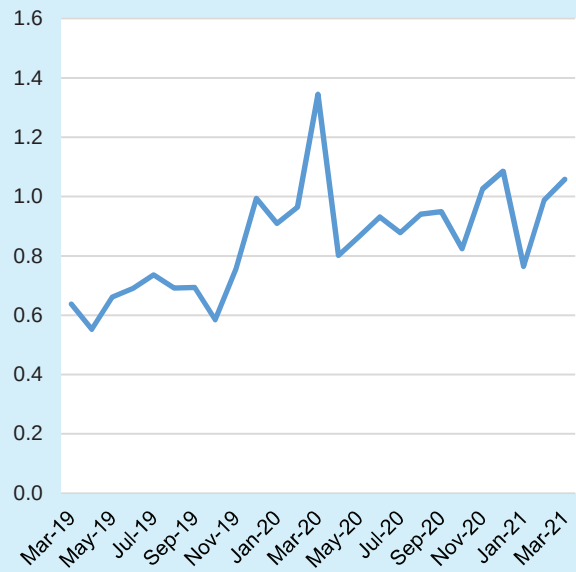


[a] Other loans for residential purposes where the bank did not demand a declaration from the borrower (loans issued at LTV rates lower than 50 percent).

SOURCE: Based on reports to the Banking Supervision Department.

Total new mortgages as part of the "Buyer's Price" program increased by 65 percent compared with 2019.

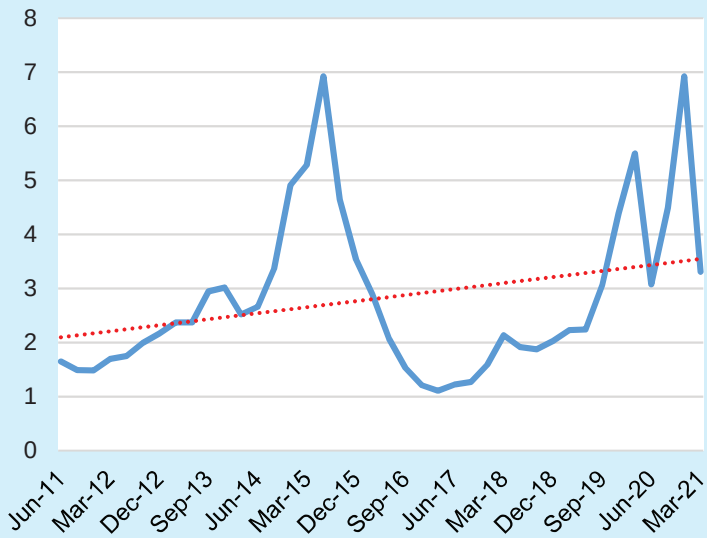
Figure 1.26
New Loans as Part of the "Buyer's Price" Program, Total Banking System, March 2019–March 2021 (NIS billion)



SOURCE: Based on reports to the Banking Supervision Department.

The upward trend in the number and volume of mortgage refinancing transactions continued and strengthened during the year.

Figure 1.27
Total Credit Issued for Mortgage Refinancing[a], Total Banking System, 2011:Q2–2021:Q1
(NIS billion)



[a] At a different bank or at the same bank.
SOURCE: Based on reports to the Banking Supervision Department.

As of March 2021, the average mortgage lending rate was 2.25 percent, below its pre-crisis level.

Interest rates under the various loan tracks remained low during the COVID-19 crisis despite an increase at the beginning of the crisis as the sharp upturn in risk and market volatility caused credit risk pricing and costs of raising sources for housing to rise.[46] The concern about an increase in interest at the beginning of the crisis **prompted many borrowers to take loans earlier than otherwise, due to fear of higher housing-loan cost as the crisis would develop**. Thus, in March, when the first lockdown went into effect, volume spiked to a record NIS 8.7 billion in more than 11,000 transactions (up 64 percent and 50 percent relative to March 2019,[47] respectively). The interest rate fell soon afterwards, however, lowering the average rate on housing loans to 2.25 percent by March 2021, below its pre-crisis level (2.41 in February 2020; Figure 1.28). Even though the average interest rate slanted down, credit margins in this activity segment

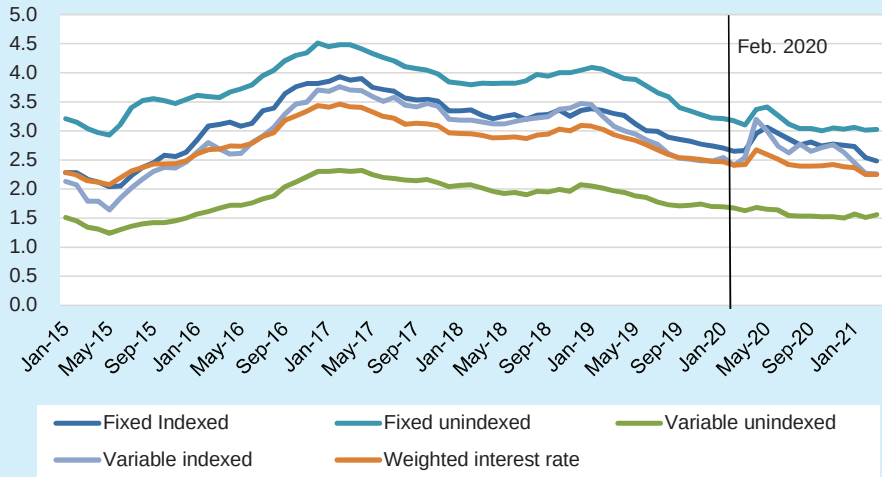
[46] For further discussion on the development of interest rates during the COVID-19 crisis, see Bank of Israel, "The Increase in Demand for Credit, How the Banks Are Helping Customers during the Coronavirus Crisis, and Main Determinants of the Upturn in Interest Rates on Bank Credit since the Beginning of the Year," March 2020.

[47] It is worth noting that in December, too, performance was high (NIS 8.3 billion). December is generally a high-performance month (NIS 7.1 billion in 2019).

showed a mild two basis-point widening, to 1.2 percent (Figure 1.21). The downturn in interest was facilitated (among other factors) by measures taken by the Bank of Israel to help keep the markets stable and allow the banks to raise sources at lower cost, coupled with measures by the Department to maintain credit supply generally, and for housing particularly, during the crisis. (For further discussion, see Chapter 3.)

Interest rates on the various loan tracks remained low during the crisis.

Figure 1.28
Interest Rates on Residential Loans by Interest Rate Track and Indexation Segment, Total Banking System, January 2015–March 2021 (percent)



SOURCE: Based on reports to the Banking Supervision Department.

One of the most important measures that the Department took in conjunction with the banking system to cope with the effects of the COVID-19 crisis was the loan payment deferral program,[48] including housing loans. The framework was unveiled in May 2020 (and broadened during the crisis) and NIS 4.2 billion in payments was deferred under its provisions. As of March 2021, the outstanding deferred sum was 4.5 percent of the total housing credit portfolio (Figure 1.29) (as against 25 percent in April 2020).

Analysis of the payment-deferral data shows that more than 50 percent of monthly payment was deferred in 65 percent of deferred loans (Figure 1.30)[49] and that payment of 43 percent of deferred loans was deferred for more than a year (Figure 1.31). These data

[48] For further discussion, see Box 1 in this chapter, on deferral of loan payments.

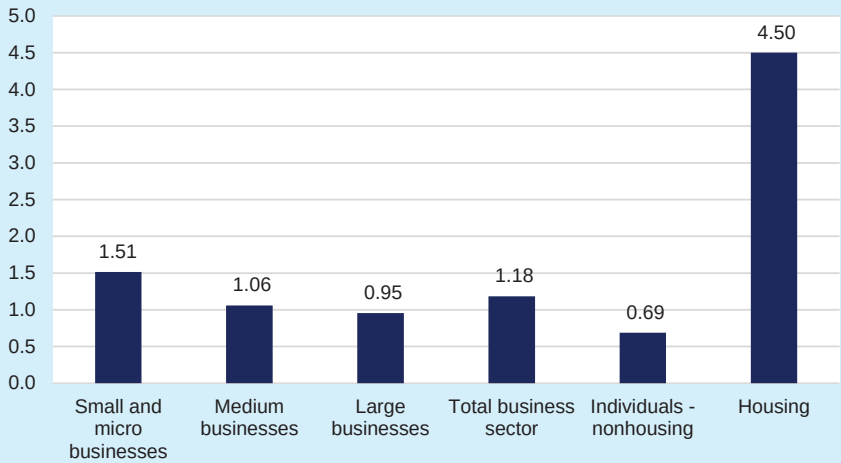
[49] Under the third program, borrowers may defer up to 75 percent of monthly payment if they meet the threshold requirements. In October 2020, the Bank of Israel announced the formulation of an additional program, adopted by the banking system, to help small and micro businesses to repay loans. See "An additional program for providing assistance to small and micro businesses," https://www.boi.org.il/en/NewsAndPublications/PressReleases/Pages/10-12-20.aspx

In November 2020, the Banking Supervision Department announced the formulation of an additional program for deferral of mortgage and consumer loan payments, and the banking system adopted it. See https://www.boi.org.il/en/NewsAndPublications/PressReleases/Pages/30-11-2020.aspx

confirm that many households were badly hurt during the crisis and that the payment-deferral program was more helpful to borrowers who had higher risk characteristics than it was for the total mortgage borrowers, as emerges from a comparison of the characteristics of monthly payment with average LTV (Figure 1.32; for further discussion, see Box 1.1).

Deferred credit as a share of total credit was highest in the housing segment.

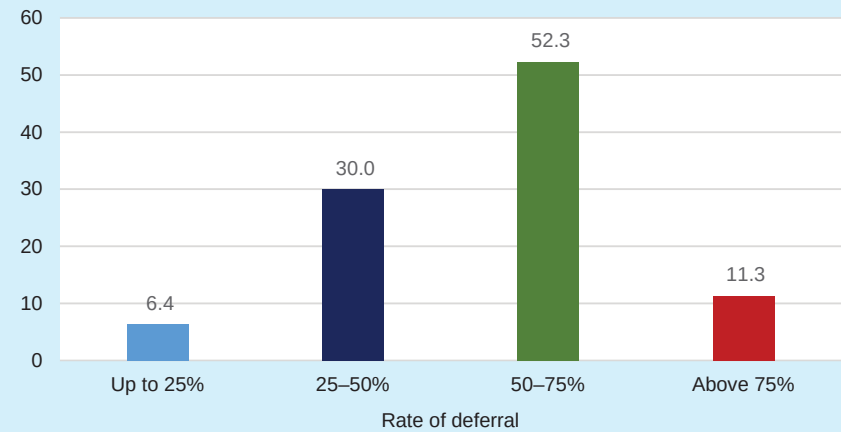
Figure 1.29
Deferred Credit as a Share of Total Outstanding Credit[a], Total Banking System December 2020 (percent)



[a] Outstanding housing credit is updated to March 2021.
SOURCE: Based on reports to the Banking Supervision Department.

Most loans within the deferral outline had more than 50% of the monthly payment deferred.

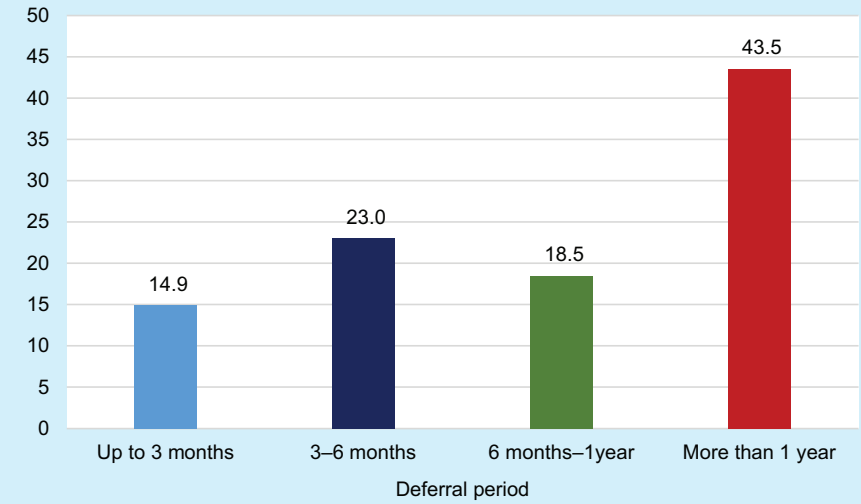
Figure 1.30
Distribution of Outstanding Housing Credit for which Payments were Deferred, by Rate of Monthly Payment Deferred, Total Banking System, March 2021 (percent)



SOURCE: Based on reports to the Banking Supervision Department.

About 40 percent of loans in the deferral outline were deferred for more than a year.

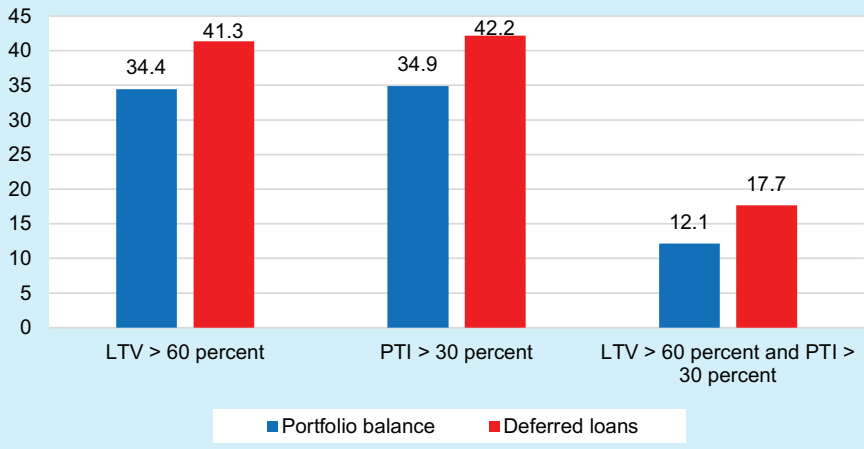
Figure 1.31
Distribution of Outstanding Housing Loans for Which Payments were Deferred, by Deferral Period, Total Banking System, March 2021 (percent)



SOURCE: Based on reports to the Banking Supervision Department.

Borrowers who deferred their mortgage payments have higher risk characteristics than the general population of mortgage borrowers.

Figure 1.32
Distribution of Outstanding Loans for which Payments were Deferred in the Housing Portfolio, by LTV and PTI Characteristics, Total Banking System, March 2021 (percent)

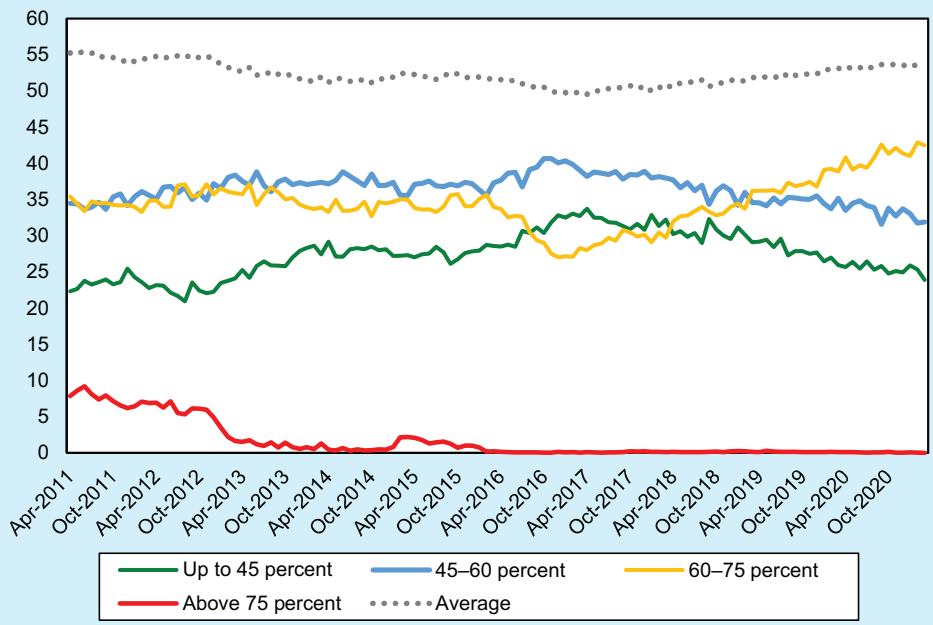


SOURCE: Based on reports to the Banking Supervision Department.

The risk indicators in the housing credit portfolio worsened slightly during the year. Thus, the share of high-LTV (60–75 percent) loans in total performance continued to climb and came to an average of 40 percent (as against 36 percent a year earlier; Figure 1.33) and the average payment term increased by half a year (to 22.5 years). However, the payment-to-income (PTI) ratio, a crucial variable in estimating the probability of borrower default, remained stable at 26.5 percent on average (Figure 1.34). These developments, coupled with the extent of the payment deferrals and uncertainty about how the crisis would evolve, triggered an increase in the rate of credit loss expenditure to 0.21 percent as against 0.03 percent in 2019 (Table 1.12). Importantly, **however, the housing-credit portfolio has the highest quality of all segments of the bank-credit portfolio, thanks to the Banking Supervision Department's macro-prudential measures over the years to mitigate the exposure of the housing-credit portfolio** to exogenous shocks and to collateral risk.

The rate of loans issued at high LTV rates (60–75 percent) continued to increase.

Figure 1.33
Distribution of New Mortgages by LTV Ratios, Total Banking System, April 2011–March 2021 (percent)



SOURCE: Reports to the Banking Supervision Department.

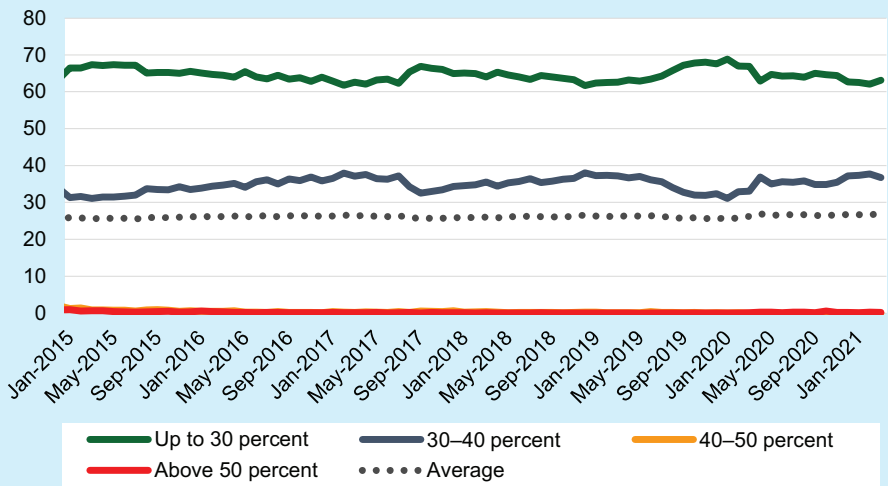
In late 2020, the Bank of Israel removed a macroprudential restriction, in effect since 2011, that limited the share of the "prime-rate (a variable rate that is indexed to the Bank of Israel interest rate) component" to one-third of a total mortgage loan, and kept in place the "variable interest rate limitation", which limits the share of the variable

The share of high-LTV loans in total performance climbed again, to 40 percent on average during the year.

interest rate component to two-thirds of a mortgage loan. The elimination of the prime-rate component restriction enables borrowers to increase the share of the prime rate component to two-thirds of the total mortgage loan and thus gives them a wider range of choice in the mix of components in their mortgage loan. This measure may lead to continued upturns in new credit and refinancing volumes because, by raising the proportion of the prime-rate component of a housing loan, which is usually less expensive than the other components of such a loans, it reduces the weighted interest rate on the total loan.[50] Thus, after the limit was raised (January 2021),[51] the share of the prime component of banks' Approvals in Principle edged upward.[52] In March 2021, the share of the prime rate component was 37.5 percent of a total mortgage, compared to one-third when the restriction was in place. The change in the mortgage loan

The payment to income (PTI) ratio remained stable.

Figure 1.34
Distribution of New Residential Loan by PTI Rates, Total Banking System, January 2015–March 2021 (percent)



SOURCE: Based on reports to the Banking Supervision Department.

[50] Over the years, the prime component has become the most competitive one among the banks, which use it to attract customers because it lends itself to comparison shopping with relative ease. Importantly, however, if the Bank of Israel rate rises, customers who choose to increase the share of their housing loans on this component are likely to see their monthly payment rise.

[51] Refinancing of mortgage loans was allowed starting February 28, 2021.

[52] "Approval in Principle" is an official document that includes the sum and terms of the loan that the bank has offered in accordance with the particulars of the borrower and of the property for which the loan is sought. An Approval in Principle is issued at no charge and does not require the customer to take the loan in question. It must remain in effect for at least twenty-four days and as long as it is in effect, the bank must create the mortgage loan under the terms set forth in the Approval (even if interest rates, fees, and other factors change) provided the data give over are verified. (For further discussion, see Proper Conduct of Banking Business Directive 451.)

The Bank of Israel lifted its restriction on the share of the "prime track" at year's end, allowing borrowers to take up to two-thirds of their loans in this manner.

composition is a prolonged process toward reaching a new equilibrium, both in terms of pricing loan components and in terms of the mix of its components, and the Banking Supervision Department is closely following the developments and is analyzing individual data in this segment.

Commercial credit

The construction and real-estate industries continued to spearhead the growth of commercial credit.

In 2020, the commercial-credit portfolio grew by 6 percent, led by the construction and real-estate industries with growth rates of 12.5 percent and 9.8 percent, respectively (Figure 1.35), accounting for more than 60 percent of commercial-credit growth during the year. **As such, the share of the housing, construction, and real-estate industries climbed to more than half of total bank credit to the public** (52 percent as against 49.7 percent in 2019; Table 1.14). These industries continue to pose one of the largest structural risks in the credit portfolio due to their strong correlation and their sensitivity to exogenous shocks. Given these risks and the expectation of further growth in these industries in coming years, inter alia due to relaxation of the limit on indebtedness of the construction and real-estate industries[53], the Banking Supervision Department carried out a survey to profile, map, and estimate the main risks in the various segments included in credit exposure to the construction and real-estate industry (Box 1.6).

The banking system continued to make credit available even to sectors of the economy that were adversely affected by the crisis. This activity was facilitated, among other factors, by the state-guaranteed loan funds, which approved 60 percent (about 66,400) of total applications as of March 2021. These funds helped to expand credit supply for the business sector at large and for the affected industries in particular,[54] as the share of such industries in total credit approved by the funds exceeds their share in the banking system's credit portfolio (Figure 1.36).[55] Thus, three government-guaranteed loan programs have come into being since April 2020[56]: The Small and Medium Businesses Fund, Regular Track, was launched in April 2020 and typically provides an 85 percent guarantee at the individual-loan level and a 15 percent aggregate guarantee at the portfolio level. The fund was expanded in September 2020 after its original credit allotment was fully allocated. As of March 2021, the takeup rate was 58 percent of all credit allotted to the fund (NIS 21 billion out of NIS 36 billion). The Heightened-Risk Businesses Fund was meant to help businesses that did not qualify for credit under the regular program. Established in June 2020, it typically provides an 85–95 percent guarantee for individual loans and a 60 percent aggregate guarantee for

[53] The limit on exposure to the construction and real-estate industry (including national infrastructure) was raised by 2 percentage points (from 24 percent of the total credit portfolio to 26 percent). See "Update of the banking system's limitations on the construction and real estate industry," https://www.boi.org.il/en/NewsAndPublications/PressReleases/Pages/7-12-2020.aspx

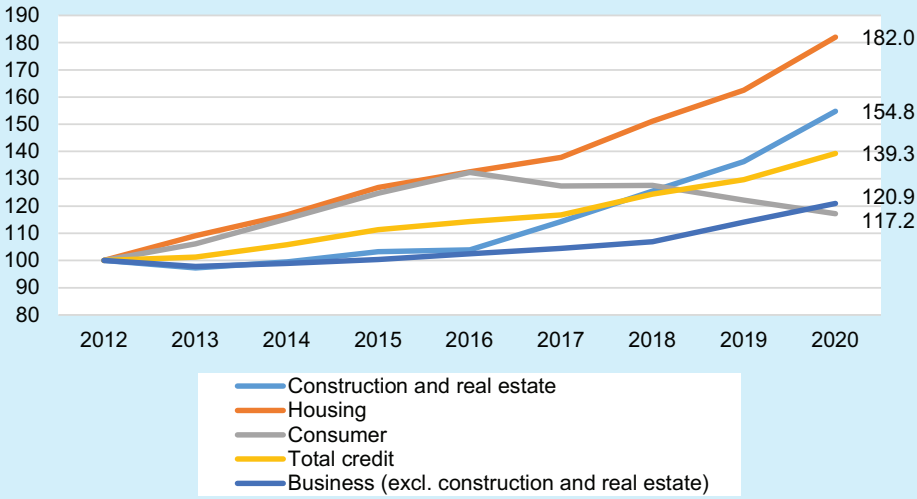
[54] For further discussion, see the Bank of Israel Annual Report for 2020, Chapter 2, Box 1.

[55] A possible explanation for the large share of monetary loans in the construction and real-estate industries is the banks' wish to grow their activity in this segment.

[56] For further discussion of the funds' activities and characteristics, see the Bank of Israel Annual Report for 2020, Chapter 4.

The housing, construction, and real estate segments continue to lead the growth of the credit portfolio.

Figure 1.35
Development of Outstanding Balance-Sheet Credit in the Main Segments Relative to the Base Year, Total Banking System, 2012–2020
(index: 2012=100)



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

the portfolio. The takeup rate at the present writing is 60 percent (NIS 2.5 billion out of NIS 4 billion). The Large Businesses Fund was launched in June 2020 and typically gives a 75 percent guarantee for individual loans and a 12 percent aggregate guarantee for the portfolio. Of the NIS 6 billion allotted to the fund, NIS 1.7 billion has been allocated thus far. These funds lowered the credit risk associated with these loans and helped to mitigate financing difficulties after the pandemic broke out (first quarter of 2020), as the Companies Survey in the second quarter 2020 showed by pointing to a downturn in financing constraints (Figure 1.37). Furthermore, in the second half of 2020, financing constraints increased in all segments of business activity, small business in particular. This coincided with a downturn in lending interest rate to this sector (Figure 1.38), influenced inter alia by the Bank of Israel's rate cut in 2020. These developments may attest to the toughening of underwriting terms due to uncertainty about relief measures in the stages of exiting the crisis. In contrast, no major increase in funding difficulties in the large-business segment was observed because measures by the Bank of Israel to provide liquidity and keep the financial markets stable[57] helped to lower the cost of nonbank raising of capital. This is inferred from the extent of debt issuing by nonfinancial entities[58] in the course of the year, which declined only slightly

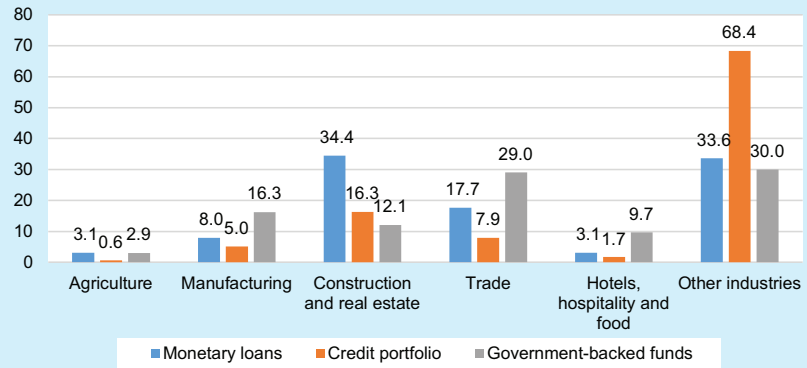
The state-guaranteed-loan funds helped to expand credit supply for the business sector, particularly for industries severely impaired by the crisis.

[57] For further discussion, see the Financial Stability Report for the first half of 2020, Box 3: "Developments in the Corporate Bond Market during the Crisis."
[58] Not including banks and insurance companies.

relative to the average in recent years (NIS 41 billion in 2020 as against NIS 44 billion on average in the previous three years).[59]

The industries that were hard hit by the COVID-19 crisis as a share of the assistance programs is greater than their share of the credit portfolio.

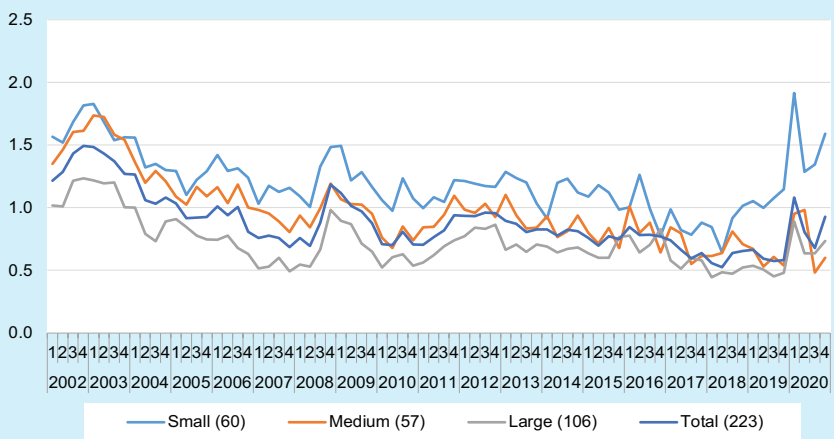
Figure 1.36
Distribution of Financing Credit Issued Against Monetary Loans[a], Distribution of Credit Approved as Part of the Government-Backed Funds[b], and Distribution of the Bank Credit Portfolio[c] (percent)



[a] Based on credit utilized from December 2020 to March 2021.
[b] As of April 15, 2021.
[c] As a share of total credit to the public in Israel up to December 2020.
SOURCE: Based on reports to the Banking Supervision Department.

The state-backed loan funds helped lower financing difficulties following the start of the crisis.

Figure 1.37
Companies Survey of Financing Difficulties by Company Size[a], Business Sector[b], 2002–2020 (index)

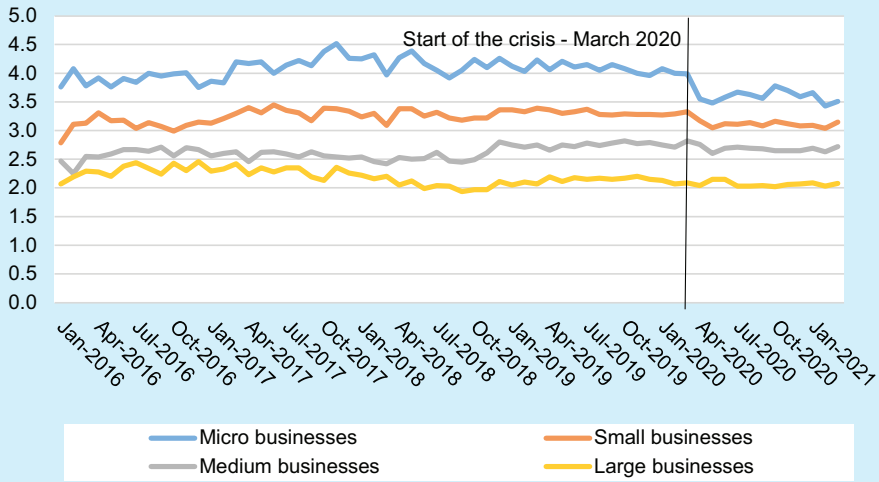


[a] The index reflects the seriousness of the constraint reported by the companies, on a scale ranging from 0 (no constraint) to 4 (serious constraint).
[b] Weighted by the industry's weight in business sector product.
SOURCE: Bank of Israel data.

[59] For further discussion, see the Bank of Israel Annual Report for 2020, Chapter 4.

The interest rate declined during the year in all business activity segments.

Figure 1.38
Unindexed Variable Shekel Interest Rate, Total Banking System, 2016–March 2021 (percent)



SOURCE: Based on reports to the Banking Supervision Department.

Credit to the business sector grew vigorously for reasons including the Bank of Israel's measures but the growth was uneven during the year.

Business credit[60] grew more quickly than in recent years. Outstanding credit to the business segment increased by 5.5 percent in 2020, much as in 2019 (Figure 1.39). Most of the upturn (75 percent) was based in credit to large businesses. Sixty percent of the increase in credit to the large-business segment (NIS 12 billion) went to large construction and real-estate businesses. The growth of credit to the large-business segment was uneven during the year. Thus, the first quarter saw a 19 percent (NIS 23 billion) annualized rate of increase due to the use of credit facilities and lines that were available to these businesses before the crisis amid concern about difficulties in raising credit during the crisis. In the second quarter, in contrast, outstanding credit to this segment contracted by 6 percent (NIS 13 billion), largely due to repayment of loans taken in the first quarter and a decline in cost of issuing in the capital market, both originating, inter alia, in measures taken by the Bank of Israel to mitigate volatility in the capital market. From mid-year onward, high growth rates by recent years' standards were observed, bringing the growth rate for all of 2020 to 9.5 percent.

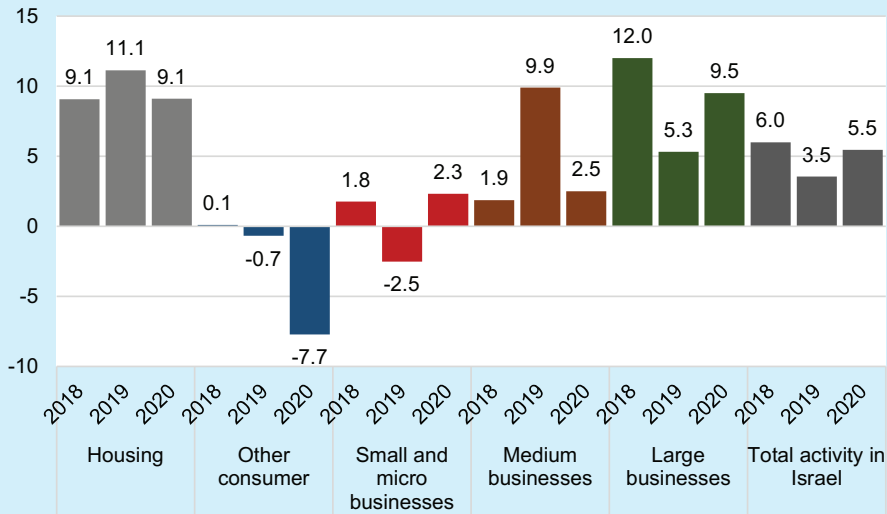
The banking system is the main source of credit for the small- and micro-business segment. The upturn in credit risk during the review year, which damped demand for bank credit particularly in this segment, prompted decision-makers to act in diverse ways to expand credit supply for this segment, which was badly harmed by the crisis. Thus, outstanding credit to the small- and micro-business segment contracted by NIS 1.7 billion in the first quarter due to the aforementioned upturn in risk along with the anticipation of government relief programs. In the second quarter, after several

[60] The analysis in this section is based on the supervisory approach typology of activity segments.

relief measures designed to maintain credit supply for this segment were implemented, a 2.6 percent (NIS 5 billion) increase relative to the first quarter took place. Continued growth in the second half of the year brought the annual rate of increase to 2.3 percent (approximating the medium-business segment, in which outstanding credit grew by 2.5 percent during the year).

Credit to the housing and large businesses segments increased, alongside a decline in consumer credit.

Figure 1.39
Outstanding Credit to the End of the Reporting Period in the Various Activity Segments, December 2018–December 2020 (percent)



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

One of the most important policy measures invoked during the crisis to safeguard credit supply for small and micro businesses was the set of government-guaranteed loan funds that began to operate during the second quarter. As of mid-April 2021, these funds (the regular fund and the at-risk fund) had allocated NIS 23.8 billion in credit. (In the fund for large businesses, the sum approved for lending was NIS 1.7 billion). Another measure meant to bridge the time gap between the onset of the crisis and the activation of the funds was the payment deferral program, which many businesses found helpful.

The gap between total credit approved via the funds[61] (NIS 23.5 billion) and the increase in outstanding credit to the small- and micro-business segment (NIS 4.3 billion) and the medium business segment (NIS 2.2 billion) during the year, suggests that the credit made available by the funds helped borrowers to

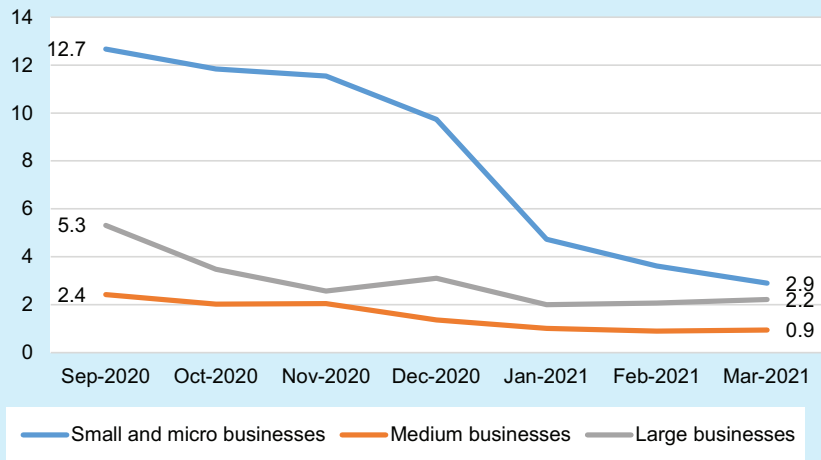
61 As of the end of 2020.

refinance loans under more convenient terms[62] (3.1 percent interest as against 3.43 percent on average in March 2021). **The slump in economic activity widened the gap by reducing demand for credit for investment purposes**[63] **because many businesses returned to repaying their liabilities to the banking system,**[64] **as implied by the decrease in credit being deferred** (Figure 1.40). The credit issued under the funds' auspices abetted a change in the distribution of the term to maturity of the credit portfolio in the small- and medium-business segment during the year. Thus, the share of credit with 2–5 years to repayment increased at the expense of credit to repayment terms of up to one year and more than five years[65] in the small- and medium-business segments (up 3 and 4 percentage points during the year, respectively; Figure 41). In addition to the state-guaranteed loan funds, the Bank of Israel offered the banking system reduced-rate monetary loans against credit extended to the small and micro

Many businesses and households deferred large sums of loan repayments during the crisis. Small and micro businesses did this conspicuously; their balance of deferred credit in the total credit portfolio was the highest in the business sector: 1.51 percent.

The volume of deferred credit declined significantly.

Figure 1.40
Balance of Outstanding Deferred Credit in the Business Sector, Total Banking System, September 2020–March 2021 (NIS billion)



SOURCE: Based on reports to the Banking Supervision Department.

[62] Similar behavior was observed in several European Union countries during the crisis. "Public Loan Guarantees and Bank Lending in the COVID-19 Period," ECB Economic Bulletin, Issue 6/2020.

[63] For an expanded discussion, see Chapter 1 of the Bank of Israel Annual Report for 2020 (April 2021).

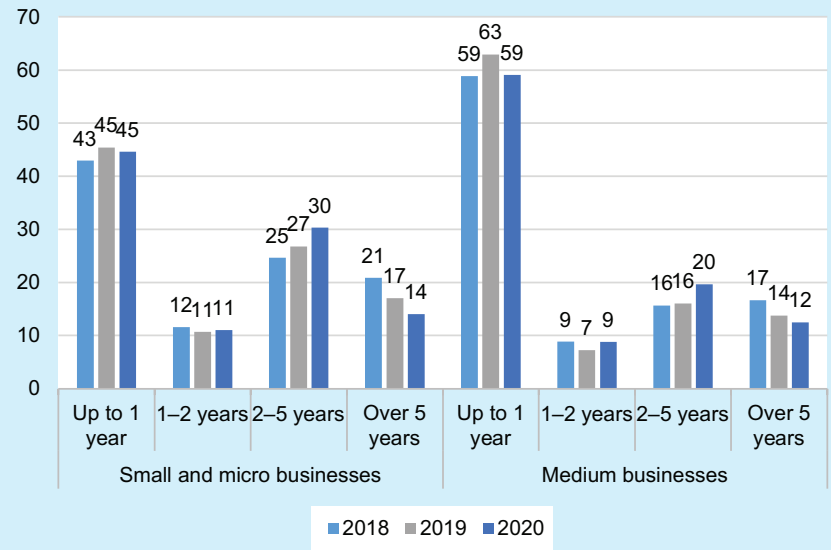
[64] Notably, the loans given out by the funds offer one-year grace on interest payments. Therefore, borrowers who took these loans in order to cope with uncertainty and ended up not needing the money preferred to pay them back.

[65] Credit via the funds was issued to terms of up to five years and from February 2021, onward, to ten years.

business segment. Thus, under the two programs,[66] NIS 31.6 billon in credit was issued as of April 2021.

The assistance programs had an effect on the term to repayment of the credit portfolio in the small and medium business segments during the year.

Figure 1.41
Distribution of the Term to Repayment for Credit Provided for a Fixed Term in the Business Activity Segments, Total Banking System, 2018–2020
(percent)



SOURCE: Based on reports to the Banking Supervision Department.

The difficulties that beset many businesses and households during the crisis were reflected in, among other things, the large scale of monthly-payment deferrals, especially among small and micro businesses. Thus, in the business segment payments on NIS 40 billion in loans in terms of their total cumulative scale (67 percent of which were taken by small and micro businesses) were deferred during the crisis. However, payment of most deferred loans has resumed in recent months, causing the balance of deferred business credit to decrease to NIS 6 billion by March 2021. Again, much of the deferred credit (48 percent) had been issued to small and micro businesses, the segment of the business sector that has the largest share of outstanding credit in the total credit portfolio: 1.51 percent (Figure 1.29).

[66] Pillar A—loans to banks at 0.1 percent interest to a three-year term, contingent on banks' lending to small and micro businesses in accordance with specific criteria: https://www.boi.org.il/en/NewsAndPublications/PressReleases/Pages/6-4-2020.aspx. Pillar B—four-year loans at -0.1 percent fixed interest against banks' lending to small and micro businesses, provided the rate on these loans will not exceed Prime + 1.3 percent: https://www.boi.org.il/en/newsandpublications/pressreleases/pages/22-10-20a.aspx

The adverse effects of the COVID-19 crisis were also reflected in the narrowing of the net interest margin and the worsening of credit quality indices in all activity segments (Table 1.13). Thus, the net interest margin in the business sector eroded by 49 basis points, to 2.73 percent, and loan-loss provisions increased by 56 basis points, to 0.67 percent, during the year.

Credit portfolio quality

Policymakers' measures during the crisis helped many borrowers to continue servicing their bank loans.

The high quality of the banking credit portfolio on the eve of the crisis (Table 1.11) helped to keep the system stable throughout the crisis, despite the severe blow that the Israeli economy and borrowers sustained. The economic-activity slump, impairing the income of many businesses and households and generating high unemployment rates, made many borrowers less able to meet their undertakings to the banking system and worsened the indicators of the banks' credit portfolio quality (Table 1.11). Concurrent measures such as relaxing unemployment compensation criteria for workers on unpaid leave and the payment deferral framework, along with the contraction of households' consumption, enabled many borrowers to continue repaying their bank loans. Thus, as stated, the risk did not fully come to pass. Notably, however, the impact of the crisis on the economy and, particularly, on the banking system is not fully clear and its implications for the credit portfolio will persist in the coming years.[67]

Some 85 percent of credit-loss provisions took place at the group level and was meant to absorb future losses not yet realized.

The negative impact on the economy and the uncertainty surrounding the development of the crisis were reflected in historically high loan-loss provisioning rates. Thus, the banking system's credit loss allowances increased to more than NIS 7.8 billion during the year (up 150 percent from 2019) and the rate of credit loss allowance was 0.68 percent in 2020 as against 0.29 percent a year earlier (Figure 1.42). Notably, 85 percent of this allowance was at the group level and was meant to absorb future losses not yet realized. The share of individual-level allowance was small due to a decrease in credit concentration in the banking system (Figure 1.43) and less exposure to leveraged borrowers and capital transactions (Figure 1.44). This was the result of a series of measures by the Banking Supervision Department over the years, designed to reduce credit concentration while expanding credit supply to the small-business and household segments as recommended by a team set up during the year to review the implementation of the provisions of Chapter D of the Concentration Law.[68] In addition, the Banking Supervision Department conducted an industry-based survey of the five large banks in the third quarter of 2020 in order to profile the main risks of important industries affected by the crisis and their implications for the banking system's stability and its credit exposure to large borrowers. **It was found in the**

[67] "Liquidity to Solvency: Transition Cancelled or Postponed?" BIS, March 2021.

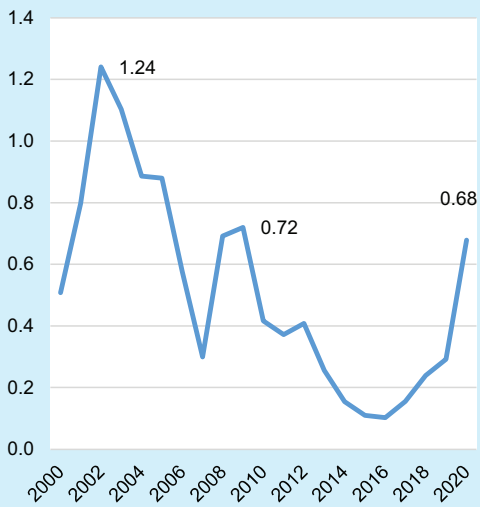
[68] Under Section 3.3 of the Concentration Law, a team was to be set up in December 2019 to review the application of the provisions of Chapter D of the law, which deals with spinning off control of significant nonfinancial corporations and financial-service entities, and to test the effect of this separation on concentration in the economy.

survey that although the riskiness of the crisis-affected industries had risen, no individual borrower or group of borrowers presented a macroprudential risk, much as had been the case before the crisis. (For further discussion, see Box 1.5 in this chapter.) On the basis of the survey, the Department presented the banks with individualized requirements, such as heightened monitoring of the condition of certain borrowers, tougher classification of debts in their financial statements, and, in the case of certain borrowers, strengthening the collateral structure of their credit as warranted by the increase in the share of troubled credit in the total credit portfolio, to 2.86 percent at the end of 2020 as against 2.33 percent a year earlier (Table 1.11).

As the pandemic continued, the Banking Supervision Department published supervisory clarifications on the accounting treatment of debts and reporting to the public in view of the crisis.[69] The purpose was to encourage banks and the credit card companies to act prudently and proactively to prevent the impairment of credit to borrowers, thus precluding an increase in interest charged to households and business on that account, and help without compromising the resilience of banking corporations, borrowers, and the economy at large. The accounting adjustments affected the credit quality measures because borrowers who had not been in arrears before the crisis were not defined as being in arrears due to their financial conduct.

There were historically high provision rates during the year.

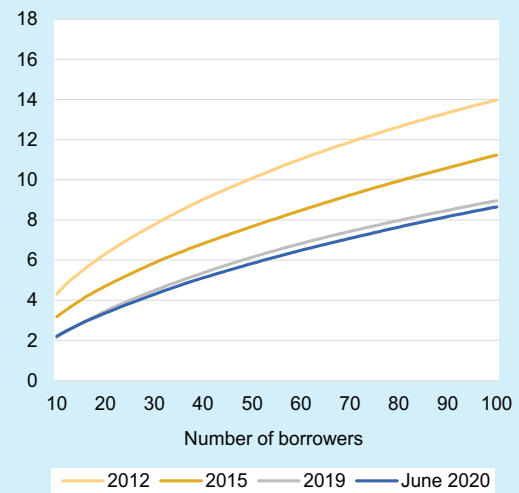
Figure 1.42
Loan Loss Provisions as a Share of Balance-Sheet Credit to the Public, Total Banking System, 2000–2020 (percent)



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

The downward trend in credit concentration in the banking system continued.

Figure 1.43
Total Credit Risk Balance of the 100 Largest Borrowers[a] as a Share of Total Credit Risk Balance, Total Banking System, 2012, 2015, 2019, and June 2020 (percent)

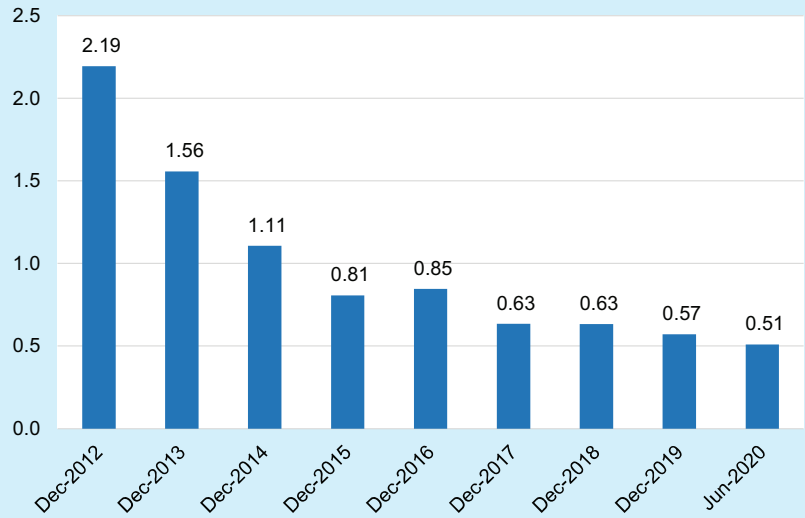


[a] "Large borrowers" does not include banking corporations.
SOURCE: Based on reports to the Banking Supervision Department.

69 "The COVID-19 crisis—supervisory statement regarding the treatment of loans and reporting to the public," press release, March 25, 2020, https://www.boi.org.il/en/NewsAndPublications/PressReleases/Pages/25-3-2020.aspx

The trend of reducing exposure to leveraged borrowers and capital transactions continued this year.

Figure 1.44
Balance-Sheet Credit to Finance Capital Transactions as a Share of Total Balance Sheet Credit, Total Banking System, 2012–June 2020 (percent)



SOURCE: Based on reports to the Banking Supervision Department.

d. Liquidity risk

The liquidity coverage ratio (LCR),[70] the leading metric for assessing liquidity risks in banking systems, surged to 136 percent in December 2020 (Figure 1.43). At all banks in the system, it remained considerably higher than the 100 percent minimum requirement that the Banking Supervision Department has set.

The Liquidity Coverage Ratio improved considerably, to 136 percent (aggregate) in December 2020.

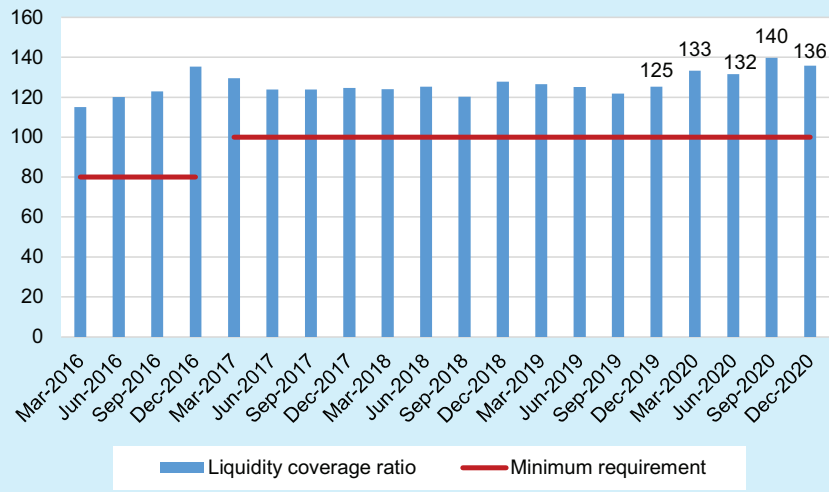
Importantly, however, the LCR does not suffice to shed light on liquidity risk because it is inherently subject to various assumptions and fails to take account of intra-month

[70] 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.

gaps in the timing of cash flows (hereinafter: funding gaps). When liquidity risks are assessed, account must be taken of the processes that the banks use to manage them, the size of the funding gaps within months, and the banking corporations' willingness to bridge the gaps when an emergency occurs and to assess the situation beyond the individual month as well. As explained below, despite high LCRs in foreign currency, Israel's banking system and systems abroad encountered a liquidity crunch in US$ in 2020 because the market declines in March 2020 forced them to transfer large and extreme sums of liquid collateral to brokers and clearing institutions.

The liquidity coverage ratio in the banking system remains higher than the minimum requirements despite the COVID-19 crisis.

Figure 1.45
Liquidity Coverage Ratio (LCR), Total Banking System[a], March 2016–December 2020 (percent)



[a] On a consolidated basis.
SOURCE: Based on reports to the Banking Supervision Department.

As soon as the pandemic broke out, two phenomena were observed, both affecting liquidity risks in Israel and abroad. One is the universal tendency among individuals to mitigate risks and build up liquid and safe assets (flight to safety). This scenario is good for the banking system from the standpoint of liquidity, and its reflection of the public's confidence in the banking system's stability; however, it is not stable enough to rely on in the long run. In contrast, stock-market indices around the world plunged and, as a consequence, so did the derivatives market that track these indices, creating demands to increase US dollar collateral and triggering global dollar liquidity distress. In addition, liquidity pressure mounted even more when the market downturns led to the toughening of the collateral-requirement models. Were this not enough, the collateral itself lost value. All these factors necessitated the immediate intervention

of central banks, including the Bank of Israel, to inject dollars by means of foreign exchange (FX) swaps.[71]

Fearing that the banking corporations would also transition to a risk-mitigation mode including reducing credit, thereby worsening the crisis, various regulators abroad[72] established easings in the LCR, particularly offering the possibility of falling below the 100 percent minimum requirement, in order to make sure that liquidity requirements would not cause the banks difficulties in their continued operations under the conditions prevailing at the onset of the crisis. In Israel, however, alongside the same liquidity and uncertainty pressures that affected the markets' ability to continue providing liquidity throughout the crisis, prompting various firms and entities to quickly withdraw credit lines and liquidity, the inventory of liquid assets grew quickly during the crisis—causing the LCR to trend upward from the beginning of the crisis and throughout 2020. Accordingly, and in view of the adequate liquidity ratios of Israeli's banking system when the crisis began, inter alia, no need for leniency in the total LCR was needed. As evidence, whereas the LCR was estimated at 125 percent in December 2019 (before the crisis began), by March 2020 it had already risen to 133 percent and continued to escalate afterwards (Figure 1.45). The sharp upturn during the months of the crisis originated mainly in the steep and persistent expansion of the high quality liquid assets (HQLA) inventory throughout the year (44.5 percent). The net cash outflow also rose, but this increase was uneven during the year (Figure 1.46). The source of the growth in HQLA and net cash outflow was growth of deposits from the public (mainly in current accounts; **for further discussion on the determinants of the increase in deposits from the public during 2020, see Box 4 in this chapter)**.

Liquidity in the markets and in the banking system

When the pandemic crisis began in March and April, it seemed that the banking system's LCR (in both forex and NIS) had not been impaired, remained high, and even improved on system-wide average. The improvement, however, did not fully account for the forex liquidity crunch that had overtaken the domestic financial markets, prompting the Bank of Israel to intervene via FX-swaps.[73]

In early March, the markets began to respond to the global spread of the pandemic by becoming much more volatile. In turn, the implied volatility derived from the standard deviation of options on stocks indices worldwide—the VIX (volatility index)—also surged (Figure 1.47). Amid this volatility, brokers, clearing institutions, and stock exchanges demanded more liquid collateral against transactions in derivatives and other capital-market credit operations (e.g., repo transactions), due to the toughening

At the very beginning of the crisis, equity indices worldwide plummeted and dragged down the derivatives market that tracks them—generating demand for more US dollar collateral kept in the US and triggering a global US dollar liquidity crunch that did not leave the Israeli economy unscathed.

[71] In US$.

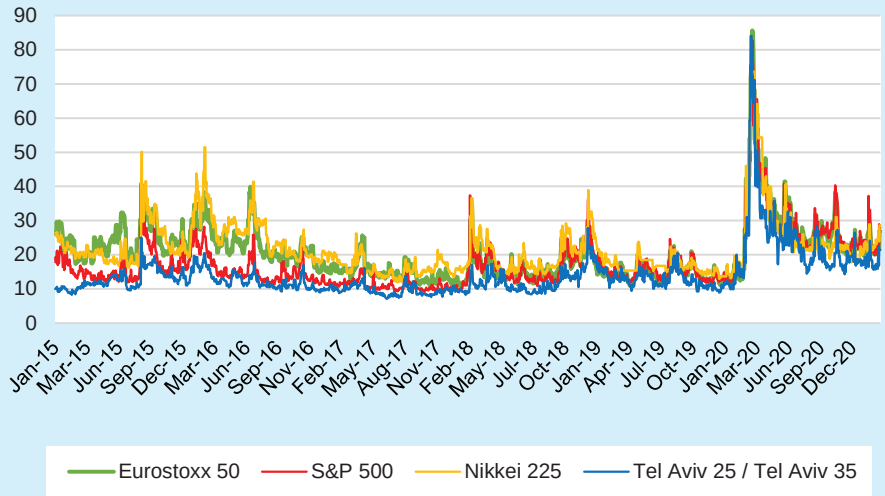
[72] Sweden's financial supervisory authority, the ECB, and the Federal Reserve.

[73] See press release, March 16, 2020, "Bank of Israel introduces an additional liquidity instrument in the financial markets," https://www.boi.org.il/en/NewsAndPublications/PressReleases/Pages/16-3-2020.aspx

of collateral-requirement models (in view of the market volatility) and the decline in the value of the securities that serve as collateral.

There were sharp fluctuations in the markets in March, due to the COVID-19 crisis.

Figure 1.47
Implied Volatility Derived from the Stock Indices in Various Countries, 2016–February 2021 (index)



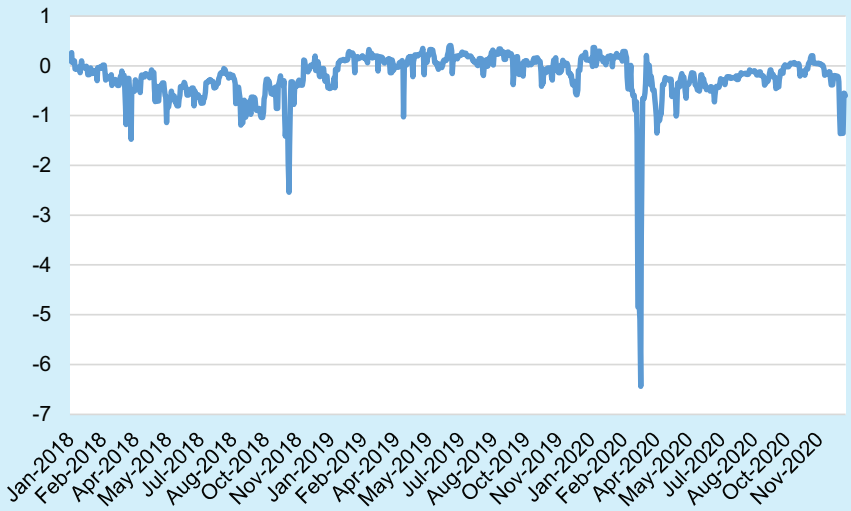
SOURCE: Bloomberg and Tel Aviv Stock Exchange data.

Derivatives activity in the Israeli market vis-à-vis counterparties abroad, institutional players in particular, takes place on a considerable scale. The demand for increased dollar collateral forced the Israeli market participants, foremost the banks, to transfer liquid assets to brokers and stock exchanges abroad. Accordingly, these institutional players had to convert local-currency assets into US$, either by selling NIS securities or by FX-swaps, in the middle of the crisis. Since swaps take place vis-à-vis Israeli banks themselves, the magnitude of the transactions made this channel difficult to use and its cost increased sharply (Figure 1.48) until the Bank of Israel intervened.[74] Much conversion of NIS took place by means of NIS-US$ swaps because institutional transactions are funded by means of relatively short-term tools (Figure 1.49). Within a few days, the increase in US$ funding costs led to considerable losses in the banks' trading rooms on their inventory of "old" transactions (for an expanded discussion see the section on Market Risks). Again, all this was until the Bank of Israel's intervention.

[74] On March 18, 2020, the Bank of Israel decided to carry out US$–NIS swaps with the banking system in order to provide them with the same US$ liquidity. After this intervention, the US$ interest rate and exchange rate fell and the banks' trading activity leveled off in relative terms. See https://www.boi.org.il/en/NewsAndPublications/PressReleases/Pages/16-3-2020.aspx

The interest rate inherent in 1-week shekel/dollar swaps declined sharply, in view of the high demand for foreign exchange at the beginning of the crisis.

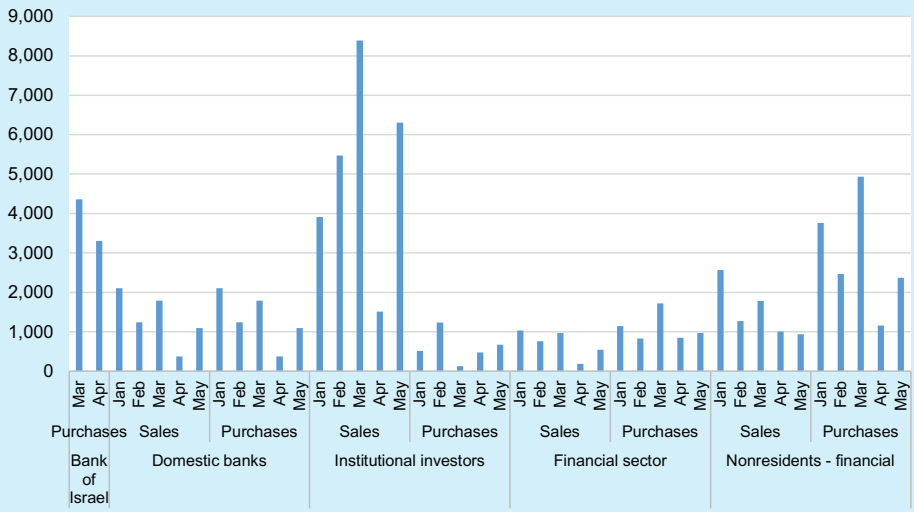
Figure 1.48
The Interest Rate Inherent in 1-Week NIS/$ Swaps, 2018–2020 (percent)



SOURCE: Bank of Israel data.

Institutional investors' financing of foreign exchange swaps is long-term, using relatively short-term sources.

Figure 1.49
Volume of FX-Swap Transactions for Periods Longer than 1 month, Divided into Sales and Purchases[a], by Counterparty, Total Banking System, January–May 2020 ($ million)



[a] A sale or purchase on the short log from the bank's point of view.
SOURCE: Based on Bank of Israel data.

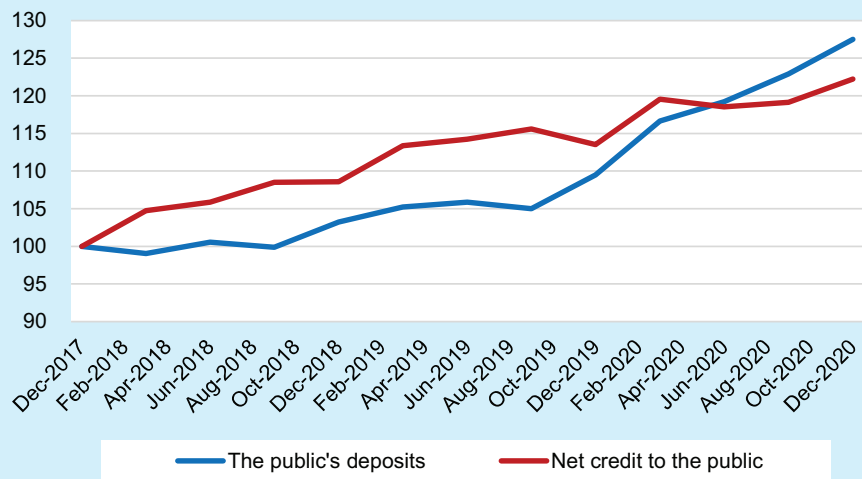
Inventory of High Quality Liquid Assets (HQLA)

The LCR escalated swiftly during the crisis, mainly because an increase in deposits from the public (largely in demand accounts) caused steep and persistent growth of the High Quality Liquid Assets inventory during the year.

The HQLA inventory grew by NIS 172.9 billion in 2020, mostly due to an increase in cash and in deposits with the Bank of Israel, stemming in turn mainly from steep 18 percent growth in deposits from the public (NIS 230.1 billion) as against 4 percent annual growth in the three years preceding the crisis. Several main factors explain the sharp growth of deposits from the very outset of the COVID-19 crisis. First, observing the onset of the crisis and the acute market volatility, the public chose to move assets from the capital market to the banks, which it considered a safe haven for savings. Second, the government unveiled a series of measures in support of the economy that had a fiscal expansion effect and, for this reason, acted to increase the public's deposits. The Bank of Israel's measures, too, including forex purchases, acquisition of government bonds, and monetary loans to the banking system, injected NIS into the economy and thus also abetted an increase in the public's deposits. (For further discussion on the determinants of the increase in deposits from the public in 2020, see Box 1.4 in this chapter.) The large and steep upturn in the public's deposits, along with the minor increase in credit (for elaboration, see the Credit section, Figure 1.50) improved the LCR.

The significant growth in the public's deposits, alongside moderate growth in credit, led to an improvement in the liquidity coverage ratio.

Figure 1.50
Credit to the Public Compared with the Public's Deposits, Total Banking System, December 2017–December 2020 (index: Dec. 2017=100)



[a] A sale or purchase on the short log from the bank's point of view.
SOURCE: Based on Bank of Israel data.

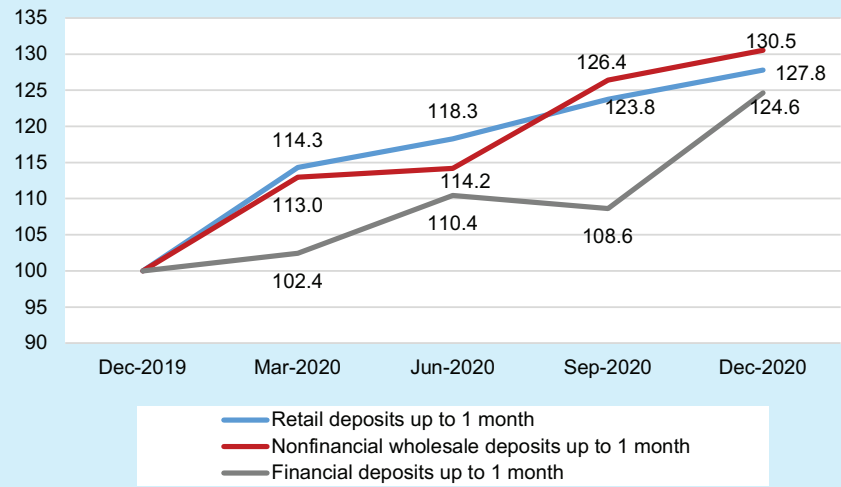
Net cash outflow

A banking corporation's net cash outflow reflects its need for liquidity in the coming month. The liquidity needs of Israel's banking corporations grew in 2020 due to growth of deposits (in NIS and foreign currency) and of increased US$ liquidity needs due to margin requirements abroad in regard of market valuation changes on derivative transactions. However, while an increase in bank deposits initially contributes to growth in the inventory of liquid assets (insofar as it is not used for the issuance of credit), an increase in demand for liquid collateral is not backed by an injection of cash into the banking corporation. Furthermore, funds newly deposited by retail customers are more sensitive,[75] making them less reliable for liquidity purposes.

The net cash outflow increased at different rates during the year due to variance in the size of institutional deposits, which are more sensitive to price. Thus, while retail deposits for withdrawal up to one month increased rather steadily during the months of the crisis, the growth rate of wholesale (portfolio) deposits withdrawable up to one month varied (Figure 1.51), causing the cash outflow to increase sharply in the second and fourth quarters of the year (Figure 1.46).

While retail deposits increased quite steadily during the crisis, there was variance in the growth rate of institutional deposits.

Figure 1.51
The Public's Deposits for Withdrawal in Up to One Month, Total Banking System, December 2019–December 2020 (index: December 2019=100)



SOURCE: Based on reports to the Banking Supervision Department.

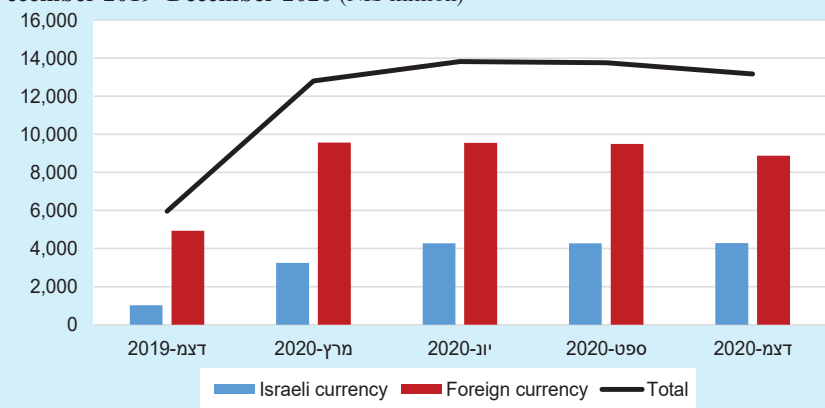
[75] Given that much of the increase in the public's deposits occurred due to the movement of assets from the capital market to the banks, a sizable shift of assets back to the capital markets may occur if the markets recover.

Another contributing factor in the acceleration of cash outflow in 2020 was the aforementioned increase in US$ liquidity needs, related to heightened margin requirements due to market valuation changes on derivative transactions in March 2020 (Figure 1.52).

On the cash inflow side, this inflow slowed during the first and second quarters on account of retail customers due to the cutback in credit to the public in the near term, for reasons including the option that banks gave their customers to defer their monthly payments of loans they had taken (reducing expected cash inflow in the next thirty calendar days; Figure 1.53).

The outflow for purposes of increased liquidity derived from changes in market valuation of derivatives or other transactions increased during the crisis.

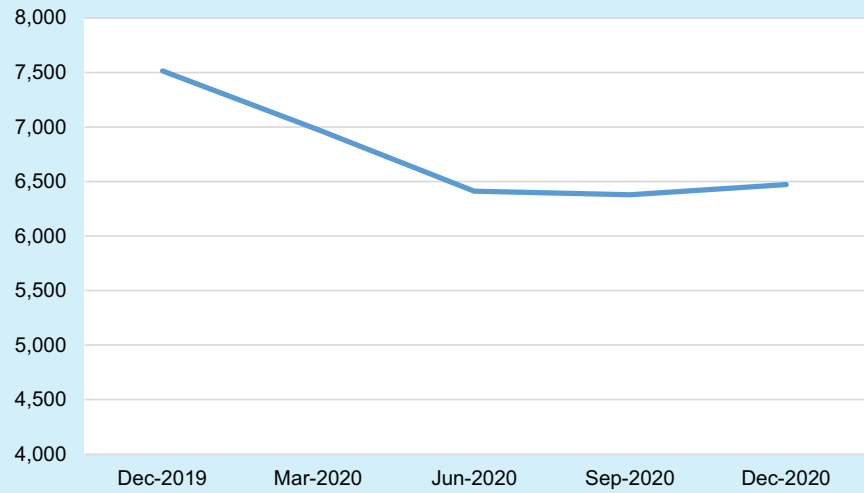
Figure 1.52
Outflow in Respect of Increased Liquidity Needs Derived from Changes in the Market Valuation of Derivatives or Other Transactions, Total Banking System, December 2019–December 2020 (NIS million)



SOURCE: Based on reports to the Banking Supervision Department.

The inflow in respect of retail customers is small, partly in view of the permit the banks gave their customers to delay monthly repayments on credit they took.

Figure 1.53
Inflow by Counterparty, Retail Customers (including small businesses), Total Banking System, December 2019–December 2020 (NIS million)



SOURCE: Based on reports to the Banking Supervision Department.

e. Market risk

a. Interest-rate risk

Interest-rate risk[76] is the risk to the banks' capital and profit as a result of interest-rate volatility that affects each bank's position. When interest rates change, the current value and the timing of their future cash flows vary as well. These, in turn, cause the underlying value of assets, liabilities, and off-balance-sheet items to change, thereby changing the bank's economic value. Changes in interest rates make an impact by changing income and expenses that are sensitive to interest rates and the banking corporation's profit; this affects net interest income (NII), among other things. Excessive interest-rate risk can pose a significant threat to a banking corporation's current capital base and/or future earnings if not managed appropriately. Interest-rate risks are measured using two main approaches—earnings and economic value-based measures.

[76] It is customary to analyze interest risk in the banking portfolio separately because instruments are held to longer terms in this portfolio than in the trading portfolio. The term of holding also dictates the intensity of potential shocks tested. The analysis that follows is from the perspective of the banking system at large and not of the banking portfolio alone, because the system-wide data show no material difference between the two. (Notably, however, the banking portfolio is 95 percent of the total portfolio.)

Effect of developments in market prices on the banks' earnings and balance sheets in 2020

Central banks around the world reduced their interest rates in the course of the year in response to the COVID-19 crisis. The Bank of Israel did the same at the beginning of April 2020, lowering the rate from 0.25 percent to 0.1 percent, and the Federal Reserve reduced the federal funds rate from 1.75 percent to 1.25 percent in March and to 0.25 percent later on. Alongside these rate cuts, sovereign yields trended downward (apart from a short-lived spike at the beginning of the crisis, which the Bank of Israel treated by means of monetary-policy tools). Also, inflation in 2020 was negative at -0.6 percent (on the basis of the known CPI[77]; Table 1). These trends had a perceptible influence on the banks' business results and equity during the year.

TABLE 1
MAIN MARKET INDICATORS[1] (PERCENT), 2020 AVG. VS. 2019 AVG.

	2019	2020	Change (pct. points)
Bank of Israel rate[2]	0.25	0.1	-0.15
Federal Reserve rate	2.28	0.54	-1.7
Nominal 10Y sovereign yield	1.58	0.82	-0.8
Real 10Y sovereign yield	-0.02	-0.50	-0.5
Nominal 5Y sovereign yield	0.87	0.39	-0.5
Real 5Y sovereign yield	-0.6	-0.6	0.0
Unindexed 10Y U.S. Treasury yield	2.1	0.9	-1.2
Annual inflation rate (known index)[3]	0.3	-0.6	-0.9
NIS/US$ exchange rate	3.4	3.6	-5.5%

[1] Year-long average.
[2] As of year's end.
[3] Calculated in terms of change in the Consumer Price Index between November 2019 and November 2020.

Source: Bank of Israel data.

[77] The known CPI is measured in terms of the change in the Consumer Price Index from November 2019 to November 2020.

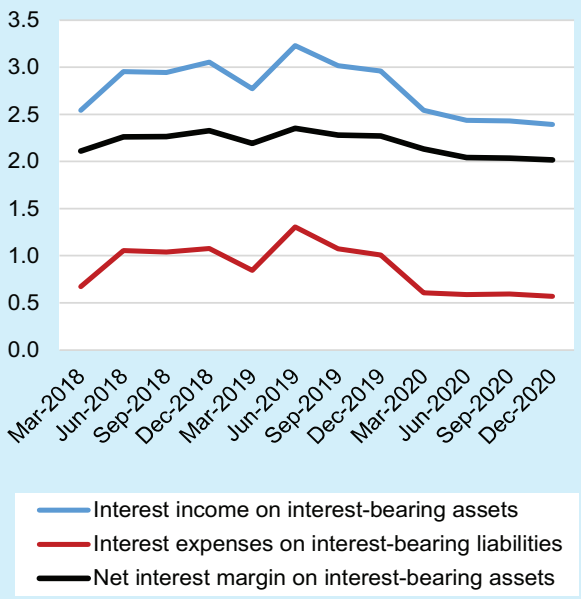
The system's interest-risk exposure according to the profit approach edged downward in 2020 due to falling interest rates during the year.

In addition to the erosion of credit margins in 2020, **risk-free interest rates appear to have caused several banks' net interest margins to narrow relative to previous years** (Figure 1.54), reducing net interest income all year long. Indexation differentials on the negative change in the CPI in 2020 also lowered net interest income by NIS 0.5 billion system-wide relative to 2019. The increase in credit, however, offset the effect of the erosion of credit margins and indexation differentials in the review year (Figure 1.55). In general, there are intereffects between the risk-free interest rate and the scope of credit and deposits in the banking system, because when interest rates decline, an increase in credit that will offset the adverse effect of the downturn in interest rates is expected (and vice versa). Similarly, changes in credit supply and demand may also affect the margin on credit activity.

The changes in market interest rates also affected noninterest financing income, in both trading activity and nontrading activity. In the latter, activity in derivatives offset the losses that the system recorded on account of exchange rates. Such was the case all year long, although in the last quarter exchange-rate differentials contributed to the banks' income and activity in derivatives offset them (Figure 1.56).

The net interest margin eroded in 2020, mainly due to the decline in interest income relative to interest-bearing assets.

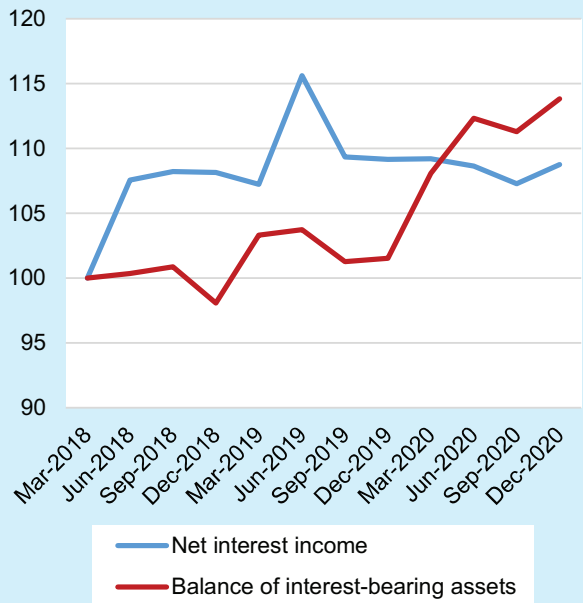
Figure 1.54
Interest Income, Interest Expenses, and Net Interest Margin Averages, Total Banking System, March 2018–December 2020 (percent)



SOURCE: Based on published financial statements.

The effect of the quantity of interest-bearing assets moderated the negative effect of price in 2020.

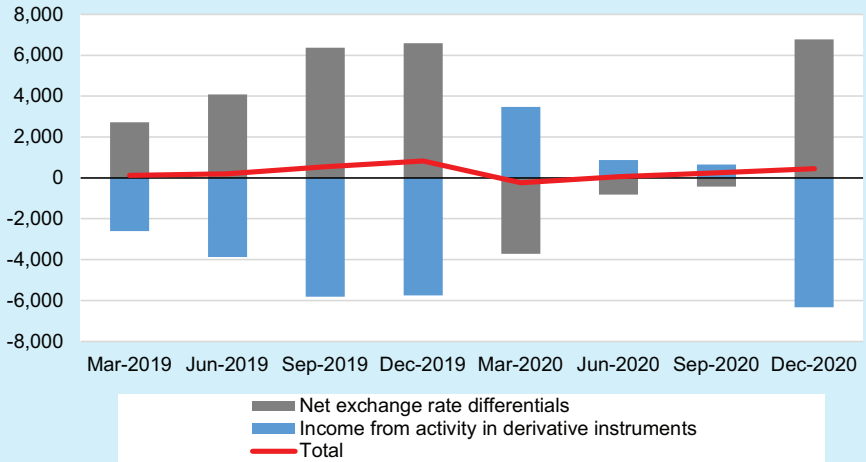
Figure 1.55
Net Interest Income and Balance of Interest-Bearing Assets, Total Banking System, March 2018–December 2020
(index: March 2018=100)



SOURCE: Based on published financial statements.

The banking system offsets the effect of net exchange rate differentials by financially hedging through derivative instruments.

Figure 1.56
Income from Activity in Derivative Instruments Against Net Exchange Rate Differentials, Total Banking System, March 2019–December 2020
(NIS million)



SOURCE: Based on published financial statements.

Most of the banking system faced growing risk from a scenario of steepening due to the rapid escalation of housing credit, which is typified by long duration and is funded largely by short-duration sources.

Derivative instruments

Another factor affected by market yields is total other comprehensive income (OCI), which has a direct impact on the banks' equity. This line showed volatility commensurate with developments in the market during the year. Thus, when sovereign yields surged in March, the system recorded a profit on this line, mainly in view of its actuarial liabilities, although the fair-value adjustment of bonds available for sale had a negative effect on this line. When the markets calmed down and sovereign yields retreated, the trend turned around and the effect of total OCI on equity at year's end was slight. Importantly, however, this line varies within the system because actuarial liabilities affect different banks' balance sheets differently. (For example, this line is especially important in the case of Bank Leumi; for elaboration, see the section on Capital Adequacy.)

The implicit risk of an exposure to CPI changes (inflation risk) grew due to an increase in the size of the indexed position.

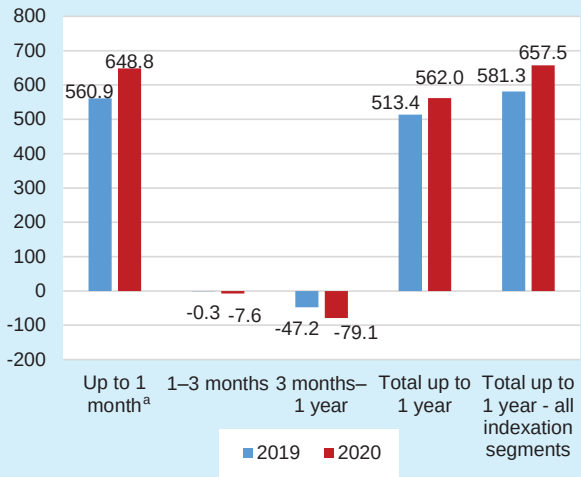
An earnings-approach analysis of interest-rate risk

According to the earnings approach, which tests for the effect of a change in interest rates on a bank's expected earnings in the coming year, the earnings of the banking system at large[78] are impaired when interest rates fall and vice versa, mainly because

[78] For all the banking groups with the exception of Mizrahi-Tefahot, which shows a profit even in a scenario of a decline in interest.

The increase in surplus assets over liabilities of up to 1 year increased the interest rate risk in a scenario of a decline in the interest rate.

Figure 1.57
Surplus Assets Over Liabilities With a Change in Interest Rate of Up to 1 Year, Total Banking System, 2020 vs. 2019 (NIS billion, unindexed segment)



[a] Net of non-interest-bearing deposits and cash and deposits at the banks that do not accrue interest.
SOURCE: Based on published financial statements.

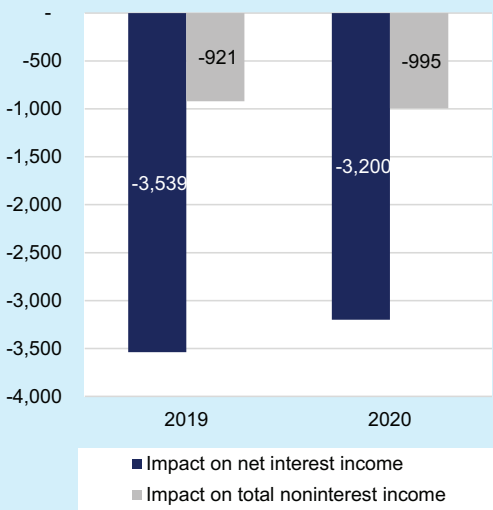
the banking system has assets that reprice themselves faster than liabilities do (due to the different timing of interest changes between the two; Figure 1.57).

The exposure to interest-rate risk of the system at large decreased slightly at the end of 2020; this is reflected in a smaller potential loss in the event of a 1 percent decline in interest rates across the board[79] (Figure 1.58). Within this generality, the ratio of the potential loss under this scenario to total net interest income and noninterest income (which also fell somewhat in 2020) is estimated at 8.6 percent of total net interest and noninterest income, as against 8.9 percent at the end of 2019. The changes in exposure to interest-rate risk **derive mainly from the expected effect of the interest decrease on net interest income**, which declined system-wide (Figures 1.58 and 1.59). However, the banks vary considerably in their levels of exposure to this risk (Figure 1.60). The variance originates in each banks' structure of assets and liabilities and the internal model each bank uses to estimate this risk, including the way it establishes its floor when the market interest rate falls. The main factor that abetted an increase in interest-rate risk system-wide in 2020 was an upturn in the surplus of interest-sensitive assets over interest-sensitive liabilities during the year, occasioned by continued growth in interest-bearing assets (credit to the public and the bank's securities and deposits), funded mainly by current-account balances that do not earn interest.

[79] The same decrease in interest all along the curve.

The interest rate risk derived from an interest rate decline scenario moderated in 2020.

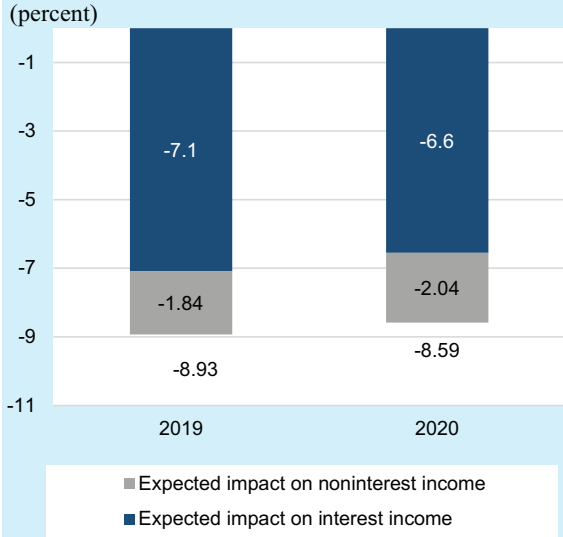
Figure 1.58
Change in the Expected Impact of a 1-Percent Parallel Decline in the Interest Rate on Interest and Noninterest Income, Total Banking System, 2020 compared with 2019
(NIS million)



SOURCE: Based on published financial statements.

The interest rate risk derived from an interest rate decline relative to Tier 1 capital moderated in 2020.

Figure 1.59
The Expected Impact of a 1-Percent Parallel Decline in the Interest Rate on Interest and Noninterest Income, as a Share of Income, Total Banking System, 2020 compared with 2019
(percent)



SOURCE: Based on published financial statements.

The low-interest-rate environment that typified most world economies also did much to offset the impact of the risk of a rate decrease to several banks. The Bank of Israel, like its counterparts abroad, lowered the monetary rate in 2020 (Figure 1.61). In the models that they use to estimate the effect of interest-change scenarios on net interest income, some banks assume that the risk-free interest floor in the NIS unindexed and US$ activity segments[80] is zero; accordingly, the effective rate cut examined in every scenario in late 2020 was smaller than that invoked a year earlier. For this reason, all banks that assumed the existence of such a floor employed an effective scenario of a 0.1 percent short-term rate cut in NIS unindexed activity, as against 0.25 percent in the previous year, and 0.25 percent in US$ (forex) activity as against 1 percent a year earlier. The implication of this offset on net interest income (due to the floors) is that the interest-rate risk was somewhat realized in the course of 2020. (For elaboration, see the section on Business Results.)

The largest possible loss to the banking system from interest-rate changes in the domestic currency segment moderated somewhat.

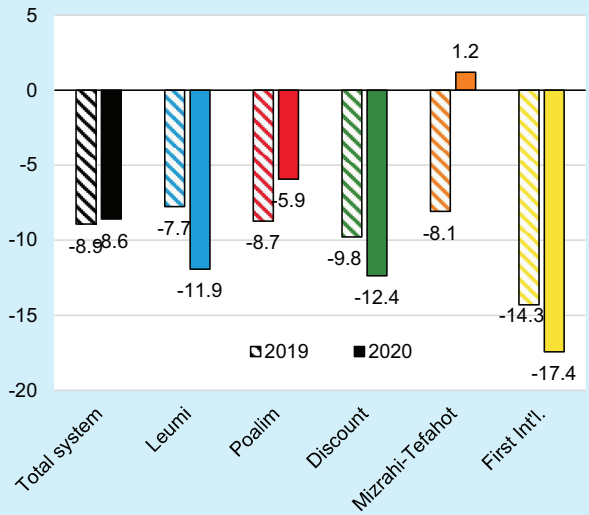
An economic value-approach analysis of interest-rate risk

The economic value approach examines the way various scenarios for the development of risk-free market interest rates affect the fair value of a banking corporation's assets,

[80] US$.

The effect of an interest rate decline scenario varies between the banks.

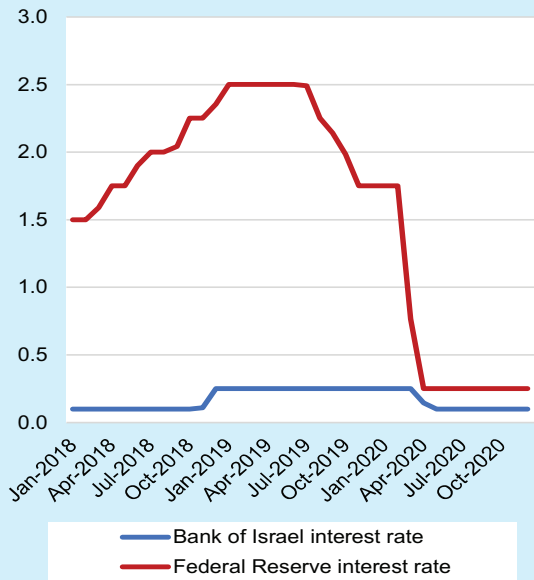
Figure 1.60
The Expected Impact of a 1-Percent Decline in the Interest Rate on Interest and Noninterest Income, as a Share of Interest and Noninterest Income, Total Banking System[a], 2020 compared with 2019 (percent)



[a] The Bank of Jerusalem does not report this figure.
SOURCE: Based on published financial statements.

In view of the crisis, central banks around the world lowered their monetary interest rates at the beginning of 2020.

Figure 1.61
The Bank of Israel and US Federal Reserve Interest Rates, 2018–2020 (percent)



SOURCE: Based on published financial statements.

liabilities, and off-balance-sheet positions. This approach focuses on a time horizon longer than one year because it is based on expected cash flows from assets, liabilities, and off-balance-sheet items that exist at the time of measurement.

Different interest-trajectory scenarios have different effects on different banks.[81] For most banks in the system, however, the risk posed by a scenario of steepening[82] appears to have increased in the past year. From the system perspective, too, the greatest risk to the banking system on the basis of 2020 originates in a steepening scenario (Figures 1.62, 1.63). Thus, the adjusted net change in fair value declined as the result of the scenario from -0.96 percent relative to Tier 1 capital at the end of 2019 to -1.3 percent a year later. Despite this, it was found that **the maximum potential loss to the banking system contracted due to interest-rate changes in the local currency segment** between the end of 2019 and a year later (a 0.7 percentage-point decline in the

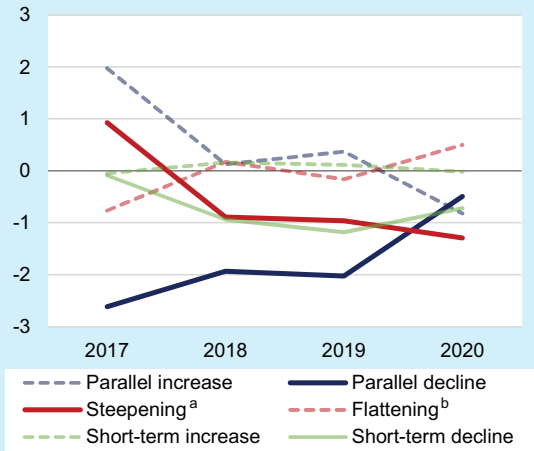
[81] The impact of the various local currency scenarios on fair value was estimated on the assumption that there is no full correlation in interest changes between the NIS indexed and the unindexed segment. For this reason, if a given scenario shows a loss in one segment (indexed or unindexed) and a profit in the other, only half of the profit recorded in the profitable segment is recognized when estimating the total loss in the local currency segment, whereas the loss recorded is recognized in full.

[82] Steepening= a decline in short-term (less than two years) interest and an increase in medium-long-term (more than two years) interest.

rate of loss relative to Tier 1 capital, because the maximum loss at the end of 2019 was estimated at 2.02 percent relative to Tier 1 capital in the event of a scenario of a parallel rate cut; Figure 65).

The interest rate risk derived from a steepening scenario increased during 2020.

Figure 1.62
Change in the Adjusted Net Fair Value as a Result of Various Interest Rate Change Scenarios Relative to Tier 1 Capital, Total Banking System, 2017–2020 (percent)



[a] Steepening - A short-term decline in the interest rate followed by a long-term increase.
[b] Flattening - A short-term increase in the interest rate followed by a long-term decline.
SOURCE: Based on published financial statements.

For most banks, net fair value erodes in the steepening scenario, **particularly in the unindexed activity segment**. Housing credit, typified by duration longer than two years, grew rapidly in 2020,[83] causing the share of unindexed long-term credit to rise. Most funding for this credit comes from sources of less than two-year duration. Concurrently, the balance in the public's current accounts increased considerably, causing the surplus of assets over liabilities, with short duration (from more than 1 month up to two years), to decline in the past year whereas the surplus of assets over liabilities with more than two years' duration increased[84] (Figure 1.64). Accordingly, the steepening scenario, which, as stated, is typified by falling short-term (up to 2 years) interest and rising medium–long-term interest rates (more than 2 years) has an erosive effect on the value of long-term assets and a boosting effect on the value of short-term liabilities, thereby eroding net fair value. The trend in the indexed segment[85] is somewhat different and even opposite at Mizrahi-Tefahot Bank[86] and Bank Leumi[87] (Figure 1.65), given the different structure of assets and liabilities in this segment.

[83] At least one-third of it was fixed-rate and most of it was at floating interest that undergoes revision every few years.

[84] When they estimate the effects of interest changes on fair value, the banks spread demand deposits across the period in their internal models, affecting the assets surplus. The spreading of demand deposits is charged to two activity segments: unindexed, and forex and forex-indexed.

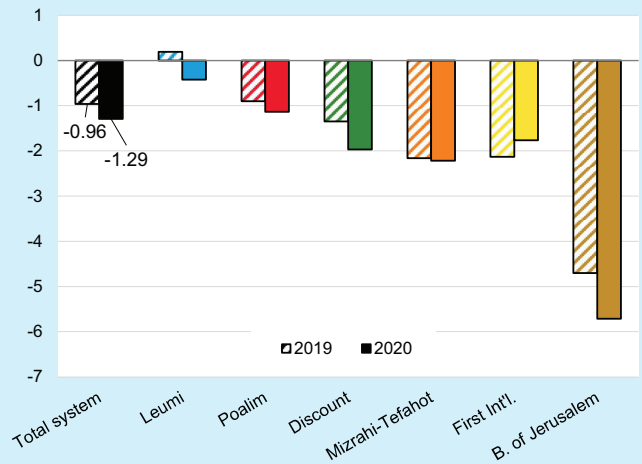
[85] When they estimate the effects of interest changes on fair value, the banks also include effects of employees' entitlements on the assets surplus. Due to data limitations, it was assumed that the total effect of employees' entitlements is charged to the indexed segment only, even though on the assets side the actual effects pertain to all segments.

[86] The balance sheet of Mizrahi-Tefahot Bank has a negative asset balance to terms of more than five years; thus, a scenario of steepening actually serves this bank well.

[87] Bank Leumi has a program of pension payments for it staff on large scales. In this scheme, Bank Leumi has a surplus of long-term liabilities over assets in the program; therefore, changes in the discount rate on the liabilities may have a strong effect on the bank's value. This discount rate is indexed and therefore an upturn in long-term interest reduces pension liabilities, giving the bank a considerable profit.

The risk from a steepening scenario increased among most banks in the banking system.

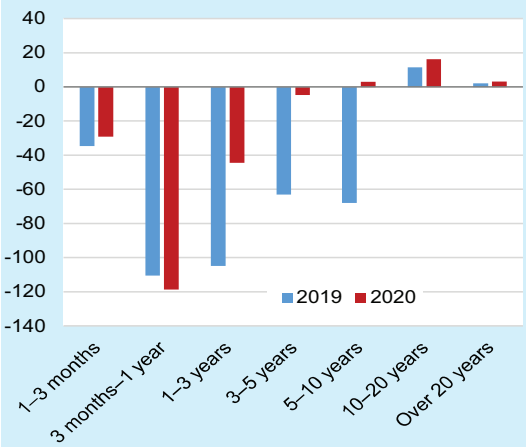
Figure 1.63
Change in the Net Fair Value of Financial Instruments Relative to Tier 1 Capital as a Result of a Steepening Interest Rate Scenario[a], Total Banking System, 2020 vs 2019 (percent, Israeli currency)



[a] Steepening - A short-term decline in the interest rate followed by a long-term increase.
SOURCE: Based on published financial statements.

The increased risk in a steepening scenario is due to an increase in the surplus of assets over liabilities during the period.

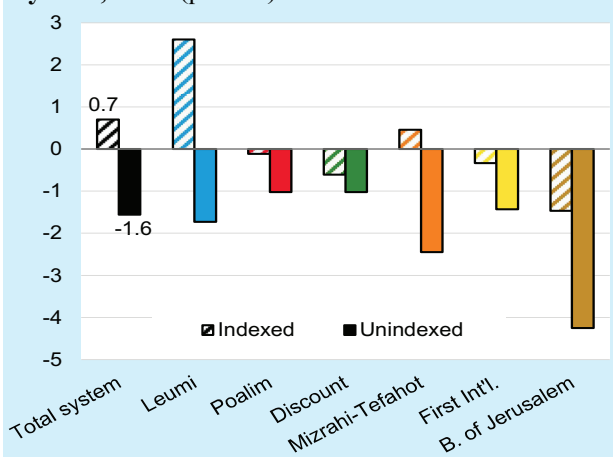
Figure 1.64
The Surplus of Assets Over Liabilities in the Unindexed Segment, by Date of Interest Rate Change (excl. up to 1 month)[a], Total Banking System, 2020 compared with 2019 (NIS billion)



[a] After the effect of assumptions regarding the spread of deposits by demand.
SOURCE: Based on published financial statements.

The steepening scenario generates losses mainly through the unindexed segment.

Figure 1.65
Change in the Net Fair Value of Financial Instruments Relative to Tier 1 Capital as a Result of a Steepening Interest Rate Scenario[a], Indexed vs. Unindexed Segment, Total Banking System, 2020 (percent)



[a] Steepening - A short-term decline in the interest rate followed by a long-term increase.
SOURCE: Based on reports to the Banking Supervision Department.

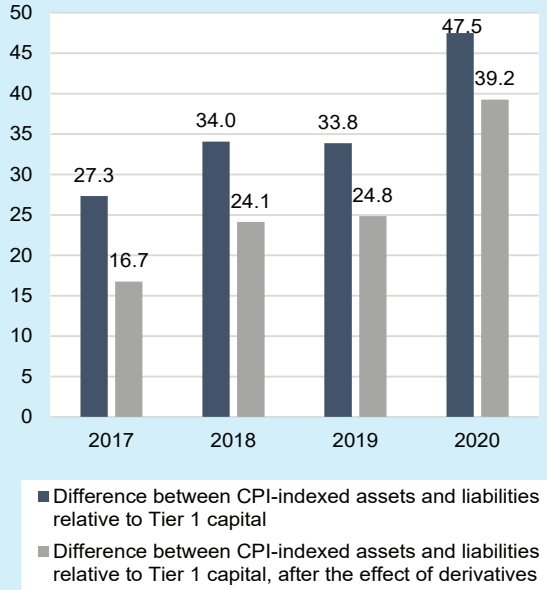
b. Indexation base risk

Negative inflation in 2020 took a toll on the banking system's profits.

The risk associated with changes in the Consumer Price Index (inflation) increased in 2020 as the result of growth in the CPI-indexed position. Over the years, the banking corporations have had a surplus of assets in CPI-indexed activity, leaving them exposed to the risk emanating from a decline in the index. With the upturn in housing credit, the share of CPI-indexed lending also increased in the past year; thus, the surplus of indexed assets widened, thereby amplifying this risk. Despite the increase in exposure to CPI changes, most banks became less active in the NIS–CPI derivative contracts that, in part, had hedged against the exposure, causing the CPI risk to grow even more (Table 1.2). Thus, the rate of CPI exposure[88] relative to Tier 1 capital rose from 33.8 percent in 2019 to 47.5 percent a year later, and that of net exposure to the CPI (after accounting for the effect of derivatives for) climbed from 24.8 percent in 2019 to 39.2 percent in the review year (Figure 1.66).

Exposure to the CPI increased in 2020.

Figure 1.66
Exposure to the CPI Relative to Tier 1 Capital, Total Banking System, 2017–2020
(percent)



SOURCE: Based on published financial statements.

Given the acute volatility in the markets, particularly in exchange rates, bid/ask margins in forex derivative transactions widened during the crisis. This, along with an upturn in trading volumes in derivatives, allowed the banking system to make a solid profit in its trading portfolio.

Within this generality, the loss occasioned by the scenario of a 1 percent decline in the CPI relative to net interest income grew from 1.3 percent at the end of 2019 to 1.9 percent a year later (Figure 1.67). Notably, the negative inflation rate recorded during the year (Figure 1.68) caused the banking system's profits to erode. (For elaboration, see the section on Business Results.) Accordingly, CPI indexation risk was realized in 2020.

As for foreign-exchange risk, it is found that the banking system hedges itself well from the economic standpoint. The foreign-exchange segment, most of which is pegged to the US$ exchange rate, has a surplus of liabilities over assets. The gap relative to Tier 1 capital is considerable; therefore, the banks may incur sizable losses if the NIS loses ground against foreign currencies (because it would have an upward

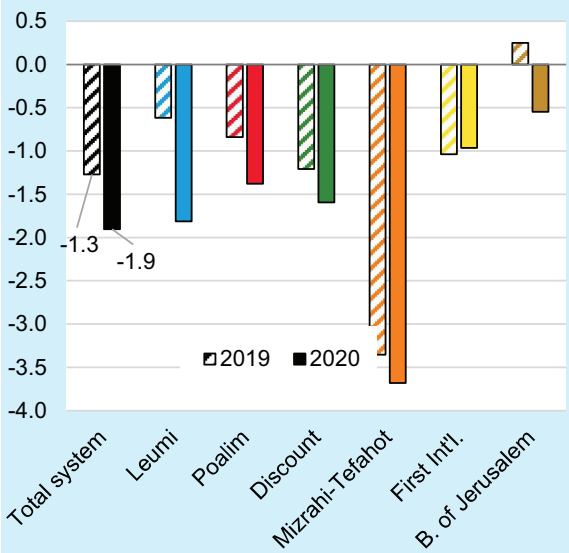
[88] The difference between CPI-indexed assets and CPI-indexed liabilities.

effect on the bank's liabilities). This is why the banks hedge against this exposure, for which reason the difference between foreign-exchange assets and foreign-exchange liabilities is minimal after the effect of derivatives is accounted for (Figure 1.69).

The banking system's forex liabilities increased in 2020 for reasons including customers' preference for US$ liquidity. (For elaboration, see the Balance Sheet section.) Despite this upturn, which caused the forex liabilities surplus to grow even more, the total exposure to forex net of the effect of derivatives remained minimal (but slightly positive) in view of an increase in activity in derivatives. Consequently, in the scenario of a 10 percent dip in the NIS/US$ exchange rate (again, most of the forex exposure is in US$), the system's expected loss relative to Tier 1 capital is only 0.3 percent[89] (a slight increase over 2019; Figure 1.70).

The risk to the banking system from a decline in the CPI increased during 2020.

Figure 1.67
Estimated[a] Effect of a 1-Percent Decline in the CPI Relative to Net Interest Income, Total Banking System, 2020 vs. 2019
(percent)



[a] The estimate examined the change in the surplus of balance-sheet assets over liabilities, after assuming that each eroded due to the decline in the CPI.

SOURCE: Based on published financial statements.

There was deflation in 2020, compared with inflation in recent years.

Figure 1.68
Development of the CPI, and Annual Inflation Known Each Year[a], December 2017–December 2020

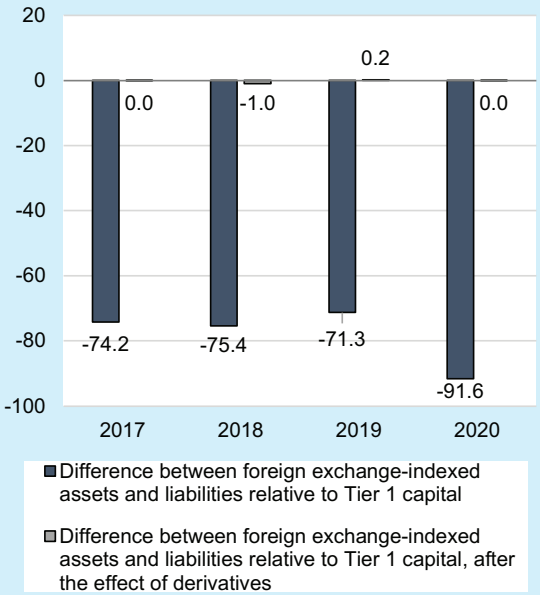
[a] Annual inflation known for the year is calculated as the rate of change in the CPI from November of the previous year to November of the current year.

SOURCE: Bank of Israel data.

[89] Notably, however, Israel Discount Bank's exposure to forex is weightier in view of the relatively large share of activity of its subsidiary, IDB New York, which operates in the United States. Therefore, IDB is more exposed to a scenario of exchange-rate decline.

The banking system is well-hedged against exposure to foreign exchange.

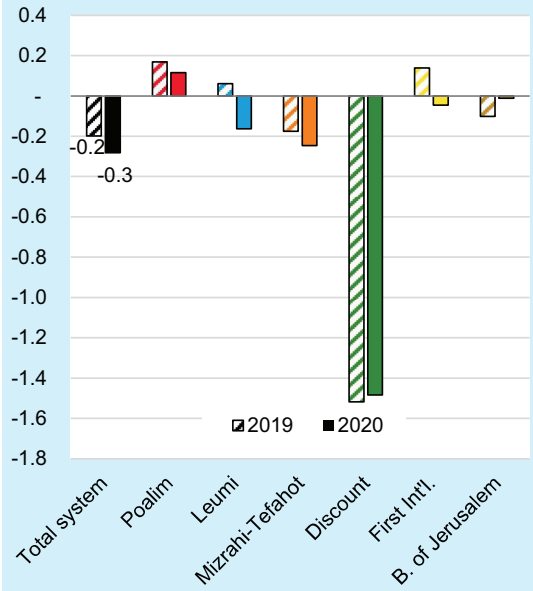
Figure 1.69
Exposure to Foreign Exchange Relative to Tier 1 Capital, Total Banking System, 2017–2020 (percent)



SOURCE: Based on published financial statements.

The risk derived from a decline in the exchange rate increased slightly in 2020.

Figure 1.70
The Effect of a 10-Percent Decline in the US Dollar on Capital, Relative to Tier 1 Capital, Total Banking System, 2020 vs. 2019 (percent)



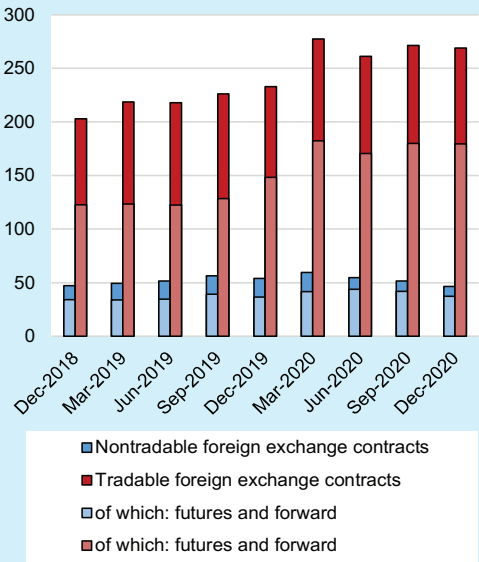
SOURCE: Based on published financial statements.

c. Trading and derivatives activity

Trading activity is comprised of the purchase and sale of securities and activity in derivative instruments for short-term profit. It includes service for bank customers who wish to hedge their nonfinancial activity (e.g., executing interest rate contracts and making foreign-currency purchases for business customers) or to trade in financial instruments on their own, with the bank as the counterparty (e.g., in institutional players' equity derivatives or short selling by other customers in the financial-services sector, i.e., "speculators"). Within this framework, the banks, as market makers, benefit from purchase and sale margins on derivatives and foreign currency. These margins expand in tandem with market volatility (as indeed happened during the crisis; Figure 1.45). The profit itself, however, also depends on the positions that the bank takes against actual changes in market factors. Income from activities for trading purposes is affected chiefly by activity in foreign-currency and interest-rate instruments. In the review year, given the acute volatility in the markets and, particularly, in foreign exchange rates, the bid/ask spreads in forex derivative transactions widened during the crisis. This, along with an upturn in trading volumes in derivatives (Figure 1.71), allowed the banking system to make a notable profit in its trading portfolio from exposure to forex (Figure

Foreign exchange contract activity increased at the height of the crisis.

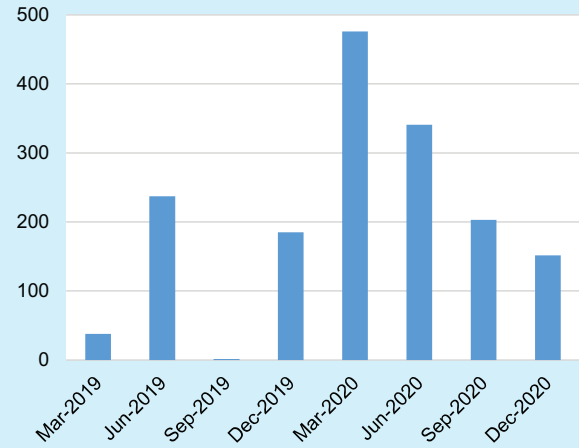
Figure 1.71
Par Value of Foreign Exchange Contracts, Total Banking System, 2018–2020 ($ million)



SOURCE: Based on published financial statements.

The banking system recorded profits in the tradable portfolio in respect of foreign exchange exposures, mainly at the beginning of the crisis, in view of the increases in spreads and in the volume of foreign exchange trading.

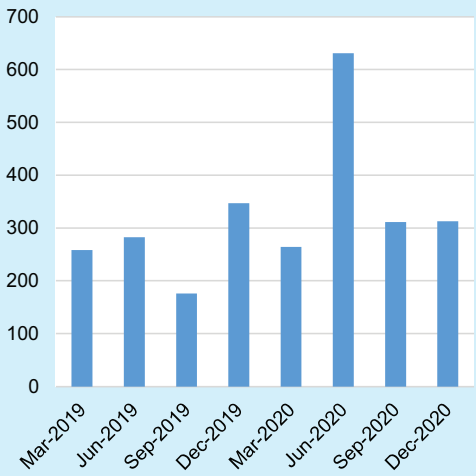
Figure 1.72
Quarterly Revenue in the Tradable Portfolio in Respect of Foreign Exchange Exposure, Total Banking System, March 2019–December 2020
(NIS million)



SOURCE: Based on published financial statements.

The profits in the tradable portfolio in respect of foreign exchange exposure led to profits int he total tradable portfolio.

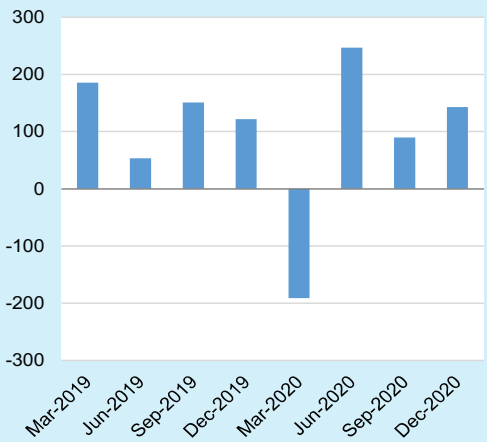
Figure 1.73
Total Quarterly Revenue in the Tradable Portfolio, Total Banking System, March 2019–December 2020 (NIS million)



SOURCE: Based on published financial statements.

The system recorded losses in respect of interest exposure in the tradable portfolio at the beginning of the crisis.

Figure 1.74
Quarterly Revenue in the Tradable Portfolio in Respect of Interest Exposure, Total Banking System, March 2019–December 2020 (NIS million)



SOURCE: Based on published financial statements.

1.72); this was the largest contributing factor to noninterest income in the trading book (Figure 1.73). Income from interest exposure in the trading book, in turn, is volatile and affected largely by the positions that the banks take. During the crisis, the rise in US$ funding costs generated losses but this avenue of activity transitioned to profit later on (Figure 1.74). In 2020, the banks' noninterest income from trading activities surpassed that in 2019 by NIS 0.5 billion (up 50 percent), as an NIS 700 million increase in income on account of forex exposure was offset by a decline in income on account of interest exposures.

f. Business continuity

The banking system plays a central role in financial intermediation and the advancement of economic activity in Israel, including the sound functioning of the payments and settlement system, delivery of banking services to the public, and the importance of maintaining the public's trust and safeguarding its reputation. Due to its importance, the banking system is committed to assuring its resilience to major operational disruptions.

The COVID-19 pandemic that swept the world in early 2020 accentuated the importance of a banking corporation's functional and business continuity. Accordingly, various processes were expedited and developments were promoted to make sure the corporations remained stable and met essential service objectives.

THE BANKING SUPERVISION DEPARTMENT'S ACTIVITY IN 2020

The Banking Supervision Department focuses on three aspects: encouraging the banking system to be prepared for an emergency, improving its own preparedness for an emergency, and applying supervision in national emergencies.

Apart from dealing with the COVID-19 crisis, the Department took the following actions among others:

- It put together a war scenario for the banking system, based on a national baseline scenario approved by the National Emergency Authority, and circulated it to the banking corporations as a basis on which they could make plans for preparedness and response.
- It set forth systematic principles for the allocation of fuel to the banking system in an emergency and concluded a Memorandum of Understanding with the Fuel and Gas Administration at the Ministry of Energy on the topic. This was part of a comprehensive process of prioritization in allocating national resources to the banking system in order to assure the system's functional continuity in the course of an emergency. During the current year, cooperation with additional national players to assure supplies of electricity, water, and communication will be stepped up.

- It produced a map of vital suppliers of the banking system. Among its other impacts, the pandemic emphasized the importance of the business continuity and functional continuity of the banking system's supportive supply chain. The map of vital suppliers includes no few critical suppliers that are not defined as essential enterprises, meaning that their continued activity and delivery of services in an emergency cannot be assured.
- It formulated principles for the assessment of hosting suppliers' ability to maintain functional continuity. The supplier mapping operation described repeatedly showed that the banking system relies on outside suppliers that provide it with hosting services and/or alternative computer facilities (hereinafter: "hosting supplier"). As a rule, the Department allows banking corporations to let outside suppliers host and operate their computer systems because this practice, viewed comprehensively, improves the stability and the business and technological survivability of these systems. Hence it is important to assess hosting suppliers' ability to continue functioning under various scenarios and make sure they comply with the Department's core principles in respect of technology, cyber and information security, and business continuity, among other things.
- In its capacity as the national authority for financial services, the Department acted to classify additional banking corporations as essential enterprises.

THE BANKING SUPERVISION DEPARTMENT'S ACTIVITY DURING THE COVID-19 CRISIS

As the pandemic evolved and COVID-19 cases escalated, the Government of Israel took various actions to stanch morbidity, including steadily tougher restrictions on movement in the public sphere and cutbacks in activity that involved receiving the public. However, due to the banking system's nature as a provider of essential services, the Department made dispensations and issued instructions to safeguard the health of staff and the public, including:

- Banks were allowed to operate on a scaled down format, under the stringencies specified in Proper Conduct of Banking Business Directive 250 (Temporary Provisions), including cutting back on branch activity and changing branch business hours to the extent warranted by the circumstances.
- Due to the palpable fear of harm to the public's health, the Department allowed banking corporations to determine that all services at branches be given by prior appointment and be available at the branch. Banking corporations were also instructed to advertise on their web sites cases in which service would be given even without an appointment.
- The Department urged the public to use direct channels—telephone, automated teller machines, banking applications, and the banks' websites—for a broad range of banking transactions.

Concurrently, the Banking Supervision Department, in its additional capacity as the national banking authority, participated in various national entities' situation assessment discussions. On the basis of data presented at these discussions and the decisions made, the Department kept the banking system informed and instructed it to act in the spirit of the restrictions and the state of morbidity.

In June 2020, as the first wave of the pandemic passed, the Banking Supervision Department launched a learning process and urged the banking system to do the same in order to assure its preparedness to withstand the effects of additional waves of pandemic under conditions of uncertainty and inability to foresee the time, duration, and repercussions of each wave. Accordingly, the Department instructed the banking system to take measures to maintain its business continuity and the functional continuity of its services, including outsourced services, in ways that included remote work, splitting of units, and having critical units work in "capsules." In this construct, it became important to detect vulnerabilities and act to mitigate them, e.g., by examining dependency on key people and assuring managerial continuity by training appropriate replacements among other measures. In addition, the banking system was instructed to continue monitoring the frequent changes in restrictions on economic activity and professionals' guidelines and to make sure all units were in full compliance. The Department considered it immensely important to have a business continuity officer involved in managing the crisis.

THE BANKING SUPERVISION DEPARTMENT'S ACTIVITY IN 2021

The work plan for 2021 was formulated in keeping with the focus expressed by the National Emergency Authority: "promoting preparedness and fitness for ongoing functional continuity in various emergency situations," with emphasis on an earthquake, chosen this year as the national benchmark scenario for attention.

In 2021, in its additional capacity as the national banking authority, the Department will continue to make progress in the following matters among others:

- Auditing the banking corporations' business continuity in order to test their preparedness for an emergency.
- Creating a framework of earthquake preparedness for the banking system, based on the national benchmark scenario—an outline of potential events and developments that may impair the banking system's operations and/or business. The outline should be interpreted not as a prediction but as a basis for planning the banking system's preparedness and response.
- Establishing a systematic working procedure between the banking system and the National Emergency Authority (NEMA) (hereinafter: "the Authority") in respect of critical human resources. Human resources are integral to a banking corporation's ability to maintain business continuity in a state of emergency. Their availability in various states of emergency may be impaired for reasons including injury to them or their families, reserve call-up, and travel restrictions, among others.

Participation in emergency exercises—in February 2021, the Department took part in Emergency Exercise Agam 21, in which the Bank of Israel Currency Department tested the banking system's ability to function in matters related to providing cash in the event of an earthquake. At year's end, a national exercise titled Watershed 2021 will take place, also relating to earthquake.

g. Money laundering and compliance risk

In the past decade, leading countries have stepped up their war on unreported capital and tax evasion, including intensive efforts to detect funds held offshore. As a consequence, the statutory duties applying to banks were toughened considerably in regard to checking customer transactions, detecting suspect transactions, reporting them, and, in certain cases, even preventing them. Banks that fail to comply are liable to fines and other powerful sanctions. As a result, friction between banks and some of their customers has grown as banks responded to the new measures by strengthening their Know Your Customer checks and demanding that customers explain flows of money into and out of their accounts.

An analysis by the Banking Supervision Department shows that, relative to previous years, the banking system at large has adopted stringent and prudent policies on money-laundering and terror-funding risk, with "zero risk tolerance" as the accepted term in this context. The system's assimilation of high-quality controls and monitoring systems has also shown much improvement in recent years. In addition, it is evident that the banking system has made major investments in information systems for management of money-laundering and terror-funding risks commensurate with the level of risk. However, the Department also found that some banks need to update certain systems and tailor them to existing and emerging risks in view of the COVID-19 crisis, the upturn in the use of advanced means of payment, and other matters.

Accordingly, the Department is using its ample toolbox to monitor the correction of deficiencies and has instructed the banks to improve the efficacy of their control systems, e.g., by making them better able to detect irregular activity. These measures are meant to give the banking system better tools to cope with the risk.

The rapid pace of technological changes around the world is causing the sophistication and challenge of financial crimes to grow steadily. Accordingly, the Department considers it immensely important to require the banking system to improve and enhance its systems and controls in a manner commensurate with the problem.

THE BANKING SUPERVISION DEPARTMENT'S ACTIVITY IN AML/CTF

In recent years, apart from regularly tracking important developments and events at each of the banks and pursuant to checks on the topic in previous years, the Department has carried out a series of dedicated checks at various banks in matters identified as of high AML/CFT risk. Examples are accounts intensive in cash activity and international transfers, currency-service providers, compliance policies that focus on

overseas branches, and money laundering in housing loans. The Department's activity also includes the following:

Regulation—the Department's main avenues of regulation generally, and in compliance-related matters particularly, are the issuance of Proper Conduct of Banking Business Directives, FAQ files that accompany the directives, and supervisory letters. Recently, for example, the Department has been formulating standard supervisory regulation in AML/CFT contexts that will apply to all payment services given by banking corporations, and has issued dispensations relating to obligations that banks must meet in regard to financial entities' accounts. In addition, it sent the banking system a letter concerning transfers to and from financial institutions that operate in the United Arab Emirates, including specific measures that are meant to create a reduced-risk activity environment.

Treatment of overseas branches—Much has been done to toughen the supervision of overseas branches in view of the unique challenges of management and control and the high levels of risk associated with activity abroad. Within this construct, the Department has taken a series of measures in recent years, including checking the ways banking corporations monitor and control operations in their overseas branches and expanding the requirements that banks must meet in this context.[90] One outcome of these steps has been a major decrease in overseas branches' activity.

Assessment of banking-system risks per demand of the FATF—The FATF (Financial Action Task Force) is a leading international organization that sets international standards for the AML/CFT war and periodically monitors the application of these standards in various countries. As part of this monitoring activity, the Task Force instructed Israel to update its national AML/CFT risk assessment, last conducted in 2017, in 2020. Within this framework, each financial regulator is required to update the risk assessment vis-à-vis the entities that it supervises. The Israel Money Laundering and Terror Financing Prohibition Authority (hereinafter: IMPA) asked the Department to lead the working group of financial regulators who are acting to place risk assessment of the financial system on more solid ground. The Department assented to IMPA's request and drew up an assessment for the ranking of main focal points of existing and emerging AML/CFT risks to which the banking system is exposed. The findings of the risk assessment and the Department's recommendations for national-level advancement of the matter were forwarded to IMPA.

The FATF's standards also require supervisors to perform a dedicated assessment of AML/CFT risks to the corporations that they supervise. Accordingly, the Department adopted a comprehensive supervisory methodology tailored to the specific characteristics of AML/CFT risks, derived from a comprehensive supervisory methodology based on the assessment of structured risk, the quality of risk management, and residual risk. The findings of the risk assessment were presented to the banks and will serve, inter alia, as a basis for supervisory policymaking and priorities derived

[90] Amendment to Proper Conduct of Banking Business Directive 306, "Supervision of Overseas Branches," 2018.

from a risk-based approach to risk management and efficient resource allocation for the mitigation and the effective management of risks detected.

The COVID-19 crisis—The potential risks to banking corporations in the context of AML/CFT have grown in view of the COVID-19 crisis due to changes detected in the type and scale of activity of business and private customers and attempts by criminal elements to exploit the crisis to carry out financial crime on a national and international level. With this in the background, the Department sent out two supervisory letters that expressed the following points:

- Emphases on managing and monitoring AML/CFT risks in view of the crisis, including a demand to make sure that the banking corporations' monitoring and control measures to detect irregular financial activities will be tailored to identified or foreseen changes in customers' patterns of activity against the background of the crisis.
- Emphases on management of model risks and use of technological and innovative tools in the field of AML/CTF, including compulsory review of the adequacy and efficacy of the models and the technological tools used in accordance with a risk-based approach, and also to act to assure adequate management of model risks in this context.

Concurrently, to give banking corporations the business flexibility that they need at this time and help households and business to weather this challenging period, the Department, like regulators abroad, issued a series of regulatory dispensations in the field of AML/CTF in order to lighten the burden on households and small businesses and remove regulatory barriers—allowing, among other things, continuity of vital banking services.

Regulatory activity—promoting regulatory action in the AML/CFT field in order to strengthen the banks' management of compliance risk and allow various special groups to interact more easily with the Israeli banking system. Examples follow:

1. **Formulating standard supervisory regulation in AML/CFT matters that will apply to all payment services as defined in the Payment Services Law, 5779-2019, that are provided by banking corporations**. The regulation determines that, within certain limits specified in the relevant directive, banking corporations may be absolved of some requirements that the Prohibition of Money Laundering Order imposes on them and may replace them with alternative arrangements. This regulation was drafted in view of the development in Israel of advanced payment services such as pay applications in recent years, both in terms of the scale of activity and the possible ways of paying for goods and services on business premises.
2. **Sending a letter to the banking system concerning bank transfers to and from financial institutions that operate in the United Arab Emirates, describing several measures that propose to create a reduced-risk activity environment**. The goal here is to allow banking activity to proceed in a way that will support bilateral economic and commercial activity, coupled with stringent

risk management that requires the allocation of enough resources to learn the business environment, get to know the relevant financial institution, and apply ongoing controls. The Department also conducts surveys about the financial system and AML/CFT regulation in the UAE, Bahrain, Morocco, and Sudan.

3. **Publishing easings (granting exemptions) for banks regarding compulsory recording of beneficiaries and controlling principals in accounts of regulated financial institutions (credit service providers and credit intermediation platforms) that are licensed by the Capital Market Authority and to which the Prohibition of Money Laundering and Terror Financing Order applies**. The purpose here is to make it easier to manage these institutions' bank accounts. The dispensation was arranged under Proper Conduct of Banking Business Directive 411, "Prevention of Money Laundering and Financing of Terror, and Customer Identification" (hereinafter: "the Directive").
4. **Taking various regulatory measures to stimulate competition and innovation in the Israeli banking system and alleviate the challenges that fintech companies face, including those occasioned by their interaction with the banking system**. For example:
   - Issuing a guideline to banking corporations[91] instructing them to have policies and procedures in place for opening and managing bank accounts for regulated financial services, and reviewing the banks' policy documents in this regard, with emphasis on testing the grounds for reasonable refusal to open and manage an account. The review showed that the grounds in question are legitimate and reasonable in terms of the banks' risk management. Notably in this context, the Department carried out a survey of fintech companies to study the opportunities and challenges that they confront in their interface with the Israeli banking system. Analyzing the results of the survey, the Department found, among other things, that fintech companies collaborate with banks in assimilating their technologies at the banks and that banks invest in fintech companies. Even so, these companies still face several challenges that are impeding their ability to develop. They concern banking corporations' account-management processes that are affected mainly by the absence of a prohibition of money laundering order that relates to a provider of services in a financial asset and of payment services and the lack of a special regulator for payment-service providers.
   - Opening an assistance hotline for fintech companies, to help companies that run into problems in opening or managing a bank account.
5. **Examining developments abroad in cryptocurrencies, with emphasis on regulating and managing the banking system's risks and harmonizing Israeli guidances with international standards**. Due to risks that are endemic

[91] Letter from the Supervisor of Banks, April 15, 2018, concerning banking corporations' activity vis-à-vis customers that are regulated financial-service providers or coordinators of offerings.

to activity originating in virtual assets, this activity is considered of high risk in world banking, including the AML/CFT context. In February 2021, the Knesset Constitution, Law, and Justice Committee approved an order concerning the prohibition of money laundering by financial-service providers,[92] in which providers of virtual-currency services are included. At the present writing, the Prohibition of Money Laundering Order does not apply to providers of virtual-currency services and, to the best of our knowledge, no entity of this kind has been given a license. With no licensure in place and without a prohibition of money laundering order that would apply to this activity, the Department's stance is that a cautious approach should be taken and the banks should not be required to provide services associated with virtual assets to any entity, human or corporate, whose line of business is in virtual assets. A bank that chooses to provide these services is expected to apply intelligent risk management, including monitoring the activity at a high enough level to ascertain that nothing about it will be used to launder money or finance terror. At the present writing, the Department is examining the implications of applying a prohibition of money laundering regime to providers of this service and reviewing the measures that should be invoked vis-à-vis the banking system in this context.

6. **Updating the arrangement concerning opening a bank account for asylum seekers and holders of temporary protection status (TPS) in Israel. Within the framework of this arrangement, clarifications were added concerning opening and managing a bank account so that asylum seekers and holders of TPS may open and manage accounts in a sound manner by presenting certifications issued to them by the Population and Immigration Authority**.

7. **Drafting a "financial availability covenant**," in conjunction with the banking system as a voluntary contracting party, in order to mitigate economic violence against women victims of violence who are in shelters and safe houses. Under this covenant, these women are able to open an account in an expedited proceeding even if their identification document is something other than the identification card specified in the Prohibition of Money Laundering Order.

6. CREDIT CARD COMPANIES

The credit card companies' operating environment has been changing rapidly in recent years. Banks, other credit card companies, nonbanking credit companies, and other nonbanking players are competing increasingly aggressively in the credit card companies' core areas—payments, issuance of cards, clearing, and credit. Also affecting the companies are regulatory and technological developments and changes in consumers' tastes and behavior. Amid the changes, two of the

[92] Prohibition of Money Laundering (Compulsory Identification, Reporting, and Record-Keeping of Service Providers in Financial Assets and Credit-Service Providers for Prevention of Money Laundering and Terror Financing) Order, 5780-2020.

three credit card companies, Isracard and Leumi Card (renamed Max after it was separated ; hereinafter: Max), were separated from their parent banking companies under the Increasing Competition and Reducing Concentration in the Banking Sector in Israel Law, 5777-2017.

The credit card companies' business results in 2020 were seriously affected by the COVID-19 crisis that began in Israel in March 2020. The crisis slowed economic activity and triggered restrictions at various levels, leading to a marked decline in private consumption during the year. The contraction of private consumption was manifested in a steep falloff of credit card activity, particularly during lockdowns. In addition, the general economic slump trimmed the banks' and credit card companies' consumer credit portfolios.

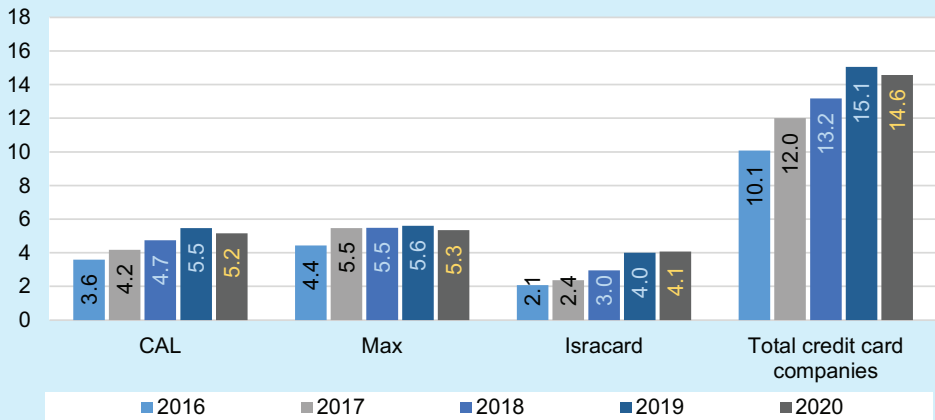
a. Credit

The credit card companies' total outstanding consumer credit (interest-bearing consumer credit for which the company is liable) was NIS 14.6 billion at year's end (Figure 1.75), down 3 percent from a year earlier. The companies had a mixed record, total credit down at Max and Cal and slightly higher at Isracard. The pandemic-related slowing of economic activity had the effect, among other things, of reducing demand for consumer credit from credit card companies much as it did from the banks. **Another manifestation of the reduced demand for consumer credit was a decrease in the average (annual) interest rate that all credit card companies charged** (Figure 1.76). Concurrently, the uncertainty occasioned by the crisis prompted

The crisis-induced slowdown in economic activity impaired demand for consumer credit via credit-card companies, much as it did with bank credit.

Outstanding credit as a share of the credit card companies' consumer portfolio declined, as part of a mixed trend between the companies.

Figure 1.75
Total Consumer Credit[a] in the Credit Card Companies, 2016–2020
(NIS billion)

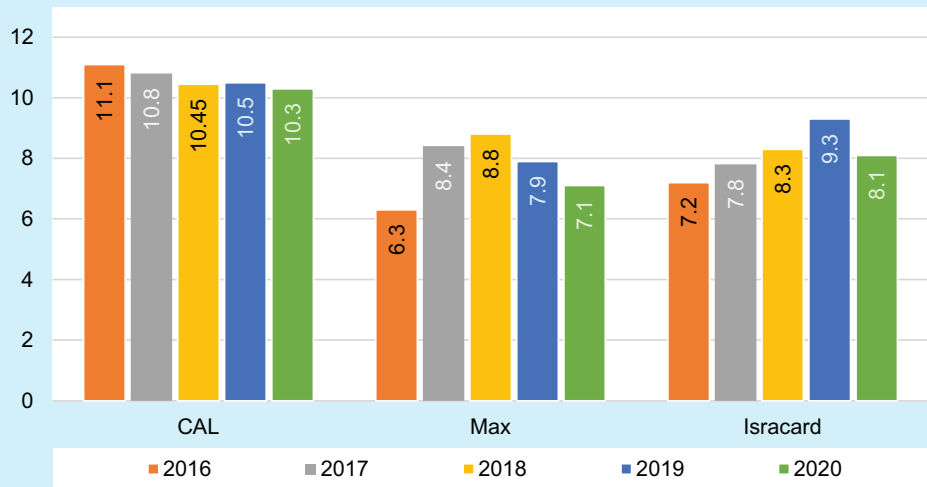


[a] Interest-bearing consumer credit that is the company's responsibility.
SOURCE: Based on the credit card companies' financial statements to the Banking Supervision Department.

all lenders and, particularly, the credit card companies and the banks to adjust their risk management to reflect their estimation of borrowers' latest financial condition and, in turn, their ability to repay credit.

The average interest rate on consumer credit declined at all credit card companies due to a decline in demand and adjusted risk management.

Figure 1.76
Average (annual) Interest Rate in the Credit Card Companies' Consumer Credit Portfolio, December 2016– December 2020 (percent)



SOURCE: Based on the credit card companies' financial statements to the Banking Supervision Department.

Differences among credit card companies in average interest reflect, among other things, differences in their customers' risk levels (for example: occasional customers are considered riskier than regular uses of the companies' products, with whom the companies have prior acquaintance) **and in the riskiness of the companies' products**. The credit card companies consumer-credit products fall into three main categories: all-purpose credit, revolving credit,[93] and car loans. Each type of activity carries a different level of risk. Car loans are the safest because they are backed by collateral; accordingly, their interest rate is below the average for the total credit portfolio. Contrastingly, revolving credit is considered high-risk and therefore carries an above-average interest rate. Accordingly, **the distribution of the companies'**

Differences among credit-card companies in average interest rates reflect differences in their customers' risk levels, inter alia.

[93] Revolving credit is provided when a credit card issuer gives a cardholder a credit facility for his or her use. On the monthly payback date, the cardholder can choose to repay part of the charge for their transactions and "revolved" the rest to the next month. For this deferral of payment—the revolving of credit—the customer pays interest.

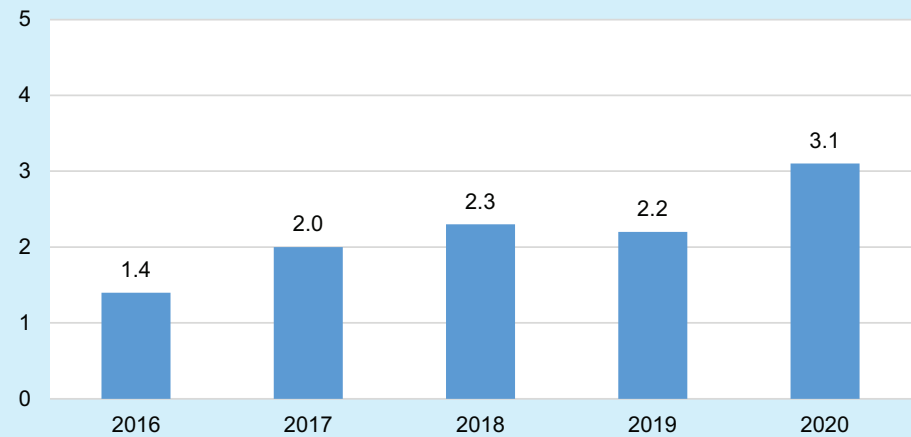
credit portfolios affects the average interest rate level and changes in it may trigger changes in average interest.

The share of loan-loss provisions[94] in total consumer credit[95] increased considerably in 2020 (Figure 1.77) as a result of the increased credit risk of the portfolio due to the COVID-19 crisis and uncertainty about its development and its effects on the economy. Despite the increased credit risk of the portfolio, major credit failures have not occurred thus far, perhaps due in part to various measures in support of the economy. Notably, since 2017 this rate has been rising relative to late 2016, reflecting inter alia **the credit card companies' wish to diversify their sources of income and find more productive lending opportunities (in terms of both activity and of customers) in order to adopt a new sustainable business model against the background of the changing activity environment**.

Credit-loss provisions in total consumer credit increased considerably due to an upturn in credit-portfolio risk occasioned by the crisis and uncertainty about how the crisis would develop and affect the economy.

Loan loss provisions increased significantly, reflecting the increase in the portfolio's credit risk due to the crisis and the uncertainty regarding its development and impact on the economy.

Figure 1.77
Loan Loss Provisions[a] as a Share of Total Consumer Credit[b], the Credit Card Companies, 2016–2020 (percent)



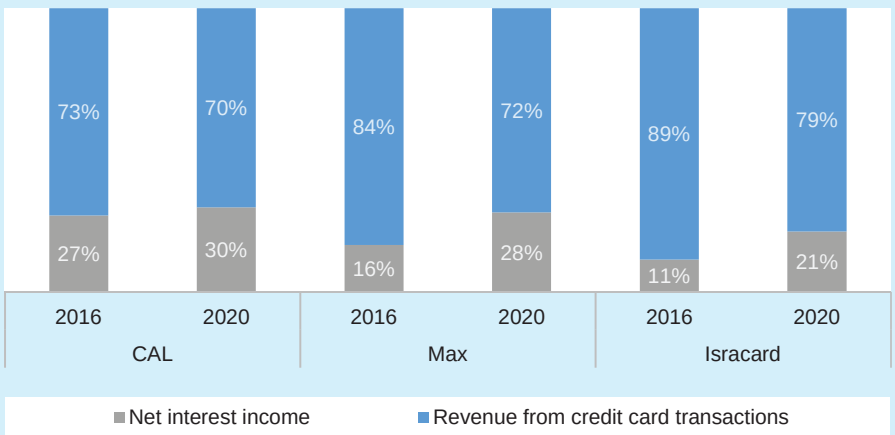
[a] In respect of interest-bearing consumer credit that is the company's responsibility.
[b] Interest-bearing consumer credit that is the company's responsibility.
SOURCE: Based on the credit card companies' financial statements to the Banking Supervision Department.

94 Interest-bearing consumer credit for which the company is liable.
95 Interest-bearing credit for which the company is liable.

For the separated companies, the share of net interest income in total income was twice as high at the end of 2020 as at the end of 2016 (Figure 1.78). The increase traces to an increase in consumer credit under the companies' liability after separation along with a decrease in income from fees due to a regulatory cutback in interchange fees and narrowing of the clearing margin. As may be seen in Figure 1.78, Cal's rate of net interest income rose slightly from the end of 2016 to the end of 2020 while its income structure did not change much.

The separated companies' share of net interest income increased mainly in view of the increase in their outstanding consumer credit.

Figure 1.78
Distribution of the Credit Card Companies' Sources of Income[a], 2016 compared to 2020 (percent)



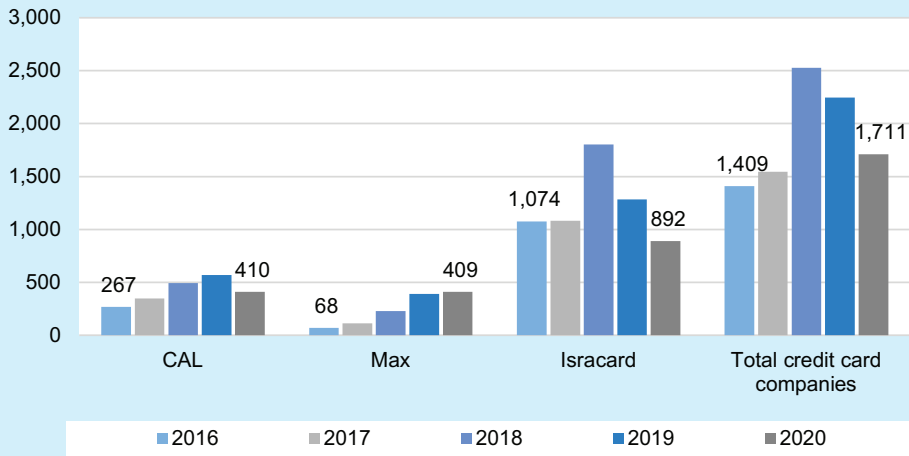
[a] Excluding other income, which constitutes up to 1 percent of total income at each of the credit card companies in the presented periods.
SOURCE: Based on the credit card companies' financial statements.

To complete the picture, we note that **the credit card companies' activity in commercial credit remained low relative to the other components of the credit portfolio**. In 2020, the credit card companies showed a mixed trend in outstanding commercial credit: a decrease at Isracard and Cal and a moderate increase at Max (Figure 1.79). In 2020, the Ministry of Finance authorized Max and Cal to issue government-guaranteed loans through the special SME business fund that the Ministry had established. By year's end, Max and Cal had issued NIS 75 million and NIS 34 million, respectively, in loans of this kind.

The credit-card companies' activity in commercial credit remained low relative to the other components of the credit portfolio.

The volume of the credit card companies' activity in this segment remained low relative to the other portfolio components.

Figure 1.79
Balance of Commercial Credit (excl. discounting) at the Credit Card Companies, 2016–2020 (NIS million)



SOURCE: Based on the credit card companies' financial statements to the Banking Supervision Department.

b. Funding sources

At the intra-month level, the credit card companies resort to various funding sources in order to manage cash flow in their core activities: issuing cards (both bank and nonbank cards) and clearing transactions. In the medium term, funding sources are needed for credit activity (interest-bearing and at companies' liability) to households and merchants. The companies' funding sources are composed of those of their own (equity) and those that are external (credit from banks and institutional entities, and issuance of bonds). **In recent years, the credit card companies' sources of funding have changed somewhat; by the end of 2020, 10 percent of all sources came from bond issues (Figure 1.80), reflecting the separation of two credit card companies from the banking corporations and all three companies' wish to diversify their external sources of funding**.

Most of the decline in income from charge-card transactions originates in a steep contraction of activity using charge cards, particularly when mobility limitations were in effect in Israel and abroad.

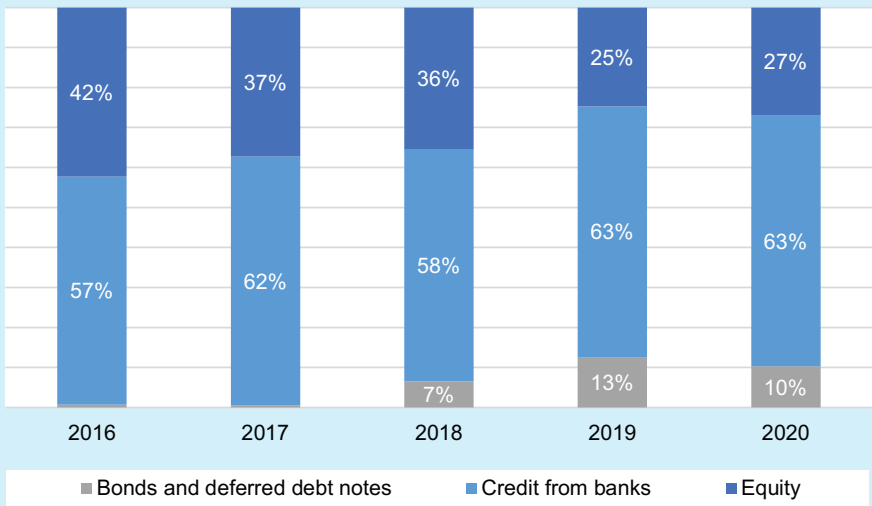
c. Issuance and clearing

The number of active credit cards of the credit card companies, bank cards and nonbank cards, has been growing steadily in recent years (Figure 1.81), and exceeded 9.2 million at the end of 2020. This upward trend, especially in no-bank cards, attests to the credit card companies' wish to increase their income from the fees that come along with credit card activity—issuer's fee, service charges, and fees for transactions abroad. Isracard has the largest market share in bank cards, whereas

Cal has the plurality in nonbank cards (Figure 1.82). With the separation of these companies in the background, Bank Hapoalim and Bank Leumi were instructed to work with several operators of their customers' bank cards; therefore, changes in these companies' market shares in bank cards may be forthcoming.

The structure of financing sources changed in recent years, reflecting an increase in the weight of bond issuances.

Figure 1.80
Distribution of the Credit Card Companies' Financing Sources, 2016–2020
(percent)



SOURCE: Based on the credit card companies' financial statements to the Banking Supervision Department.

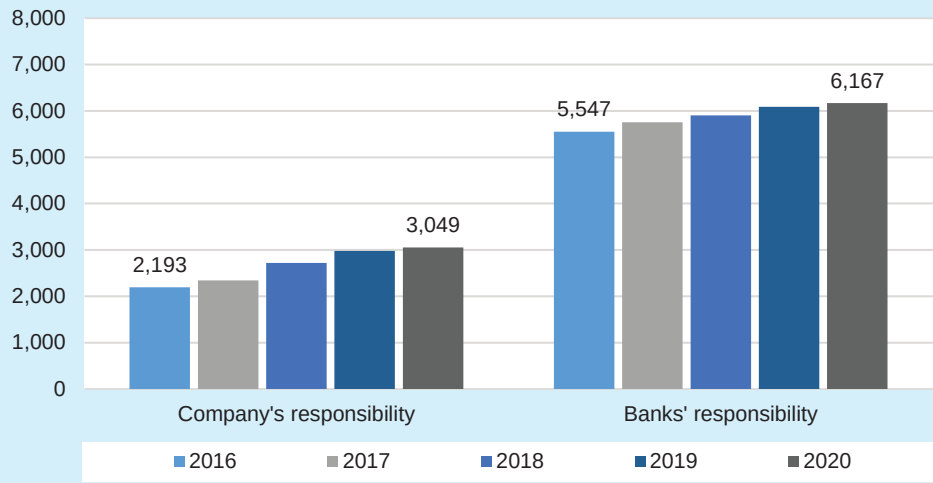
The structure of the credit-card companies' sources of funding has changed somewhat in recent years, a large share originating in bond issues.

Credit card companies generate income from credit card transactions in two ways: from cardholder fees and from merchant fees. Total income from cardholders in 2020 was NIS 1.7 billion (Figure 1.83), 17 percent lower than in in 2019. Most of the decrease traced to a severe falloff in credit card activity, particularly at times of travel restrictions in Israel and abroad. Income from businesses also slumped badly (Figure 1.84) due to the crisis-induced decrease in credit card activity but also in response to regulation of the interchange fee (which accounts for a portion of clearing fees). **The average interchange fee has been trending downward in recent years (Figure 1.85) for reasons including regulatory measures**.[96] It can also be seen that the merchant fee had been falling even before a regulatory roadmap for this purpose went into effect, probably due to increased competition in the industry.

[96] The downward path of the interchange fee, published by the Bank of Israel on February 25, 2018, prescribes a gradual decrease to 0.5 percent by January 1, 2023.

The number of active cards has increased steadily in recent years, partly in order to increase income from card holders.

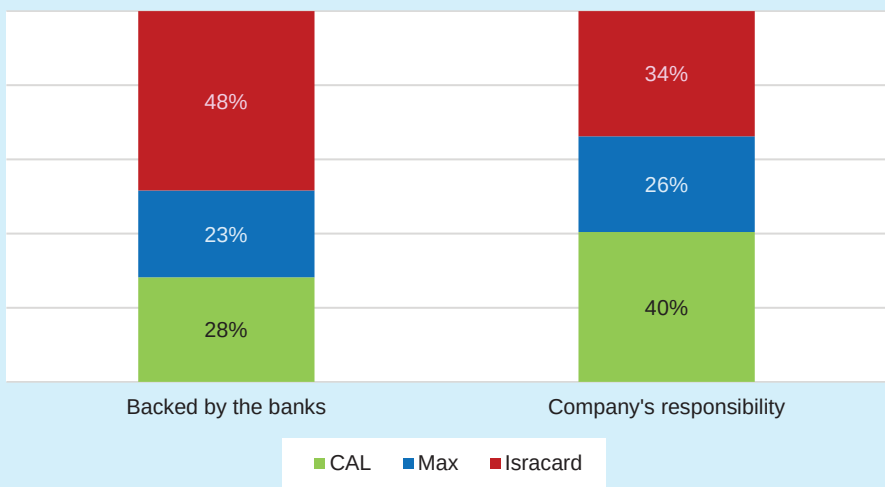
Figure 1.81
Total Number of Active Credit Cards, 2016–2020 (thousand units)



SOURCE: Based on the credit card companies' financial statements to the Banking Supervision Department.

Isracard holds the largest market share of cards backed by banks, while CAL holds the largest market share of cards issued and operated by credit card companies.

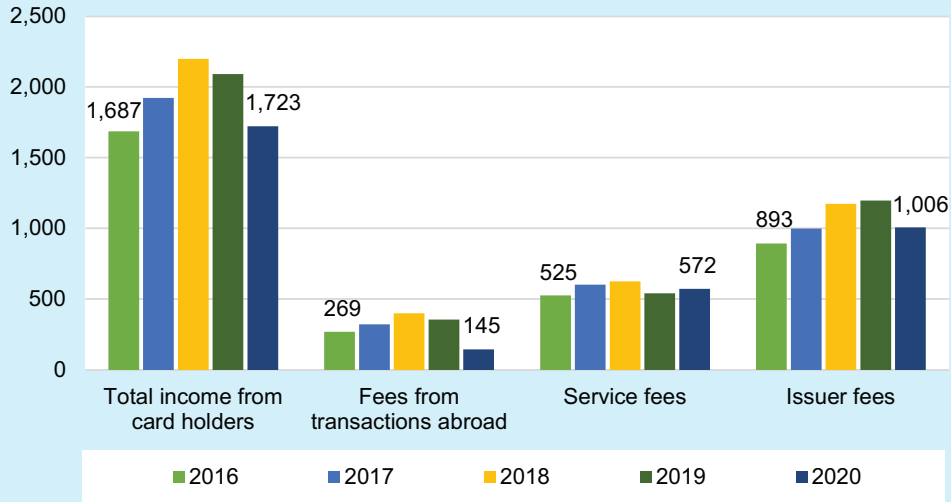
Figure 1.82
Credit Card Companies' Market Share by Number of Active Cards and Responsibility, December 2020 (percent)



SOURCE: Based on the credit card companies' financial statements to the Banking Supervision Department.

Income in respect of card holders decline significantly due to the crisis's effects on the nature of private consumption.

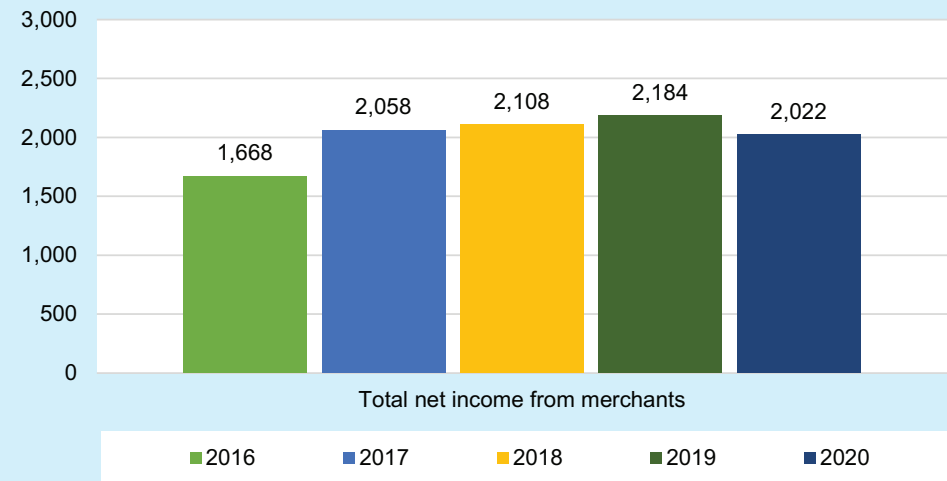
Figure 1.83
Income in Respect of Credit Card Holders, Total and by Type of Income, 2016–2020 (NIS million)



SOURCE: Based on the credit card companies' financial statements to the Banking Supervision Department.

Income from merchants also declined in 2020 due to the crisis and the regulatory measures adopted.

Figure 1.84
Credit Card Companies' Net Income from Merchants[a], 2016–2020
(NIS million)

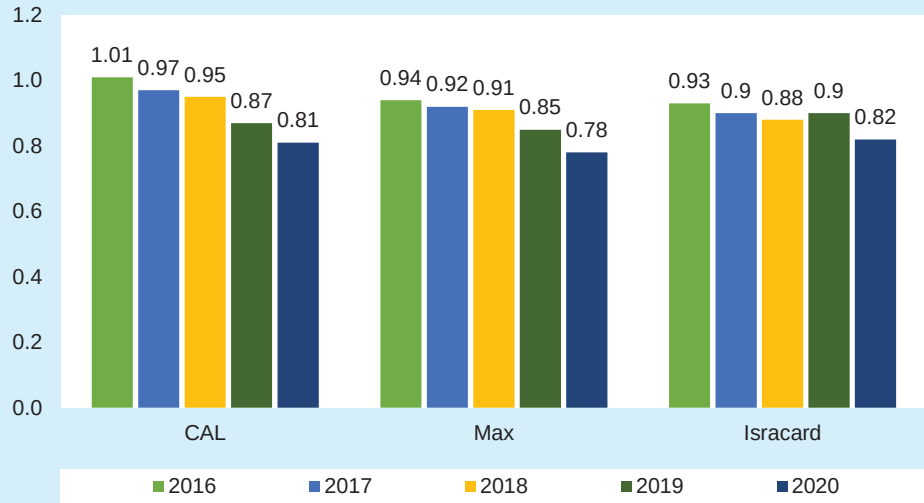


[a] Excluding fees to other issuers.

SOURCE: Based on the credit card companies' financial statements to the Banking Supervision Department.

Clearing fees declined steadily at all credit card companies due to various regulatory measures.

Figure 1.85
Total Average Credit Card Company Clearing Fees in Israel, 2016–2020
(percent)



SOURCE: Based on the credit card companies' financial statements to the Banking Supervision Department.

d. Profitability and return on equity

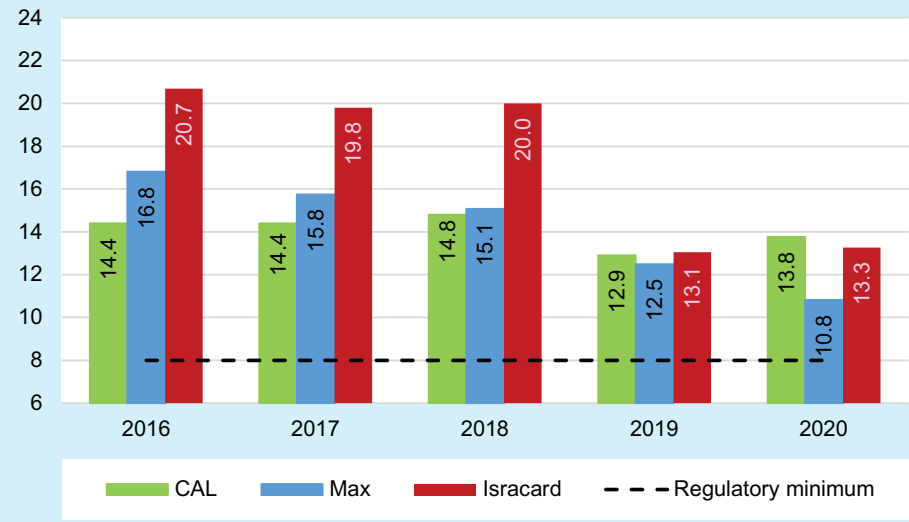
The downturn in the credit-card companies' ROE was abetted by a decrease in net profit.

The credit card companies maintain stable and high capital ratios that exceeded the regulatory minimum (Figure 1.86). However, Max's Tier 1 capital ratio declined by 1.7 percentage point in 2020 and came to 10.8 percent at year's end because the company distributed NIS 250 million in dividends in the first quarter. Cal's Tier 1 capital ratio ended the year at 13.8 percent, up 0.9 percentage points, largely due to a 6 percent increase in Tier 1 equity during the year. Isracard's ratio underwent no major change.

Return on Equity (ROE) varied among the companies (Figure 1.87). Isracard had ROE of 3.8 percent, down 5.5 percentage points, and Cal had ROE of 6.2 percent, down 4.8 percentage points. The decline at those companies was impacted by lower net profit (Figure 1.88). In contrast, Max's ROE increased by 2.2 percentage points and ended 2020 at 6.9 percent. This was strongly affected by a nonrecurrent event that influenced net profit as the result of a capital gain from the liquidation of the stake in Shufersal Finance (NIS 61 million pre-tax, NIS 47 million post-tax). Net of this effect, ROE was 3.6 percent as against 7.2 percent a year earlier.

There was a mixed trend among the credit card companies regarding the development of Tier 1 capital.

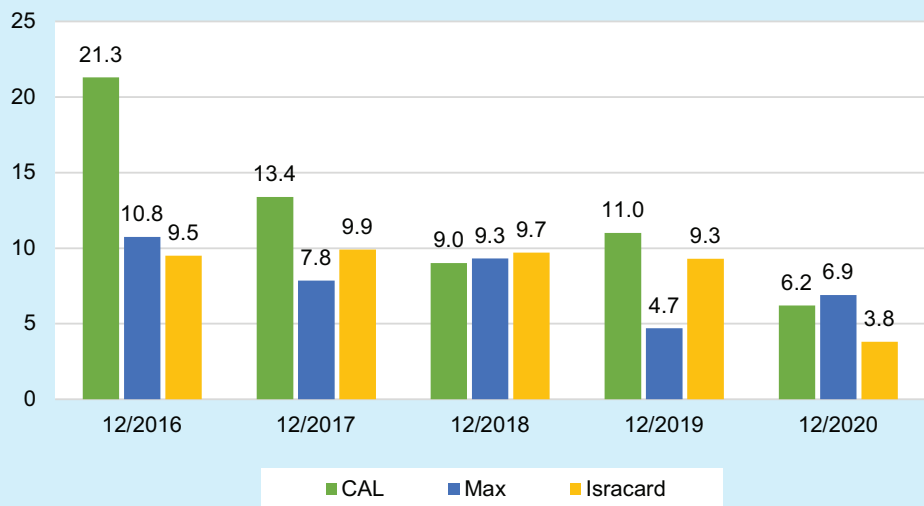
Figure 1.86
Credit Card Companies' Tier 1 Capital Ratios, 2016–2020 (percent)



SOURCE: Based on the credit card companies' financial statements to the Banking Supervision Department.

There was a significant decline in the credit card companies' return on equity in 2020.

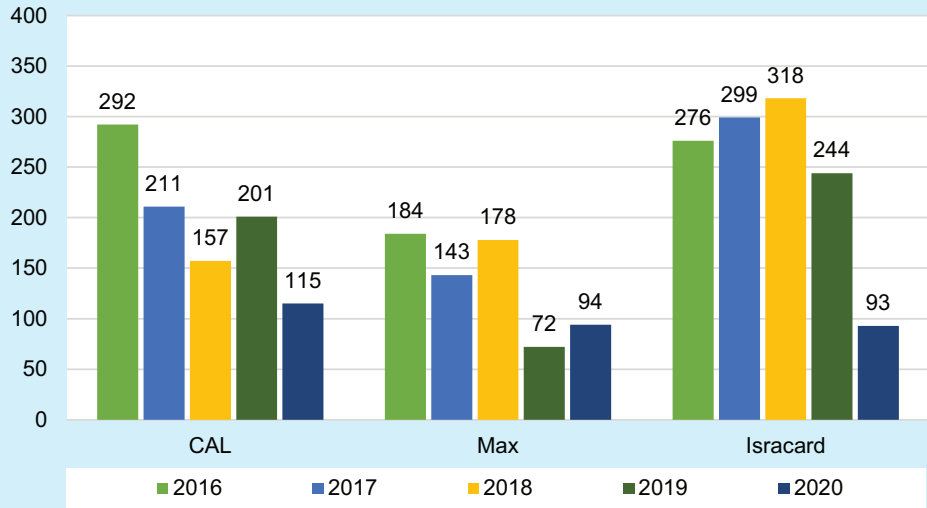
Figure 1.87
Return on Equity, Credit Card Companies, December 2016–December 2020 (percent)



SOURCE: Based on the credit card companies' financial statements to the Banking Supervision Department.

The net profit of Isracard and CAL declined due to the effects of the crisis, while the net profit of Max increased due to a one-off capital profit.

Figure 1.88
Net Profit Attributed to Shareholders, Credit Card Companies, 2016–2020
(NIS million)



SOURCE: Based on the credit card companies' financial statements to the Banking Supervision Department.