CHAPTER 3

CHAPTER 3
THE BANKING SYSTEM'S BUSINESS RESULTS

1. THE PROFITABILITY OF THE BANKING SYSTEM

The net profit[1] of the banking system was about NIS 24 billion in 2022, compared to NIS 18.5 billion in 2021, representing an increase of about 30 percent (Table 6). The increase is primarily the result of growth in interest income (Figure 3.1), which was due to both the continuing rapid growth in the banking system's credit activity (see Section 5.2) and the increase in the CPI, which led to the hikes in the Bank of Israel interest rate starting from April 2022. Furthermore, the banks' profits for the period being surveyed included several one-off events that contributed about NIS 1.6 billion (pre-tax, including a tax shelter) to their high level of profitability relative to the same period in the previous year:

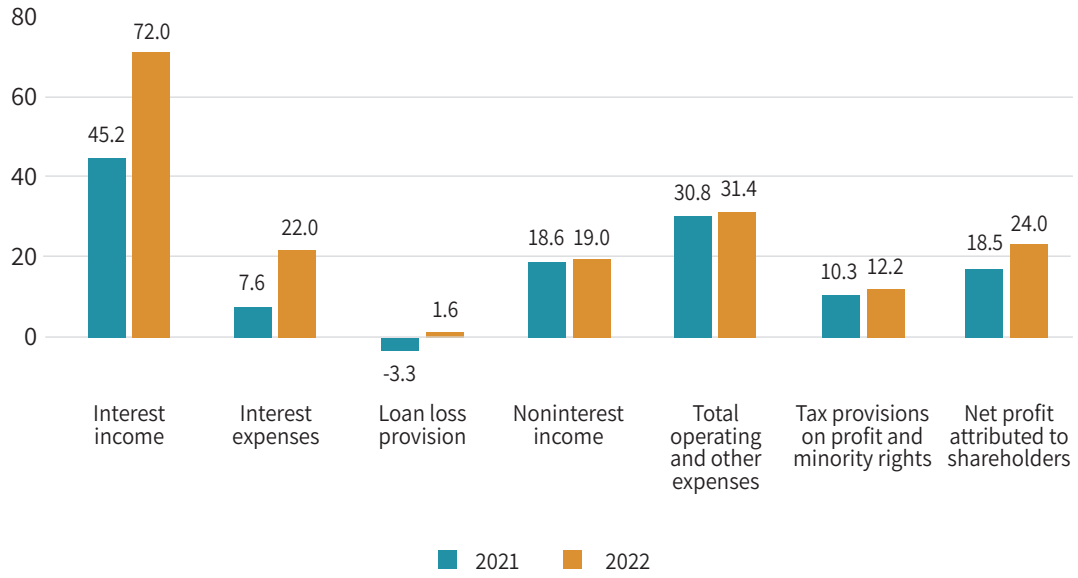
Bank	One-off event	Effect on income/profit for 2022
Hapoalim	Sale of real estate	NIS 130 million (other income)
Leumi	Merger of Bank Leumi US and Valley National Bank	NIS 645 million (tax shelter[2])
Mizrahi	Sale of assets (primarily buildings)	NIS 371 million (other income)
Discount	Sale of buildings	NIS 421 billion (other income)

Accordingly, the return on equity for 2022 stood at about 16.4 percent as compared to about 13.9 percent in 2021 (Table 6). From a historical perspective, this is the highest return since 2006 (Figure 3.2). Net of the effect of inflation, the return on equity for 2022 is about 13.1 percent; net of the effect of one-off events, then the return on equity for 2022 is about 15.4 percent; and if both effects are neutralized, the return on equity is about 12.3 percent.

1 The net profit attributed to the banks' shareholders.
2 The amount is offset from the provision for taxes due to pre-tax profit.

The main contributor to the high profitability of the banks was interest income, which was the result of the growth in credit, the increase in the CPI and the hikes in the Bank of Israel interest rate.

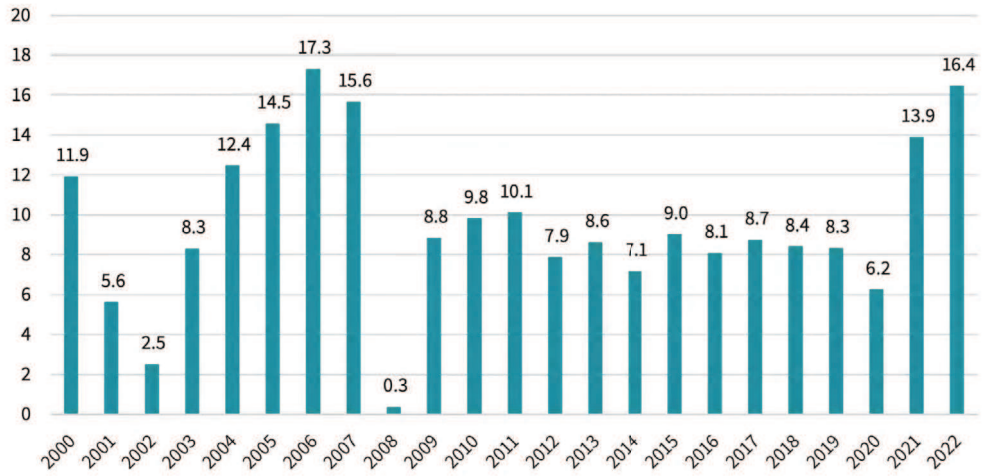
Figure 3.1 Profit and Loss Statement Components, Total Banking System, 2021 and 2022 (NIS billion)



SOURCE: Based on published financial statements.

The return on equity during the period being surveyed was the highest since 2006.

Figure 3.2 Return on Equity (ROE) After Tax, Total Banking System, 2000–2022 (percent)



SOURCE: Based on published financial statements.

2. INCOME AND EXPENSE ITEMS IN THE PROFIT AND LOSS STATEMENT

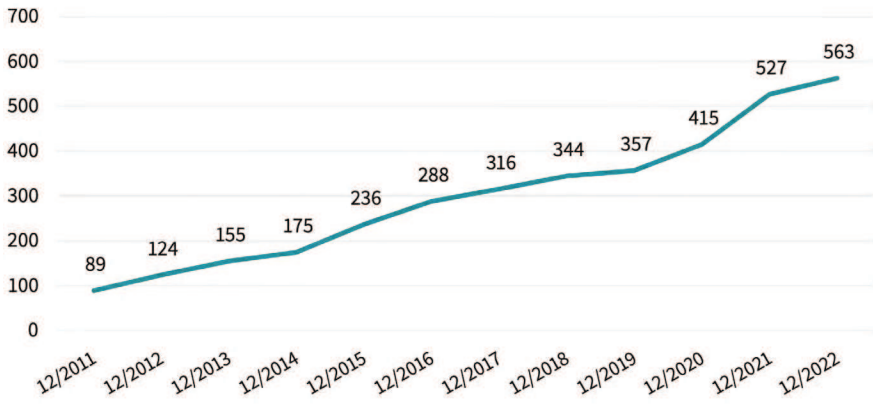
Net interest income rose by about 33.1 percent relative to 2021, totaling about NIS 50 billion (Table 6). The increase in net interest income was a result of the significant growth in interest income, which was due to both the increase in the CPI (by 5.3 percent since the start of 2022 as compared to an increase of 2.4 percent during the same period in 2021)[3] and the hikes in the Bank of Israel interest rate which began in the second quarter of the year,[4,5] as well as the continued growth in total credit to the public. The increase in interest income was partly offset by interest expenses, which almost tripled relative to the same period in 2021 (although the increase was less than that in total interest income), primarily due to the increase in the interest rate and in total interest-bearing liabilities.

The Bank of Israel interest rate during 2022

Month	Bank of Israel interest rate (percent)	Increase in the Bank of Israel interest rate (in percentage points)
April	0.35	0.25
May	0.75	0.4
July	1.25	0.5
August	2.00	0.75
October	2.75	0.75
November	3.25	0.5

In 2022, there was a noticeable slowing in the rate of growth in the surplus of interest-bearing assets over interest-bearing liabilities as a result of the faster increase in the latter.

Figure 3.3 Development of the Difference between Interest-Bearing Assets and Interest-Bearing Liabilities, 2011–2022 (NIS billion)



SOURCE: Based on published financial statements.

[3] The high level of inflation has two effects on interest income: first, the total increase in assets due to inflation is recorded as interest income and second, since total CPI-indexed credit grew (as a result of the increase in inflation), interest income on this credit also grew.

[4] The Bank of Israel continued to raise the interest rate during the first quarter of 2023 and as of the time of writing it stood at 4.25 percent.

[5] The increase in the Bank of Israel interest rate primarily affects interest income from assets bearing the prime rate of interest.

The banking system is characterized by a surplus of CPI-indexed assets over CPI-indexed liabilities (for further details, see Chapter 2). Consequently, the increase in interest income is significantly larger than the increase in interest expenses and therefore an increase in inflation contributes significantly to the banks' net interest income. Moreover, the banks enjoy a surplus of interest-bearing assets over interest-bearing liabilities (Figure 3.3) and in particular there is a surplus of assets that accumulate interest on the prime interest track over interest-paying liabilities, whether on the fixed interest rate track or on the prime interest rate track. Consequently, with the increase in the Bank of Israel interest rate, total assets for which interest income rises immediately exceed the corresponding liabilities and therefore the result is a sharper rise in interest income than interest expenses and an increase in the bank's net interest income. Nonetheless, it should be noted that during the last three quarters of 2022 there was a decline in the surplus of interest-bearing assets over interest-bearing liabilities as a result of the shift of funds from deposits that do not bear interest to deposits that do, which rapidly increased interest-bearing liabilities relative to interest-bearing assets. As a result, the rate of increase in net interest income was slowed (Figure 3.3). In this context, the effect of any future increase in the interest rate is expected to be smaller than what has been observed so far.

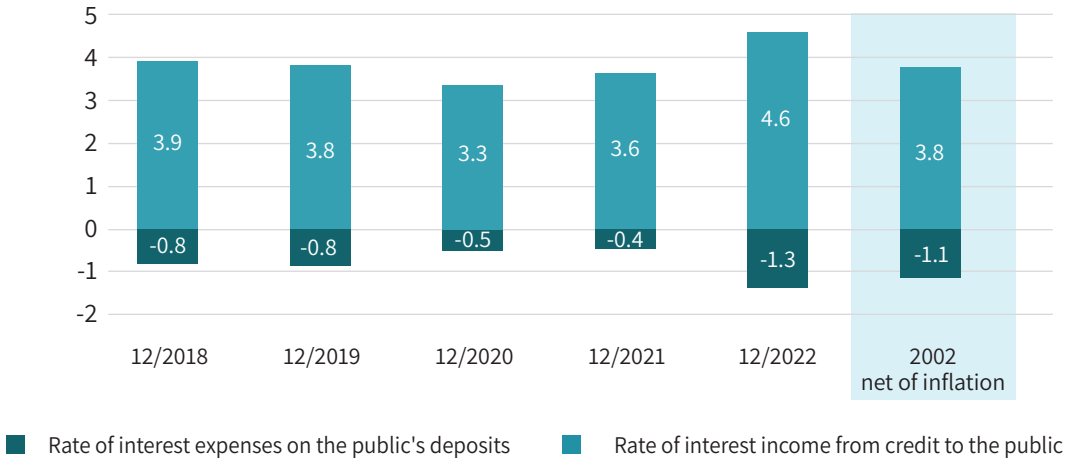
The positive effect on net interest income due to both the increase in price, namely the increase in the Bank of Israel interest rate starting from April 2022, and the increase in quantity, namely the increase in the size of the portfolio of credit to the public, together raised the total contribution to net interest income relative to the previous year (Table 7). For the first time in many years, the price constituted the primary factor in the growth of net interest income (about 57 percent of the total contribution); however, against the background of the continued growth in the portfolio of credit to the public, quantity also grew relative to the previous years, although at a slower rate than price (which constitutes about 43 percent of the total increase in net interest income).

In 2022, there was a significant increase in both the rate of the income from interest on credit to the public and in the rate of the expense due to interest on the public's deposits, a trend that began already in 2021. However, net of the effect of inflation, the rate of the expense due to interest on the public's deposits is lower, as the effect of inflation on the credit side is larger than that on the deposits side (Figure 3.4). The interest rate spread,[6] which reflects the banks' profitability from their core activity (providing credit and accepting deposits) grew somewhat in 2022 (Figure 3.5) and stood at about 3.24 percent, compared to 3.2 percent in 2021 (Table 8); however, net of the effect of inflation, the downward trend in the interest rate spread since 2021 continued and in 2022 it stood at 2.66 percent as compared to 2.92 percent in 2021.

[6] The gap between the average interest rate on total credit and the average interest rate on total deposits.

In 2022, there was a significant increase in both the rate of interest income from credit to the public and the rate of the interest expense due to interest paid on the public's deposits; however, if inflation is neutralized the effect of inflation on the interest expense is lower.

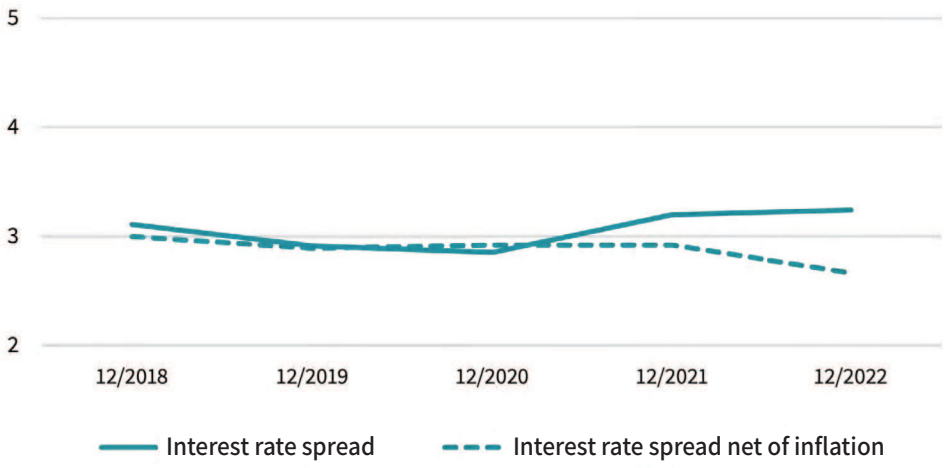
Figure 3.4 Profit and Loss Statement Components, Total Banking System, 2018–2022 (NIS billion)



SOURCE: Based on published financial statements.

The interest rate spread grew somewhat in 2022; however, net of inflation the interest rate spread narrowed.

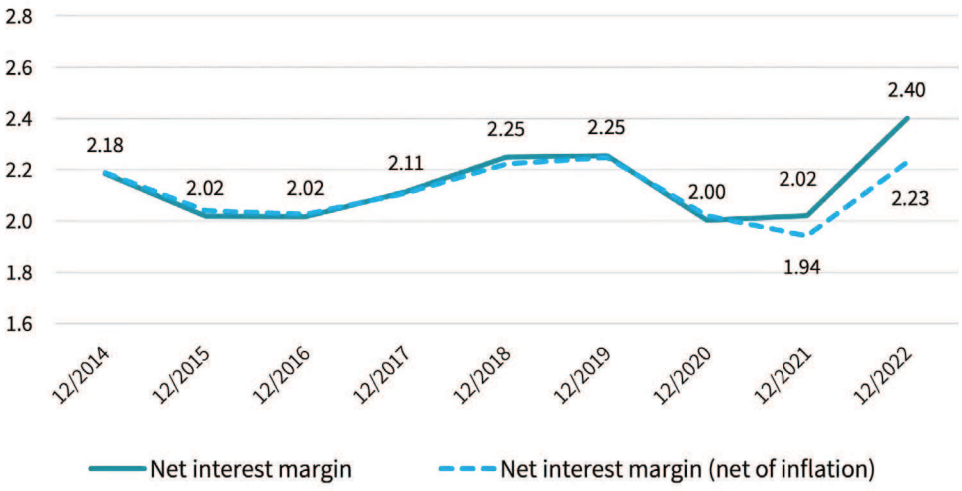
Figure 3.5 Interest Rate Spread (Credit to the Public and the Public's Deposits), Total Banking System, 2018–2022 (percent)



SOURCE: Based on published financial statements.

The increase in the net interest margin is explained by both the increase in the CPI and the increase in the Bank of Israel interest rate.

Figure 3.6 Net Interest Margin (Credit to the Public and the Public's Deposits), Total Banking System, 2018–2022 (percent)



SOURCE: Based on published financial statements.

The net interest margin,[7] which is an index of the banking system's ability to generate profits from the assets that generate financing income, presents a similar trend. Thus, there was an increase in the net interest margin, which stood at 2.4 percent in 2022, in comparison to 2.02 percent at the end of 2021. However, net of the effect of inflation, the margin rose only to 2.23 percent in 2022 (1.17 basis points in comparison to the net interest margin - net of inflation) as compared to 1.94 percent (9 basis points in comparison to the net interest margin - net of inflation) at the end of 2021 (Figure 3.6).

Credit loss provisions grew in 2022 relative to 2021 and totaled about NIS 1.6 billion (Table 6). Note that during the second half of the year, all of the banks recorded a positive provision in this item, following several quarters in a row in which all or most of the banks recorded negative provisions. In spite of this trend, the accumulated provisions in one of the large banks continued to be negative (income) in this item, due to a large decline in an individual allowance it recorded in the first quarter of 2022.[8] Among the reasons for the increase in the credit loss allowances is a deterioration in macroeconomic parameters as a result of the increase in uncertainty and the probability of an economic slowdown (which according to the Current Expected Credit Losses[9] (CECL) rules affects the credit loss allowance;

7 Net financing income (interest income and noninterest income) relative to total interesting-bearing assets.

8 As a result of the reduction in the net specific allowance during the period, which was due primarily to a small number of borrowers.

9 Credit loss allowances are intended to serve as a buffer for absorbing expected losses on credit provided to the public and thus to maintain the banks' stability and their ability to continue providing credit, even in a period of crisis when credit losses will be realized, and also to better reflect the banks' financial situation. As part of the lessons learned from the Global Financial Crisis in 2008–09, during which it became clear that banks worldwide did not have enough buffers against the credit losses that were being realized, it was decided on a worldwide level to change the accepted accounting practices so as to ensure that the allowances would sufficiently take into account—based on a forward-looking perspective—the losses that are expected in the credit portfolio. This change was approved in January 2020 for commercial banks in the US and Israel and went into effect, as mentioned, in January 2022.

for further details, see Section 5.2). These effects increased in magnitude starting from June 2022, as manifested in the growth of the rate of credit loss provisions during that period.

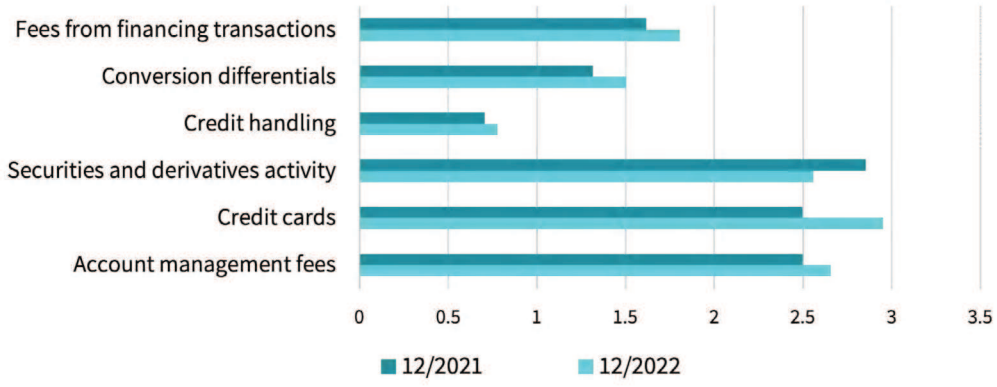
Noninterest income grew during 2022 by about 1.8 percent relative to 2021 and totaled about NIS 19 billion (Table 6). The increase was the result of one-off income (as described in the table at the beginning of the chapter) and an increase in income from fees, which was due to the expansion in economic activity (as described below). In addition, the banks recorded exceptionally large losses due to exchange rate differentials that resulted from the sharp depreciation in the shekel against the dollar during the period being surveyed. These were fully offset by activity in derivative instruments, the lion's share of which is used for hedging activity against foreign currency exposure.

Fee income increased by about 6.1 percent during 2022 relative to the previous year and stood at about NIS 14.3 billion (Table 6). The increase was primarily due to activity in credit cards, although activity in financing transactions, exchange differences and account management fees (Figure 3.7) also reflect an increase in customers' consumption and economic activity.[10] This increase was partly offset by the decrease in fees from activity in securities, which was the result of a decline in trading volumes relative to the same period in the previous year. During the past two years (2021–22), fee income in the banking system grew by an annual average of about 7.4 percent (Table 6).

Other income totaled about NIS 1.3 billion in 2022, which was an outlier (it is usually much less), with most of it due to one-off income from the sale of buildings by some of the banks as described at the beginning of the chapter. The other income of Mizrahi Bank in 2022 includes about NIS 200 million due to a net deferred credit balance that was recorded as a result of the acquisition of Union Bank. This amount is recognized in the profit and loss statement over a period of five years, starting from the fourth quarter of 2020.

Most of the growth in fees income reflects an increase in customers' financial activity.

Figure 3.7 Breakdown of Main Fee Income Items, Total Banking System, 2021 and 2022 (NIS billion)



SOURCE: Based on published financial statements.

[10] The main factor responsible for the increase in fee income among the banks was the growth in fees as a result of increased credit card activity. One of the banks recorded income of NIS 145 million as a result of the revision of the operating agreement.

3. OPERATING EFFICIENCY

The downward trend in the banking system's efficiency ratios continued during 2022. The operating efficiency ratio[11] fell (i.e., improved) significantly from about 55 percent in 2021 to about 46 percent at the end of the period being surveyed (Figure 3.8). The significant improvement in the operating efficiency ratio is the result of the increase in net interest income, against the background of the growth in credit, the rise in the CPI, and the increase in the Bank of Israel interest rate, as well as the increase in net interest income due to, among other things, the exceptionally large one-off income received during the period being surveyed (for further details, see the subsection on business results in this chapter). Nonetheless, even if the increase in the CPI and one-time income are neutralized, there was still a not-insignificant increase in the operating efficiency ratio, which stood at about 49 percent at the end of 2022, compared to about 59 percent at the end of 2021 (Figure 3.8). In addition, the Unit Output Cost[12] fell (i.e., improved) during 2022 and stood at about 1.37 percent, as compared to 1.48 percent at the end of 2021, with this trend characterizing almost the entire banking system (Figure 3.9). The improvement in the average cost ratio is primarily due to the increase in credit to the public (at a rate of about 7.4 percent during 2022). This can be attributed to, among other things, the increase in the CPI and changes in the exchange rate (for further details, see Chapter 2.1 in this survey), while total other operating costs grew at a slower pace (about 2.2 percent; Table 1).

Developments in operating and other expenses

Total operating and other expenses increased by 2.2 percent in 2022 relative to 2021 and stood at NIS 31.4 billion. The increase in 2022 occurred in spite of the fact that those expenses were already very high in 2021 relative to previous years. The increase in operating and other expenses occurred against the background of opposing trends among the banks relative to the same period last year, such that on the level of the banking system as a whole the results were more moderate.

Note that in 2021 the banking system showed good business results and as a result salary expenses grew in the various banks due to the compensation and grants awarded to their workers. Furthermore, the banks increased their marketing and advertising expenses during the second half of that year, such that operating expenses grew by about 8 percent in 2021, and therefore it constitutes a high base for comparison. The rate of growth in operating expenses in 2022 was therefore positive but more moderate than that in the parallel period in the previous year.

There was growth of about 2.5 percent in salaries and related expenses in 2022 (as compared to 14.5 percent in 2021) and they totaled about NIS 17.8 billion (Figure 3.11). This item increased in most of the banks, due to, among other things, the continuing upward trend in the compensation of workers, given the healthy business results during the period (similar to the trend in 2021). In the other banks, there was a decline in these expenses due to the effect of the interest rate increase during the period

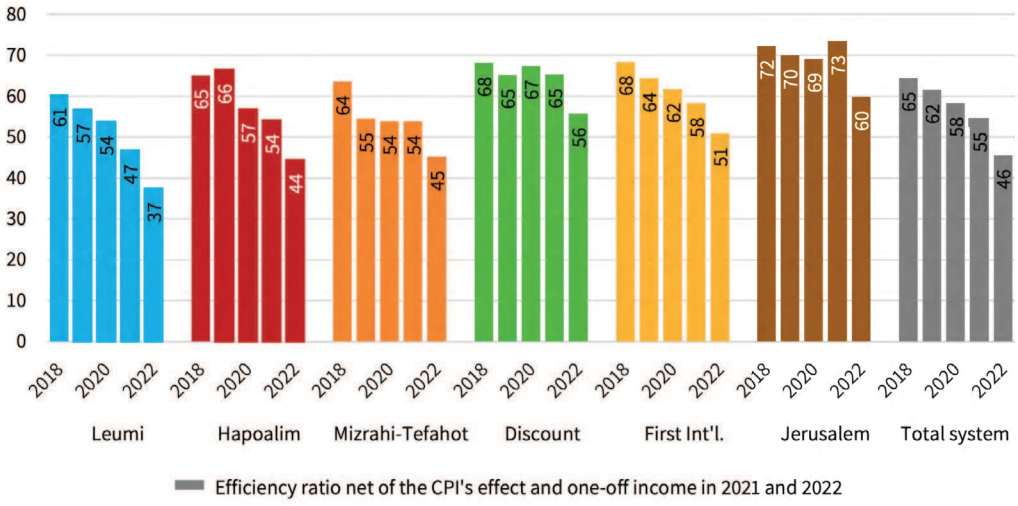
11 The ratio of total operating and other expenses to total net interest income and noninterest income.
12 The ratio of total operating and other expenses to the average quantity of assets.

being surveyed on the actuarial liabilities of the bank toward their workers.[13] Despite the growth in salaries and related expenses during the year being surveyed, the downward trend continued in the total number of positions in the banking system (Table 10). This implies a continuation of the upward trend in the average salary in the banking system.[14] Note that the rate of increase in the average salary within the banking system has been similar to that in the business sector as a whole in recent years (for further details on the trend in salaries in the banking system in recent years, see Box 3.1 "The Efficiency of the Banks over the Years" in this survey).

There was an increase of about 3.4 percent in **other expenses** relative to the previous year. The reason for this is connected to, among other things, marketing and advertising expenses, which are derived from the income of subsidiaries and consulting with respect to regulation, actuarial data, and clearing payments, which increased during the period being surveyed relative to the same period in the previous year.

During 2022, the downward trend in the banks' efficiency ratio continued.

Figure 3.8 Operational Efficiency Ratio,[1] Total Banking System, 2018–2022 (percent)

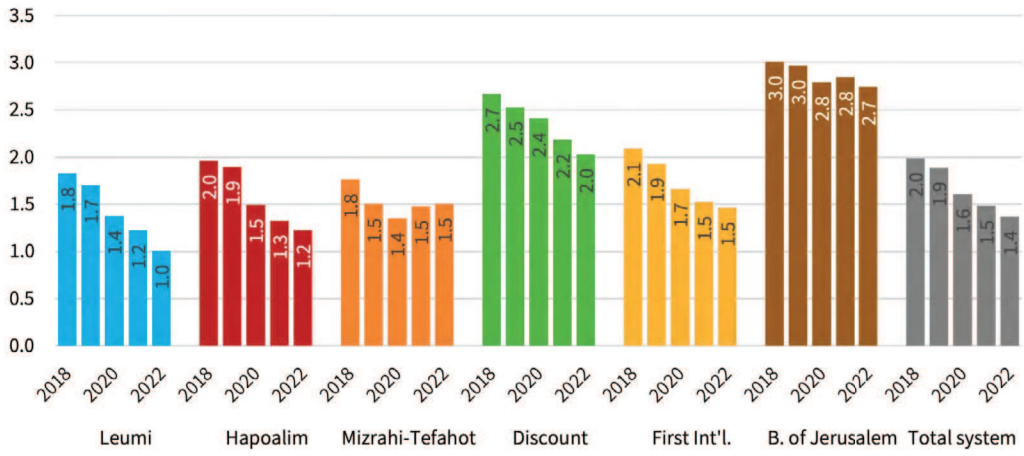


[1] The ratio between total operational and other expenses and total net interest and noninterest income (cost to income).
SOURCE: Based on published financial statements.

[13] A decline of about 7.2 percent in salaries and related expenses relative to the same period in the previous year.
[14] Salaries and related expenses.

Given the rapid increase in the average quantity of assets, there was an improvement in average cost in the banking system in 2022.

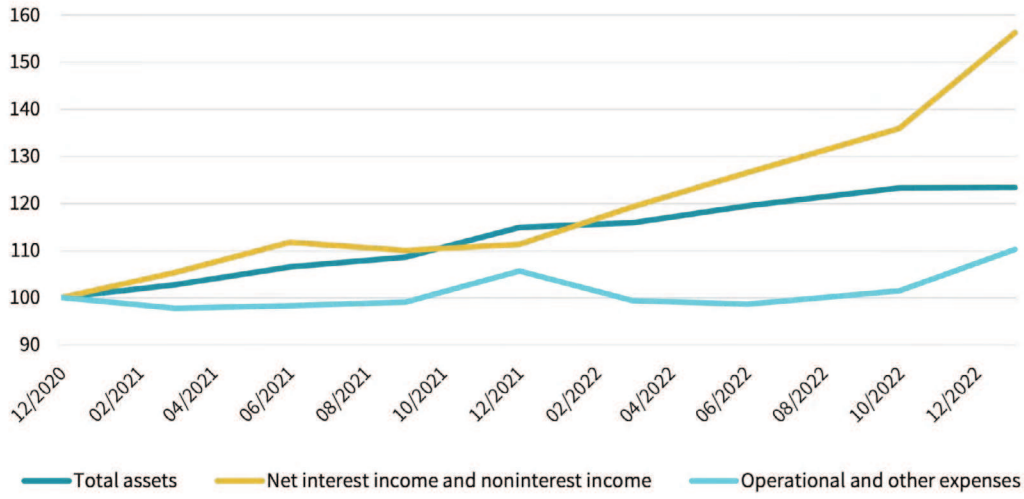
Figure 3.9 Cost per Output Unit,[1] Total Banking System, 2018–December 2022



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

The improvement in the efficiency ratios during the period being surveyed is the result of rapid growth in income and assets, in parallel to the moderate increase in operating and other expenses.

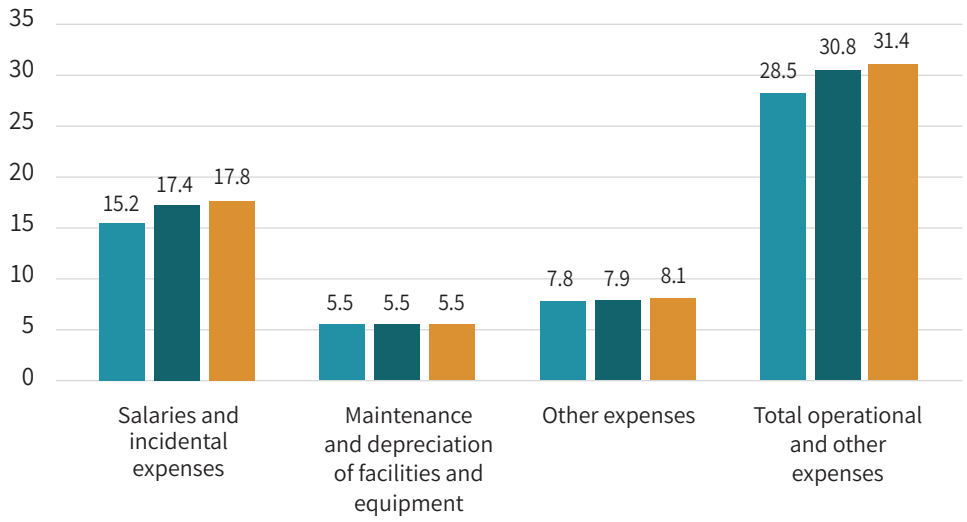
Figure 3.10 Development of The Efficiency Ratio Components, Total Banking System, 2020–2022 (index: December 2020=100)



SOURCE: Based on published financial statements.

The increase in salary and related expenses was one of the main explanations for the growth in operating and other expenses during 2022 relative to the same period in the previous year.

Figure 3.11 Breakdown of Main Operational and Other Expense Items,[1] Total Banking System, 2020–2022 (NIS billion)



[1] Excluding items that account for less than 0.5 percent of total operational and other expenses (such as amortization, reputation, etc.))

SOURCE: Based on published financial statements.

There was no major change in expenses for maintenance and depreciation of buildings and equipment (a decline of about 0.3 percent; Figure 3.11) relative to the same period in the previous year, as was the case in the previous year as well (an increase of about 0.4 percent). In this item as well, there was considerable variation across the banks. There was an increase in maintenance and depreciation in most of the banks, due to among other things, the increase in depreciation of software; yet, in contrast, other banks experienced a decline in these expenses, due to among other things the processes to increase efficiency which led to less real estate requiring maintenance (for a broader perspective of the trend in maintenance and depreciation expenses, see Box 3.1 in this survey).

OPERATING EFFICIENCY OVER THE YEARS

An analysis of operating efficiency has been included in the surveys of the Banking Supervision Department almost from the beginning of their publication. Nonetheless, the way in which it has been analyzed has changed over the years. Expenses, income and operating profit were topics that were analyzed as part of the survey during the 1970s; but that did not include indices that captured the connection between them.

Starting from the late 1980s, the analysis of operating efficiency was based on the same principles as those of the current surveys, including the dynamics between income and expense items, and in some cases it used the same indices, such as the average cost ratio, which is analyzed today (although then it was referred to by different names, such as the added value ratio).[15]

In contrast to the efficiency ratio[16], which constitutes one of the most accepted ratios worldwide for analyzing the level of operating efficiency and which was adopted by the domestic banking system at the end of the 1990s, the coverage ratio[17] constituted one of the main indices for examining the banks' degree of operating efficiency during the 1980s and 1990s. The coverage ratio has similar characteristics to those of the efficiency ratio in that it analyzes the relationships between changes in income and changes in expenses. Nonetheless, and in contrast to the efficiency ratio, this index relates only to operating income from fees and management fees. Thus, the coverage ratio was meant to analyze the extent to which the banks are covering the expenses incurred in the collection of fees and the provision of services to their customers, without the need to compensate for this by expanding the financial spread, which is liable to be accompanied by risk-taking that goes beyond the established targets. It is worth recalling that during that period and up until the implementation of the Bachar Committee recommendations during the mid-2000s, the banks owned and managed additional financial entities. The structure of the banks during that period influenced the profile of income sources, such that income from fees and service fees (from the provision of services) constituted a more significant proportion of the banks' income.

15 Another index of average cost during that period was the ratio of average number of positions to the average balance sheet size, which is a measure of how many employees are needed to create a unit of "balance sheet" (credit).

16 This is the ratio of operating and other expenses to total net interest income and noninterest income.

17 This is the ratio of operating income (from fees and the management fees on, for example, mutual funds, which at that time were owned by the banks) to operating expenses.

The implementation of the Bachar Committee recommendations, which required the banks to sell their provident funds and mutual funds, forced them to develop other sources of income, particularly in traditional banking activities (providing credit to the economy). Therefore, the efficiency ratio as it is currently calculated (with the incorporation of the banks' income, including interest income) more accurately reflects the operating efficiency of the banks in their core activity in contrast to operating income only, as in the case of the coverage ratio.

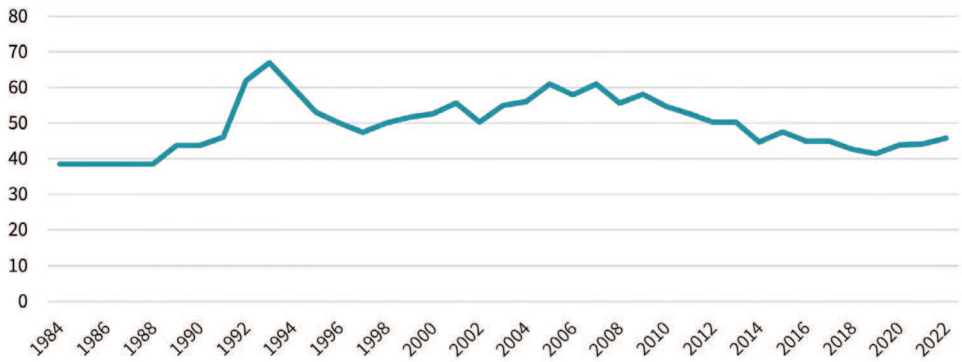
In comparison to other countries, the coverage ratio in Israel was much lower than the average starting in the mid-1980s. One of the reasons for this was the supervision over bank fees during that period, which was gradually lifted starting in 1987 and as a result the coverage ratio in Israel gradually rose.[18] At the beginning of the 1990s, due to high volume of the stock exchange and high revenues from the capital market, there was a significant improvement in the coverage ratio of the domestic banking system, to the point that it exceeded the median for other countries (against the background of the crisis in the Scandinavian countries which had an effect on the ratio of the reference countries); however, the average cost ratio was still higher than the average in other countries.

As mentioned above, starting from the late 1990s the surveys of the Banking Supervision Department included the efficiency ratio as it is presented today. In the early years and up until 2005—the year in which the Bachar Committee recommendations began to be implemented—the efficiency ratio in Israel was similar to the average in other counties. The implementation of the Bachar Committee recommendations reduced some of the banks' most significant income sources, particular that from the capital market (the reduction was partially offset by the boom in the capital market during the years 2006–07, as reflected in the high trading volumes that positively affected the income from activity in securities; Figure 3.12). This was accompanied by an increase in operating expenses as a result of the increase in salaries and related expenses, which led to a decline in the efficiency ratio in Israel relative to other countries. Thus, Israel's efficiency ratio remained high relative to other countries during the period 2005–15.

[18] During that period, the banking system worldwide began to provide more sophisticated services with higher pricing following the assimilation of new technologies. This was in parallel to increased operating efficiency among the banks, which led to a higher coverage ratio internationally.

Starting in 2006, following the change in the structure of the banking system, some components of the banks' operating income diminished in size, leading to a decline in the coverage ratio.

Figure 3.12 Operational Coverage Ratio[1,2], the Five Large Banking Groups, 1984–2022



1 Until 2008, the ratio is taken from past surveys. From 2008 onward, the ratio is calculated as the ratio between total fee income and total operational and other expenses, such that the series provides an estimate of the development of operational efficiency over time.

2 Calculated as the ratio between operational income and total operational expenses.
Operational income equals fees income + income from management fees for provident funds, mutual funds, and management fees of affiliated companies, and includes total income from securities services and activities.

SOURCE: Based on published financial statements.

In recent years, the Israeli banking system has undergone a process to improve efficiency, which has been manifested in, among other things, an improvement in the efficiency ratios and a narrowing of the gap that had prevailed until then. This gradual process, which began in 2015 and is still ongoing, led to a situation in which the efficiency ratios of the banking system have in recent years been lower than in other countries (for further details on the increased efficiency of the banking system during the period 2015–22, see Box 3.1 in this survey).

4. THE RISK-ADJUSTED RETURN ON CAPITAL

The risk-adjusted return on capital (RAROC) is calculated as the ratio between the excess return on capital (beyond the risk-free rate of return) and the standard deviation of the return on capital during that same period (which represents the banks' value at risk, i.e., the unit of risk).[19] This index is based on the value at risk approach, which is defined as the maximal expected loss from the bank's activity during a particular period and at a particular probability.[20]

In general, the higher the value obtained by this calculation, the higher will be the excess return achieved by the bank relative to its level of risk. An analysis of the Israeli banking system shows that this year there has been some decline in the RAROC of the banks relative to the high levels reached last year (1.72 vs. 1.86 in 2021). In other words, despite the high level of profitability achieved this year, there was an even larger increase in the risk to which the banks are exposed, such that the on the level of the banking system there was a drop in this index.

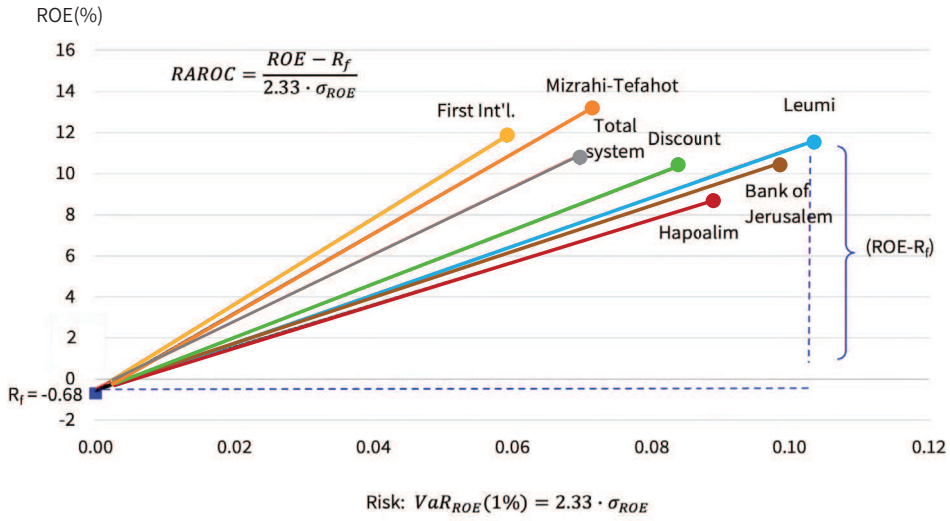
An analysis of the RAROC for each bank during the past five years shows the differences—sometimes large ones—between the banks relative to their risk-adjusted performance (Figure 3.13). The RAROC of each bank is the slope of the vector extending from the risk-free return (appearing as a blue square; it was equal to -0.68 percent on average during the past five years; Figure 3.13) to the point representing the yield and risk achieved by the bank. The greater is the slope the higher is the return per unit of risk or in other words, the better is the bank's performance.

[19] The development of the RAROC indices began in the late 1970s at Bankers Trust and became an accepted index for the measurement of risk-adjusted performance in a banking system.

[20] During that period, the banking system worldwide began to provide more sophisticated services with higher pricing following the assimilation of new technologies. This was in parallel to increased operating efficiency among the banks, which led to a higher coverage ratio internationally.

There is significant variation in RAROC across the banks in recent years.

Figure 3.13 Risk-Adjusted Return on Capital, Bank Groups and Entire System, Average 2018–2022



R_f - Average annual risk-free interest rate, 2018–2022, based on return to maturity of 5-year CPI-indexed bond ("Galil"),
ROE - Average annual return on equity, 2018–2022.
σ_{ROE} - Standard deviation based on ROE of each quarter in a seven-year period (28 observations).

SOURCE: Based on published financial statements.

The RAROC according to the variance-covariance approach [21]

Year	Total for the system	Leumi	Discount	Hapoalim	Mizrahi - Tefahot	First International	Jerusalem	Risk-free return (Rf)
2018	1.70	0.95	1.32	1.34	1.56	1.97	1.21	-0.25
2019	1.70	1.04	1.33	0.85	2.31	2.38	1.15	-0.65
2020	1.10	0.65	0.75	0.60	1.88	1.91	0.64	-0.64
2021	1.86	1.53	1.62	1.25	2.22	2.21	1.45	-1.50
2022	1.72	1.64	1.52	1.25	1.80	2.07	1.15	-0.38

[21] The RAROC was calculated according to the variance-covariance method, which assumes a normal distribution of the returns, where the value at risk (the denominator) is calculated according to the product of the standard deviation and the standard Z-value adjusted to the required level of confidence (1 percent is the accepted level).

5. ANALYSIS OF THE BANKS' PERFORMANCE ACCORDING TO THE MARKET-TO-BOOK RATIO

The market-to-book ratio (MV/BV) is an indicator of the degree of convergence between a company's market value in the stock market, which is based on the assessment of investors, and the value of its equity on the books (book value). A ratio larger than one indicates that investors are expecting that the company's future activity will continue to expand and therefore the value of the company should reflect that and be higher than its book value. A value less than one is an indicator that investors expect its future activity to decline and that the equity on the company's books is an overestimation of the economic value of its shares.[22] Therefore, it is important to track the MV/BV ratio, which is able to reflect the market expectations of the bank's ability to earn profits and accordingly constitutes an estimate of the banks' ability to raise capital.[23] Since the public hold the large majority of the bank shares, whether directly or by means of their pension savings, erosion of the value of these shares may result in losses for them.[24]

During 2022, the MV/BV ratio of the banking system fluctuated, though it remained above a value of one and even reached a peak of 1.29, while at the end of 2022 it stood at 1.02 (Figure 3.14). At the end of 2022 the ratio began to drop moderately, a trend that continued in early 2023, and as of April 2023 it reached 0.91. The MV/BV ratio may have showed a high level of volatility in 2022 due to the economic uncertainty arising from the increase in inflation and the beginning of interest rate hikes worldwide. Despite the decline in the ratio, its level high in historical terms, reflecting the confidence of investors in the banks' performance.

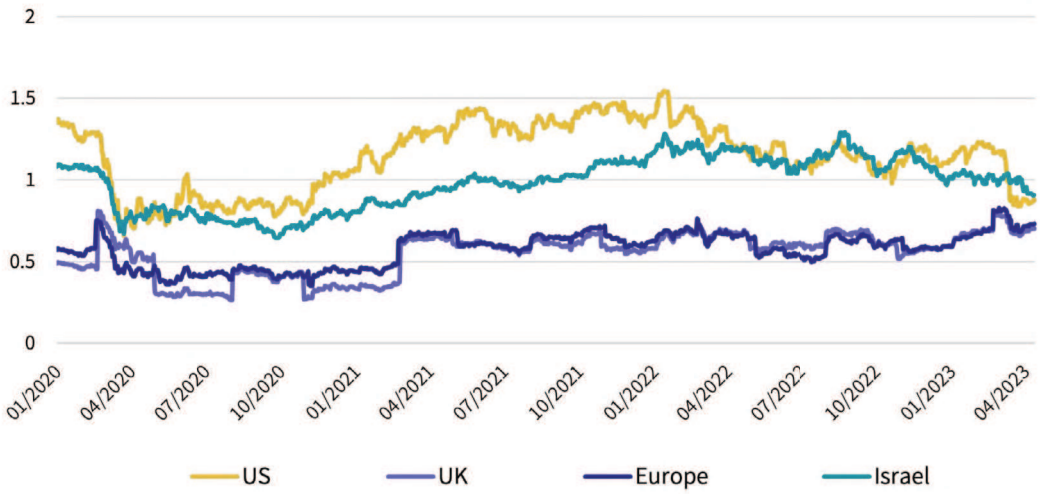
The drop in the banks' MV/BV ratio was the result of a decline in market value (the numerator) and an increase in book value (the denominator). Inflation and the interest rate contributed to the profitability of the banking system and its aggregate net profit grew by approximately 30 percent during 2022 relative to 2021 (for further details, see Section 3.1 in this survey). This growth contributed to the increase in equity and thus increased the banks' book value. In contrast, inflation and the interest rate environment expose the banks to various risks and in particular credit risk, since this kind of environment reduces the repayment ability of borrowers. There is therefore a concern that they will not be able to meet their debt payments, which is liable to cause significant credit losses. It may be that investors are pricing in this risk, based on concern about a future decline in the banks' profitability and in turn a decline in their market value.

The trends in the bank shares also reflect those of other sectors in the economy, although the bank shares respond faster and with greater intensity. For instance, in months when the Tel Aviv 125 increased, the Bank Share Index increased even more. Currently, with the general decline in share prices, the Bank Shares Index has recorded even larger declines (Figure 3.15). This is because investors

[22] David Rutenberg and Shaul Perl, "Market-to-book value of the banks' shares in Israel" in Issues in Banking 17, (November 2005, 5–36), p. 7; David Rutenberg, Banking Management in Israel (2002), p. 288. [Hebrew]
[23] Elena Carletti, Stijn Claessens, Antonio Fatás and Xavier Vives, "The Bank Business Model in the Post-Covid-19 World", The Future of Banking 2, 2020, p. 31. Rutenberg and Perl, ibid.
[24] Israel's Banking System – Annual Survey, 2016.

During the last three months, the shares of the Israeli banks underperformed relative to their foreign counterparts, although there was a sharp drop in the performance of the banks abroad during the last month.

Figure 3.14 MV/BV Ratio in the Banking Industry, Israel and Selected Countries,[1] 2013–March 2023



[1] Israel - Bank of Israel Banks Index; UK - FTSE 350 Banks Index; Europe - MSCI Europe Banks Index; US - KBW Bank Index.

SOURCE: Based on Bloomberg and Tel Aviv Stock Exchange.

The Bank Shares Index is declining at a faster rate than the Tel Aviv 125.

Figure 3.15 Banks Index and Tel Aviv 125 Index, 2020–April 2023 (index: January 2020=100)

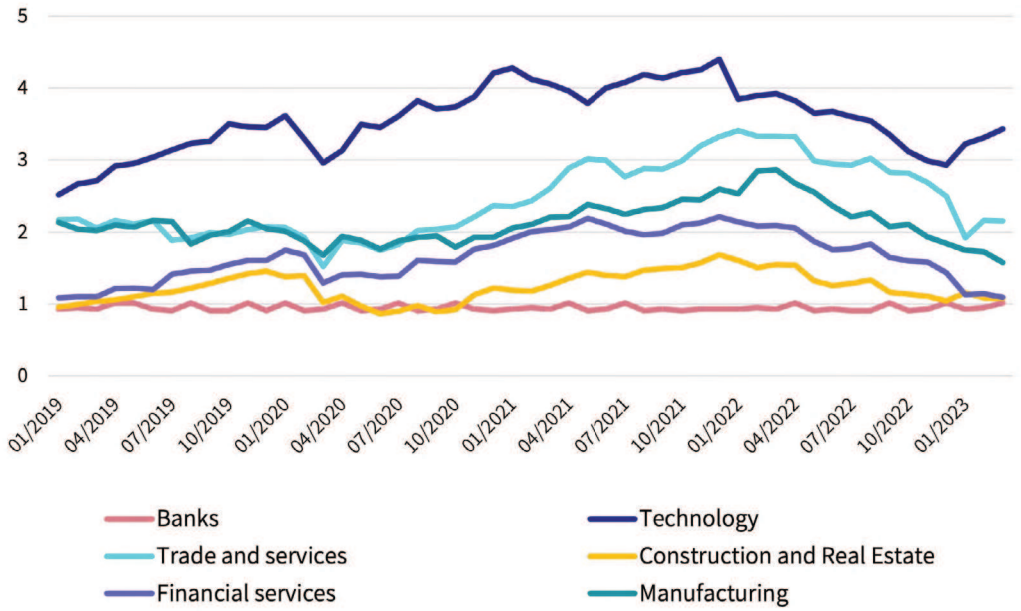
SOURCE: Tel Aviv Stock Exchange data.

believe that the banks are more exposed to macroeconomic trends than the rest of the sectors of the economy. Against the background of the increase in interest rates in Israel and worldwide, as well as the declines in global financial markets, there were also declines in the Israeli financial markets during the year. The MV/BV ratios in other sectors of the Israeli economy show a consistent downtrend since mid-2022. However, the ratio in the banking sector has remained stable. This reflects a high level of confidence in the banking system, its activity and its continued ability to produce solid profitability (Figure 3.16).

During 2022, the changes in the MV/BV ratio of the Israeli banks have been similar to that of banking systems worldwide.

The MV/BV ratio of the banks and of other sectors.

Figure 3.16 MV/BV Ratio of the Banks and Major Industries in Israel, 2019–2023



SOURCE: Tel Aviv Stock Exchange data.

THE PROFITABILITY OF THE BANKING SYSTEM OVER THE YEARS

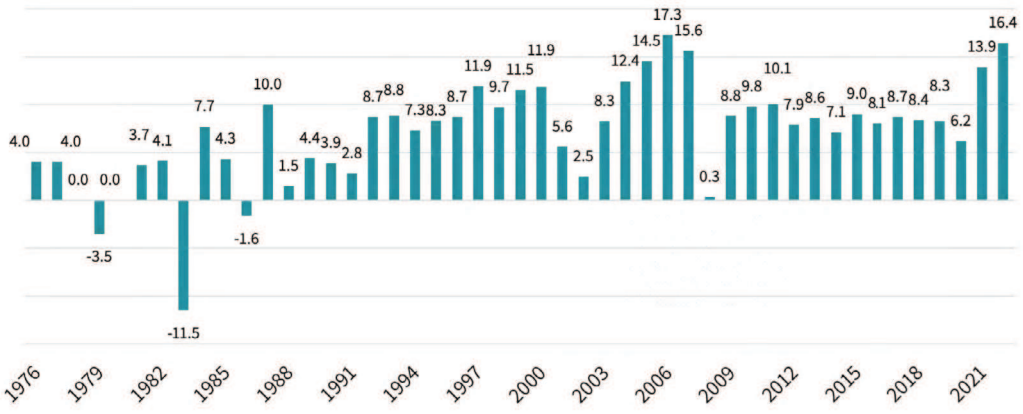
The Israeli banking system has experienced booms and recessions over the years which have to a large extent determined its rates of profitability. One of the main indexes used to assess profitability is return on equity (ROE), which is the ratio of net after-tax profit attributed to shareholders to average equity capital. During the past 20 years, the banking system has exhibited a relatively high level of profitability and an average ROE of about 9.7 percent (Figure 3.17).

Until the mid-1980s, the profitability of the banking system ranged from marginal to negligible, which is explained by the heavy involvement of the government and the Bank of Israel in the banks' activity.[25] Although the high rates of inflation that prevailed from the 1970s until the mid-1980s led to high nominal profit rates, the real rates of profit (adjusted for inflation) were relatively low in historical terms.

The 1980s were characterized by high volatility in the banks' profitability, with an average annual ROE of only 2.3 percent. The worst year with respect to profitability was 1983, which coincided with the bank shares crisis. In that year, the banks recorded a negative ROE of -11.5 percent (due to a number of factors, including a narrow financial spread, exchange rate losses on foreign currency positions, and a large surplus in tax advances).

ROE over the years.

Figure 3.17 Return on Equity (ROE) After Tax[1], Total Banking System, 1976–2022 (percent)



[1] Due to the high inflation rates that prevailed in Israel at the time, the figures for 1976–1983 are net of inflation.

SOURCE: Based on published financial statements.

[25] For further details, see the box on "The Stabilization Plan for the Economy as a Turning Point in the Banking System's Balance Sheet Activity" in Chapter 2 of this survey and the box on "The Banks' Portfolio of Credit to Israeli Residents over the Years" in Chapter 5 of this survey.

This volatility in the banking system's profitability during the 1980s was the result of an imbalance in the structure of its income and expenses, which was manifested in four areas: high income in nonearmarked-activity segments in unindexed Israeli currency and foreign currency; low financial income in the other segments (where there was heavy government involvement);[26] high expenditures on manpower and fixed assets; and significant expenses, primarily due to the burden of financing the bank shares within the arrangement.[27] Due to this unbalanced structure of income and expenses, the profitability of the system was highly sensitive to any change—whether positive or negative—in the environment, such as a change in the rate of inflation, a depreciation, a change in the nominal rate of interest on unindexed credit, etc. In order to maximize their profits within the existing constraints, the banks acted to increase their profits in the unindexed shekel segment, in which they had greater freedom of action.

The 1990s were characterized by relative stability in the banks' profits where the average annual real ROE was about 8.2 percent, which is similar to levels recorded in recent years. Nonetheless, the annual real ROE reached a low of only 2.8 percent during that decade. This low ROE was the result of the passing of the Family Agricultural Sector (Arrangements) Law. As part of this legislation, the government cancelled its participation in the arrangement, which resulted in the banks creating an exceptionally large provision for doubtful debts (about 50 percent of the provision was due to the agriculture sector). Despite the fact that the average real ROE during the period 2000–09 was 9.7 percent, there were major crises during the 2010s that had significant impacts on the Israeli economy, such as the bursting of the dot.com bubble in the early 2000s and the Financial Crisis in the US starting in 2008. In addition, the Second Intifada in the early 2000s had an adverse impact on the Israeli economy that was manifested in the ROE of the Israeli banking system. Thus, the combination of a major recession in Israel in 2002 and the escalation of security events led to an average real ROE of only 2.5 percent. In subsequent years, with the exit of the Israeli economy from the recession that occurred in the early 2000s, the banks' profitability grew significantly, reaching a peak in 2006 of 17.3 percent.

[26] For further details on directed capital and its scope, see the box on "Credit over the Years" in Section 5.2 of this survey.
[27] In this arrangement, the State took on a commitment to redeem the shares of the public at the end of 1988 and to transfer them to the banks' previous controlling shareholders by 1993.

This exceptionally high rate was primarily the result of one-time events due to the sale of the provident funds and the mutual funds as a result of the implementation of the Increasing Competition and Reducing Concentration and Conflicts of Interest in the Israeli Capital Market Law (the "Bachar Reform"). If these one-time effects are ignored, then the average real ROE in 2006 stood at 14.4 percent.

The Global Financial Crisis in 2008 had an adverse effect on the banks' results, which followed a number of years during which the economy exited the recession that began in the early 2000s.[28] The Global Financial Crisis had a dramatic effect which could be seen in the large losses recorded by the banks, due to their exposure to asset-backed and mortgage-backed securities, as well as the bonds of foreign financial institutions. The real effect of the crisis could be seen in all of the economic sectors and was a result of the effect of the recession in Western economies on the Israeli economy and primarily on the business sector. Net profit was only about NIS 205 million in 2008 (a drop of about 98 percent from the previous year), which represents an average real ROE of only about 0.4 percent (as compared to 15.6 percent in the previous year).

Although the average ROE was lower than during the previous decade and against the background of the processes to strengthen the banks' capital as part of the lessons learned from the Global Financial Crisis of 2008,[29] the 2020s were the most stable years for the Israeli banking system, with an average real ROE of 8.6 percent during the period 2010–19. The year 2020 was the lowest point reached since 2008 which occurred against the background of the COVID-19 pandemic. In that year, the average real ROE stood at 6.3 percent, which can primarily be attributed to the drop in profitability as a result of the economic slowdown and the large credit loss allowance (which was the main component in the drop in profits). The gradual recovery of the Israeli economy during 2021 produced a high level of profitability in the banking system, following the improvement in the macroeconomic situation accompanied by the recognition of income (negative expense) against the credit loss allowances that were created in the previous year and the continuing decline in deferment of debt payments. The banking system continued to exhibit high profitability in 2022, given the rise in the interest rate and in inflation which had a positive effect on the banks' profitability in the short term; however, they may have an adverse effect later on in view of the potential for greater credit losses.

28 Nonetheless, the Israeli banking system was less affected than banking systems in other countries.
29 For further details, see the box on "The Development of Capital over the Years" in Chapter 4 of this survey.

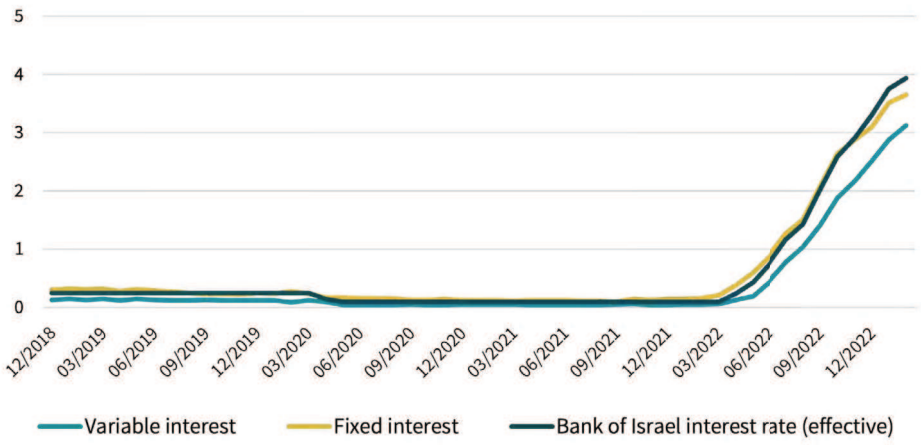
6. DEVELOPMENTS IN DEPOSITS

a. Deposits[30]

There is a wide variety of deposit products in the Israeli banking system such that customers are able to choose the deposit that fits their needs. This is reflected in a number of parameters: the term till maturity; the type of interest; the indexation mechanism; the conditions for withdrawal; one-time or monthly deposit of funds; the minimum amount to be deposited; etc. The bulk of funds (about 75 percent on average during the last eight years) have been deposited in the unindexed shekel segment (both fixed and variable interest rate) and the remainder in the foreign currency segment (including foreign-currency-indexed).[31] The increases in the Bank of Israel interest rate, which began in April 2022, led to an increase in the interest rates on the public's deposits (Figure 3.18). This in turn led to an increase in the quantity of money deposited, and deposits grew at a high and consistent rate starting from May 2022, reaching a peak of NIS 346 billion in January 2023 (Figure 3.19). The rate of growth in deposits was not uniform across the various types of indexation, with 82 percent of the increase between the start of 2022 and February 2023 occurring in unindexed fixed-interest shekel deposits. Moreover, starting from July 2022 and for the first time in four years, the unindexed fixed-interest shekel deposits accounted for a greater share of funds deposited than unindexed variable-interest shekel deposits (Figure 3.20). An analysis of funds deposited according to sector of activity shows that the main source was large businesses (although other sectors also had significant shares) whose deposits grew consistently during the past year (Figure 3.21).

With the increase in the Bank of Israel interest rate, the interest rates on the public's deposits also began to rise.

Figure 3.18 Bank of Israel Interest Rate and Rates on the Public's Unindexed Shekel Deposits, Total Banking System, December 2018–February 2023 (percent)

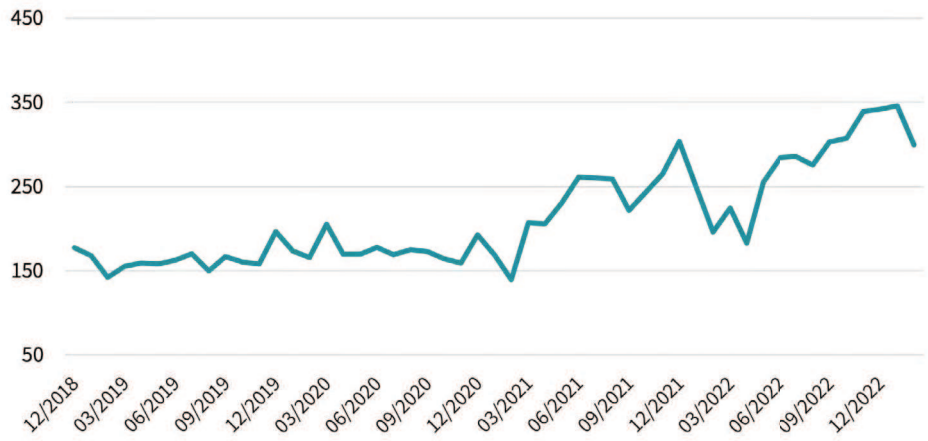


SOURCE: Based on banks' reports to the Banking Supervision Department.

30 This chapter analyzes the fixed-term deposits of the public in Israel.
31 The weight of shekel deposits indexed to the CPI is less than 1 percent and therefore they are not analyzed in this chapter.

Starting in May 2022, funds deposited by the public grew rapidly and consistently, reaching a peak in January 2023.

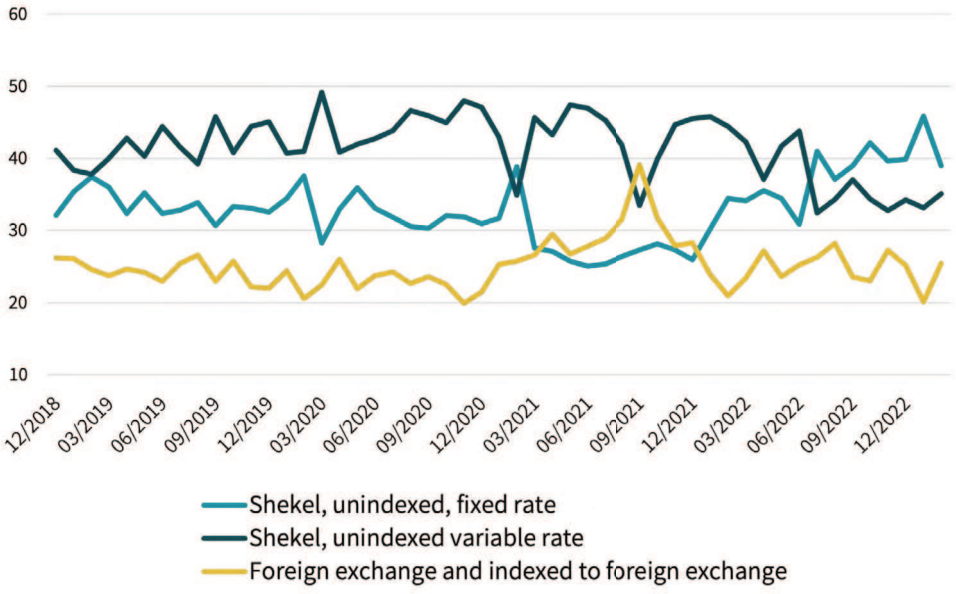
Figure 3.19 Volume of the Public's New Deposits, Total Banking System, December 2018–February 2023 (NIS billion)



SOURCE: Based on banks' reports to the Banking Supervision Department.

For the first time in four years, the share of funds deposited in unindexed fixed-interest shekel deposits within total funds deposited was higher than for unindexed variable-interest shekel deposits.

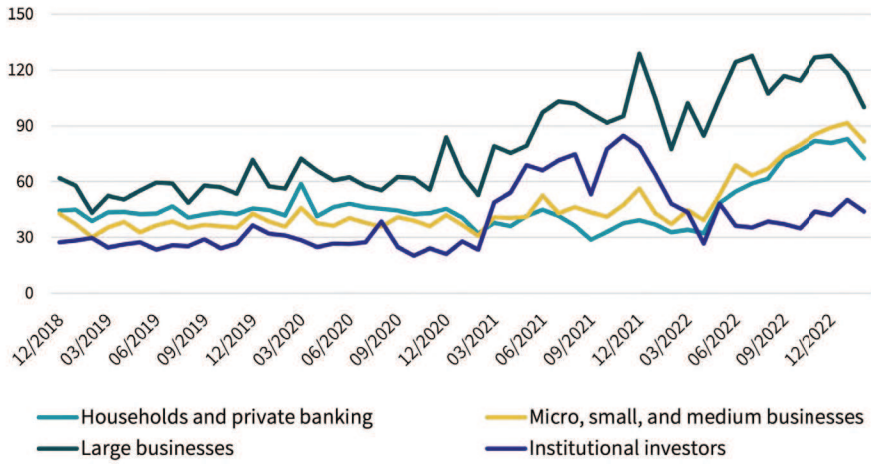
Figure 3.20 Distribution of the Public's New Deposits by Indexation Segment, Total Banking System, December 2018–February 2023 (percent)



SOURCE: Based on banks' reports to the Banking Supervision Department.

Most of the funds deposited by the public originate from large businesses, although the other segments had a significant share that grew during the past year.

Figure 3.21 Distribution of the Public's New Deposits by Activity Segment, Total Banking System, December 2018–February 2023 (percent)



SOURCE: Based on banks' reports to the Banking Supervision Department

With the hikes in the interest rate and the expectations of higher interest rates (and in turn the raising of interest rates paid on deposits), there was a consistent increase in funds deposited in all segments, with a peak being reached in January 2023. In February 2023, the amount of funds deposited declined although it was still significantly higher than in the past (Figure 3.21). Funds deposited in all of the sectors were primarily in unindexed shekel deposits with a term of up to three months (including variable-interest deposits where the timing of the interest rate change is unknown). The deposits in unindexed shekel deposits in the various sectors will be analyzed below. That will be followed by an analysis of funds deposited in foreign currency deposits and finally we will present an international comparison of the rate of transmission between the central bank interest rate and the interest rate on household deposits.

Households[32]

The funds deposited by households in unindexed shekel deposits accounted for about 85 percent of total funds deposited by households, with about half in fixed-interest deposits and half in variable-interest deposits. The increase during 2022 in funds deposited by households was reflected in both the deposit of funds at a fixed interest rate and the deposit of funds at a variable interest rate, with a peak being reached in January 2023 (Figure 3.22). Funds deposited by households are concentrated primarily in deposits for periods of up to three months (Figure 3.23; about 72 percent including deposits where the timing of the change in interest rate is unknown). There was also an increase in funds deposited for longer periods since the start of the rise in interest rates, alongside

32 Including private banking.

the expectation of additional hikes in the interest rate over various horizons, which led to higher interest rates on deposits with longer terms (Figure 3.24). Shortly after the midpoint of 2022, and with the flattening of the yield curve (and even its inversion during the last two months of 2022) and the appearance of expectations of a decline in the interest rate for a horizon of more than a year, the interest rates on deposits for longer terms also began to moderate (Figure 3.25), as did the quantity of funds deposited for terms of over two years (Figure 3.23). The rate of transmission[33] between the Bank of Israel interest rate and the interest rate on the unindexed shekel deposits of households (for all terms) was 74 percent as of February 2023, where the rate of transmission for deposits of up to three months was lower while deposits of three months to two years was higher (Figure 3.25).

Funds deposited by households were divided relatively evenly by type of interest rate and were primarily for terms of up to three months, which yields a lower interest rate. The rate of transmission for household deposits is about 74 percent.

Figure 3.22 Households' New Unindexed Shekel Deposits by Interest Type, Total Banking System, January 2019–February 2023 (NIS billion)

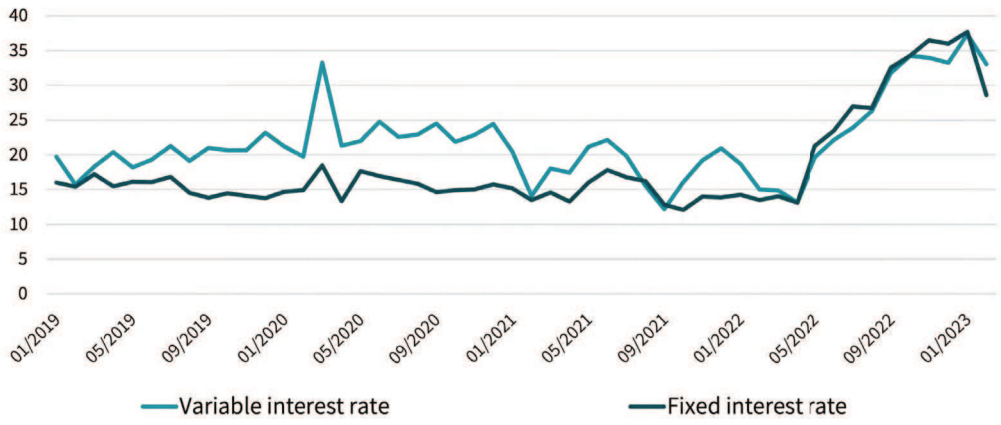
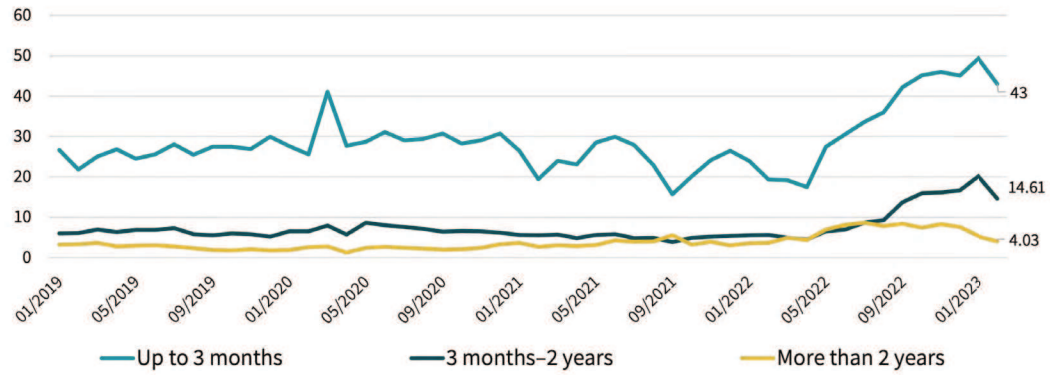


Figure 3.23 Households' New Unindexed Shekel Deposits by Term to Repayment, Total Banking System, January 2019–February 2023 (NIS billion)



SOURCE: Based on banks' reports to the Banking Supervision Department.

[33] In this chapter, the rate of transmission is calculated as the ratio of the change in percentage points in the interest rate on household deposits (not including private banking) to the change in percentage points in the central bank interest rate.

Figure 3.24 Interest on Households' New Unindexed Shekel Deposits by Term to Repayment, Total Banking System, January 2019–February 2023 (percent)

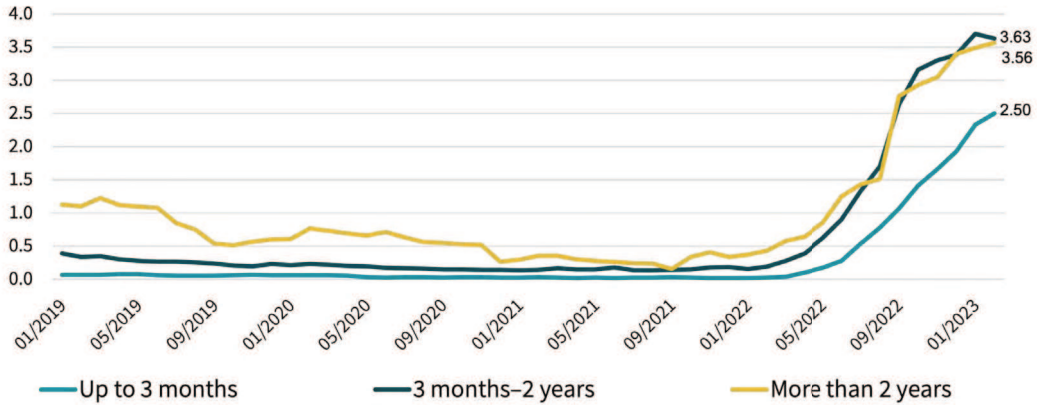
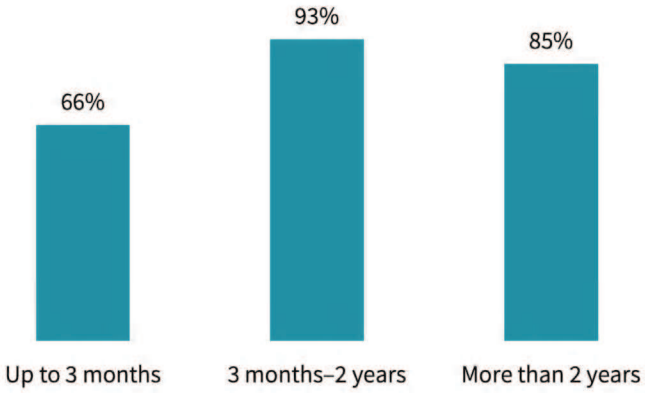


Figure 3.25 Bank of Israel Interest Rate's Passthrough to Interest on Households' Unindexed Shekel Deposits by Term to Repayment, Total Banking System, February 2023 (percent)



SOURCE: Based on banks' reports to the Banking Supervision Department.

SMEs

The share of funds deposited by SMEs in unindexed shekel deposits in 2022 was about 70 percent of the total funds deposited by SMEs. With the rise in interest rates in the economy these funds were divided relatively evenly between fixed interest and variable interest. Although in the past there were more funds deposited into variable-interest deposits, the growth during 2022 in funds deposits by households was reflected in an increase in both types of interest (fixed and variable), such that the gap between them closed (Figure 3.26). As in the case of households, funds deposited by SMEs are concentrated in deposits for up to three months (Figure 3.27; about 85 percent including deposits whose timing of changes in the interest rate is unknown) and it can be assumed that the long-term savings of these sectors is invested in other investment vehicles. In addition, and with the emergence of expectations of a decline in interest rates for a horizon of more than one year, there was a levelling

off of interest rates on the deposits of SMEs for longer terms (Figure 3.28); however, there was a low quantity of funds deposited by this sector in long-term deposits, as mentioned above. The rate of transmission from the Bank of Israel interest rate to the interest rate on unindexed shekel deposits of SMEs was 84 percent as of February 2023, where the rate for deposits of three months to two year was about 95 percent (Figure 3.29).

The characteristics of funds deposited by SMES are similar to those of funds deposited by households, although there is a higher rate of transmission for this sector.

Figure 3.26 New Unindexed Shekel Deposits by Micro to Medium Businesses, by Interest Type, Total Banking System, January 2019–February 2023 (NIS billion)

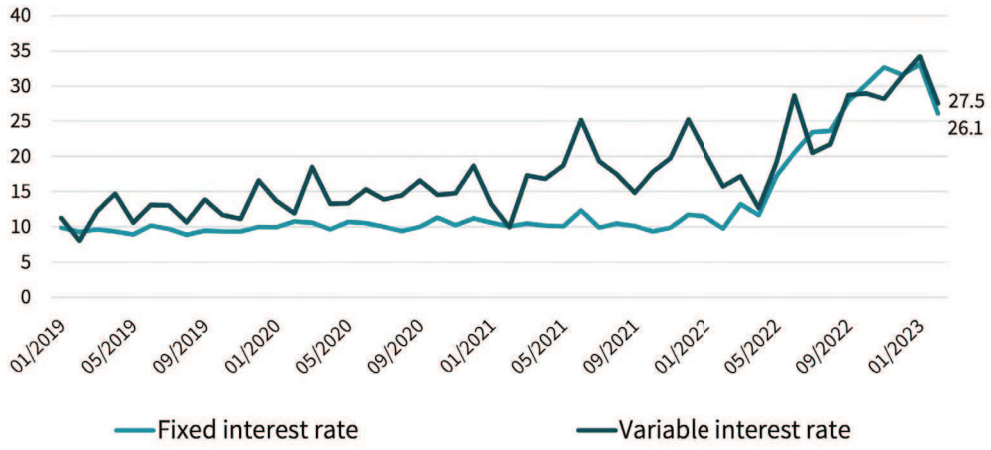
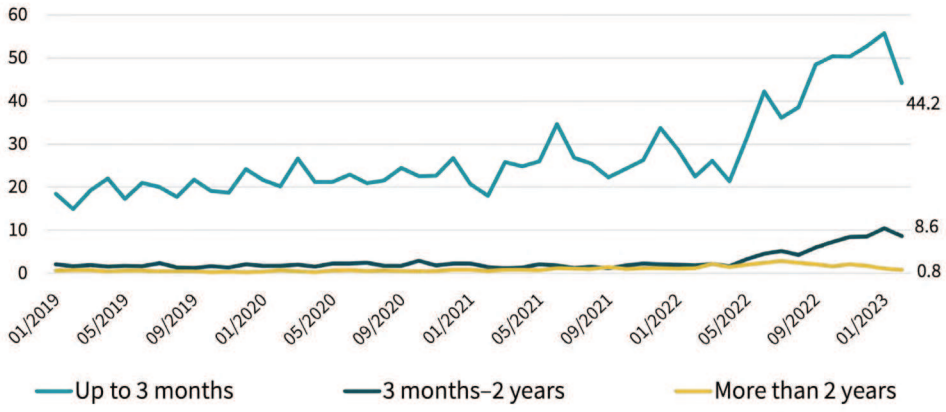


Figure 3.27 New Unindexed Shekel Deposits by Micro to Medium Businesses, by Term to Repayment, Total Banking System, January 2019–February 2023 (NIS billion)



SOURCE: Based on banks' reports to the Banking Supervision Department.

Figure 3.28 Interest Rate on New Unindexed Shekel Deposits by Micro to Medium Businesses, by Term to Repayment, Total Banking System, January 2019–February 2023 (percent)

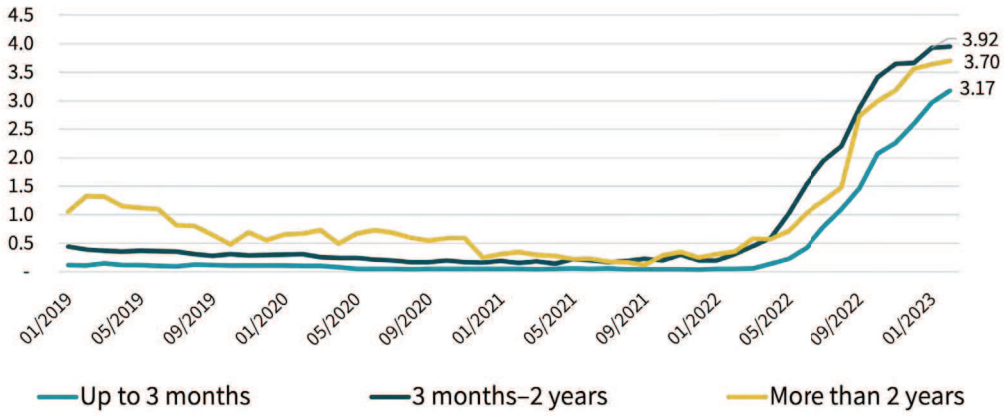
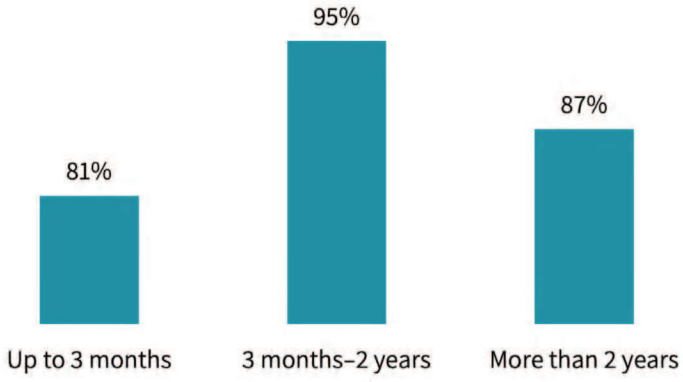


Figure 3.29 Bank of Israel Interest Rate's Passthrough to Interest on Unindexed Shekel Deposits by Micro to Medium Businesses, by Term to Repayment, Total Banking System, February 2023 (percent)



SOURCE: Based on banks' reports to the Banking Supervision Department.

Large Businesses

The share of funds deposited in unindexed shekel deposits by large businesses stood at about 70 percent of total funds deposited in these deposits in 2022. In the past, and prior to the rise in interest rates starting in April 2022, there were usually more funds deposited in variable-interest deposits than in fixed-interest deposits; however, with the rise in interest rates in the economy there was a reversal, such that there were more funds deposited in fixed-interest deposits starting in mid-2022 (Figure 3.30). As in the other sectors, the funds deposited by large businesses are also concentrated in deposits with a term of up to three months (Figure 3.31; about 92 percent including deposits whose timing of changes in the interest rate is unknown) and it can be assumed that the long-term savings of this sector are invested in other investment instruments. Note that the funds deposited by large businesses are used to meet their cash flow and investment management needs, among other things

(such as bond redemptions, ongoing payments, etc.). In addition, the interest rate environment in the economy led to an increase in the interest rate on the deposits of large businesses. It can be seen that this sector enjoys higher interest rates for all terms and it can be assumed that this is because they are more sophisticated customers who also have greater bargaining power, due to among other things the large size of their deposits relative to most of the deposits of other sectors (Figure 3.32; apart from institutional investors). Accordingly, the rate of transmission of an increase in the Bank of Israel interest rate to the interest rate on the unindexed shekel deposits of large businesses was 94 percent as of February 2023, while the rate for deposits of more than two years was 104 percent, which includes, among other things compensation to the depositor for the loss in liquidity (Figure 3.33).

With the increase in interest rates in the economy, there began an increase in the quantity of funds deposited in fixed-interest deposits by large businesses, which accounted for most of the funds deposited starting from the midpoint of the year. Most of the new deposits were for terms of up to three month with nearly complete pass-through.

Figure 3.30 New Unindexed Shekel Deposits by Large Businesses, by Interest Type, Total Banking System, January 2019–February 2023 (NIS billion)

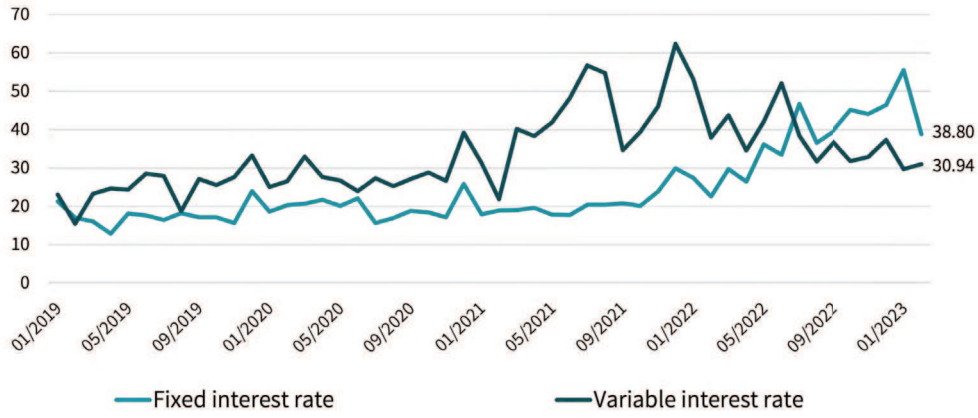
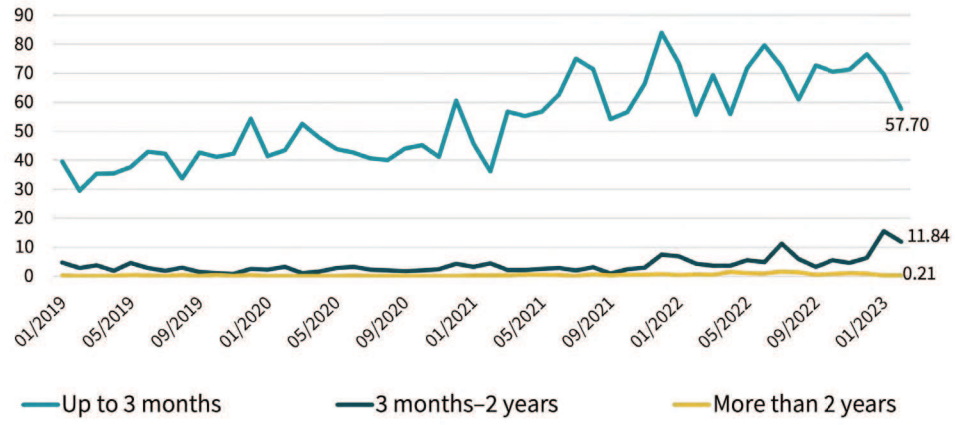


Figure 3.31 New Unindexed Shekel Deposits by Large Businesses, by Term to Repayment, Total Banking System, January 2019–February 2023 (NIS billion)



SOURCE: : Based on banks' reports to the Banking Supervision Department.

Figure 3.32 Interest Rate on New Unindexed Shekel Deposits by Large Businesses, by Term to Repayment, Total Banking System, January 2019–February 2023 (percent)

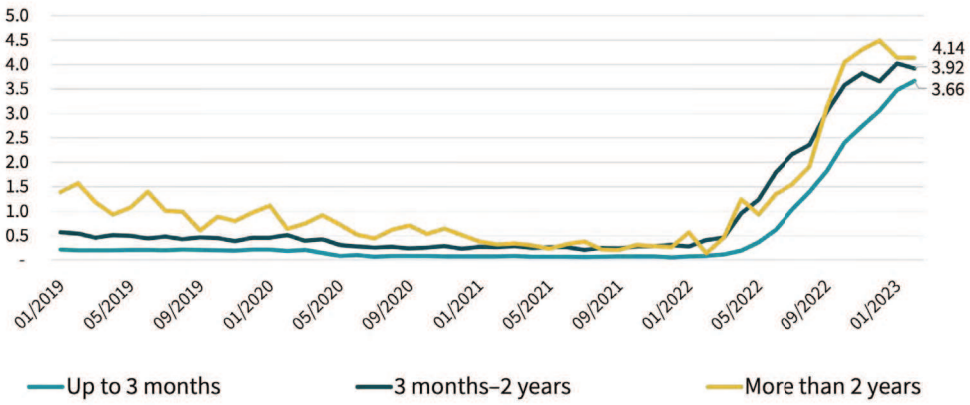
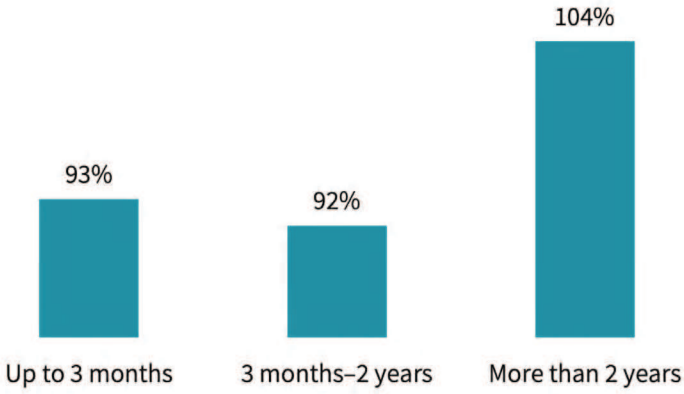


Figure 3.33 Bank of Israel Interest Rate's Passthrough to Interest on Unindexed Shekel Deposits by Large Businesses, by Term to Repayment, Total Banking System, February 2023 (percent)



SOURCE: Based on banks' reports to the Banking Supervision Department.

Institutional investors

The share of funds deposited in unindexed shekel deposits by institutional investors stood at about 84 percent of total funds deposited by institutional investors in 2022. In the past, they were divided relatively evenly between fixed interest and variable interest. However, with the increase in interest rates in the economy in recent months, there has been a consistent increase in funds deposited in fixed-interest deposits, such that most of the funds deposited by institutional bodies starting from the midpoint of 2022 were in fixed-interest deposits (Figure 3.34). Note that the funds deposited by institutional investors are also used for the management of exposure and protection against such exposure, primarily in the case of foreign currency exposure. Therefore, their deposits are more volatile and, in addition to the interest rate environment, are influenced by other factors, both domestic and foreign (such as fluctuations in foreign stock markets). This is in contrast to other

sectors (and in particular households and SMEs), which are influenced primarily by interest rates in the local economy. Nonetheless, the interest rate environment in the economy also led to an increase in interest rates on the deposits of institutional investors and it can be seen that the rates are higher for this segment, even though the deposits of institutional investors are usually short term. It can be assumed that this is due to the fact that institutional investors are more sophisticated customers who possess greater bargaining power, like large businesses, in view of the larger scope of their deposits relative to the other sectors (Figure 3.35). Accordingly, the rate of transmission of an increase in the Bank of Israel interest rate to the interest rate on the unindexed shekel deposits of institutional investors was nearly full (99 percent).

As in the business sector, there was also an increase in funds deposited in fixed-interest deposits by institutional investors, such that from the midpoint of the year they constituted the majority of funds deposited.

Figure 3.34 New Unindexed Shekel Deposits by Institutional Investors, by Interest Type, Total Banking System, January 2019–February 2023 (NIS billion)

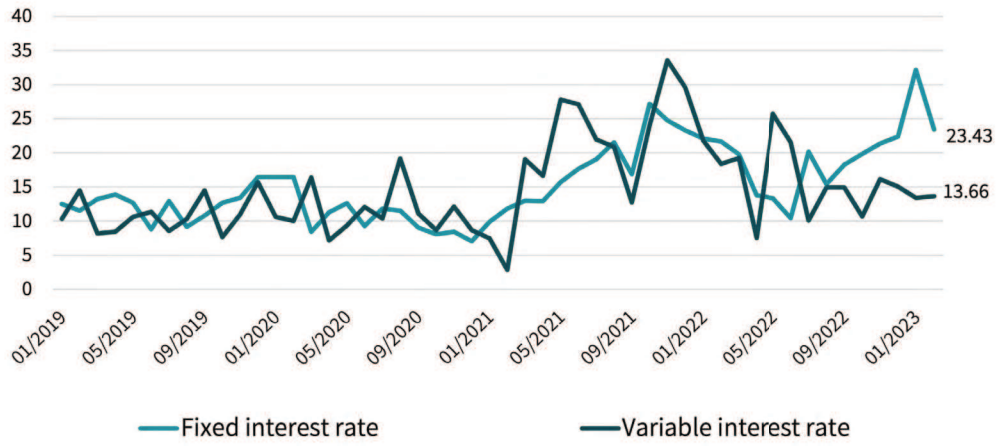
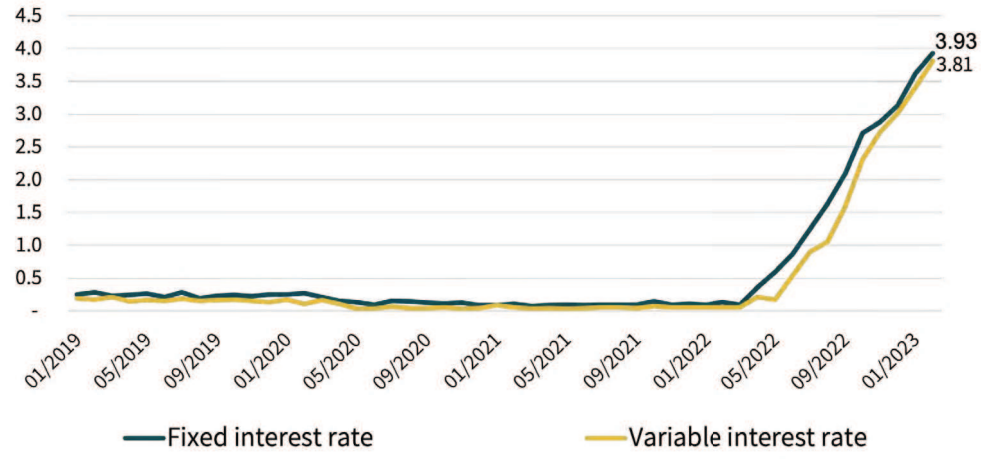


Figure 3.35 Interest Rate on New Unindexed Shekel Deposits by Institutional Investors, by Term to Repayment, Total Banking System, January 2019–February 2023 (percent)



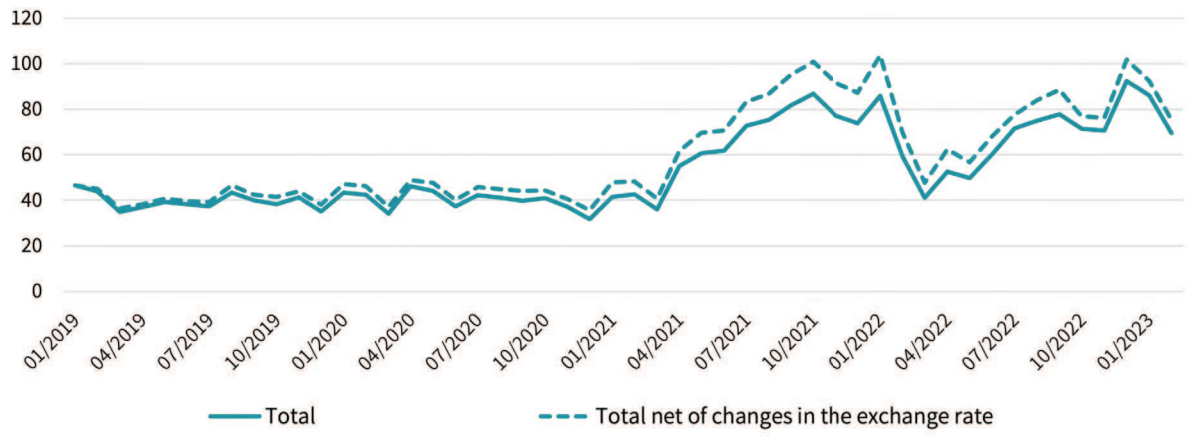
SOURCE: Based on banks' reports to the Banking Supervision Department.

Foreign currency deposits[34]

As in the case of shekel deposits, the amount of funds deposited in foreign currency deposits also increased starting in March 2022, reaching a peak of NIS 92 billion in November 2022 (Figure 3.36). Note that there was a similar increase during 2021, while during January and February of 2022 there was a significant decline. Nonetheless, there is a high level of variation in the sectors that led the increase across the years, where in 2022 there was a larger increase in the business sector and primarily among large businesses. In addition, an increase can also be seen in the household and private banking sector (Figure 3.36). Note that depositing of funds in foreign currency deposits reflects the preferences of the customer, based on his business activity and foreign currency exposure, where other characteristics, such as the interest rate gap between Israel and abroad (such as the interest gap between the Bank of Israel interest rate and the Fed rate), can influence a customer's preferences and the depositing of funds in foreign currency deposits. More than 95 percent of the funds deposited in foreign currency deposits in the banking system are fixed interest and the majority (about 70–80 percent, not including the deposit of funds by institutional investors) are for terms of up to three months. Nonetheless, during 2022 there was somewhat of an increase in the preference of customers for foreign currency deposits of between three months and one year, apparently due to the larger increase in interest rates on foreign currency deposits than in the case of shekel deposits, against the background of the increase in interest rates in many economies worldwide (Figure 3.38).

The amount of funds deposited in foreign currency deposits also increased starting in March 2022 reaching a peak of NIS 92 billion in November 2022.

Figure 3.36 Volume of the Public's New Foreign Currency and Foreign Currency Indexed Deposits, Total Banking System, December 2018–February 2023 (NIS billion)

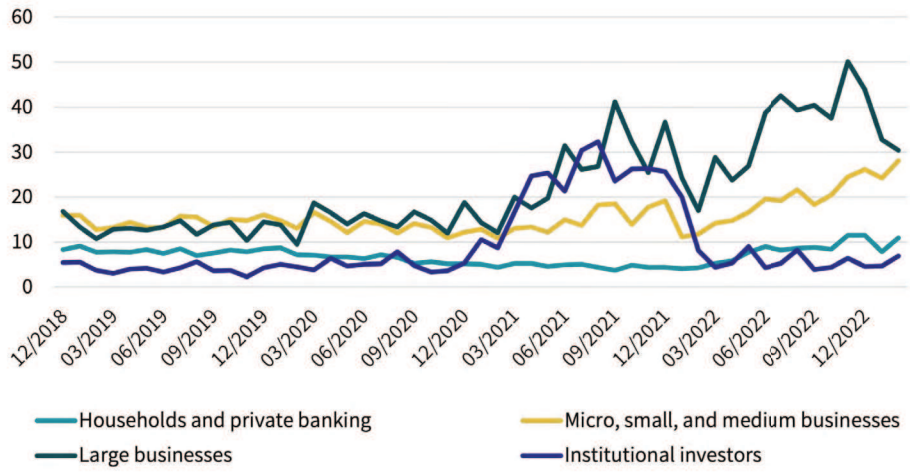


SOURCE: Based on banks' reports to the Banking Supervision Department.

[34] In this section, we will relate to deposits in foreign currency, including shekel deposits that are indexed to foreign currency.

The increase in funds deposited in 2022 was led by the business sector and in particular large businesses, although there was an increase in the household and private banking sector as well.

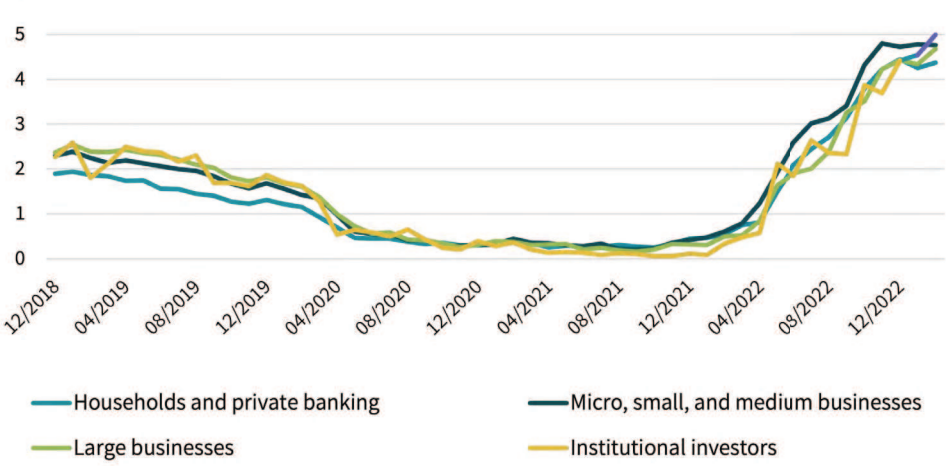
Figure 3.37 Volume of the Public's New Foreign Currency and Foreign Currency Indexed Deposits by Supervisory Activity Segment, Total Banking System, December 2018–February 2023 (NIS billion)



SOURCE: Based on banks' reports to the Banking Supervision Department.

With the increase in interest rates in economies worldwide, the interest rates on foreign currency deposits of all the sectors rose more than the interest rates on shekel deposits.

Figure 3.38 Interest on New Foreign Currency Deposits[1] by Activity Segment, Total Banking System, January 2019–February 2023 (percent)



1 Including foreign currency deposits and deposits indexed to foreign currency.

SOURCE: Based on banks' reports to the Banking Supervision Department.

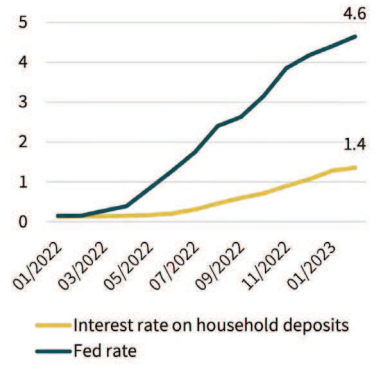
The rate of transmission relative to other countries

The rising interest rates in economies worldwide led to an increase in the interest rates on the public's deposits worldwide, although the transmission was only partial. The analysis below relates to the deposits of households and the rate of transmission of an increase in the central bank interest rate to the interest rates on household deposits.[35] It can be seen that transmission is only partial in all of the countries, with variation across countries (Figure 3.39; Figure 3.40). It can also be seen that the rate of transmission in Israel is among the highest: it is significantly higher than in the US and the EU, similar to the UK and only slightly lower than Australia. There are various factors that can influence the rate of transmission from the central bank interest rate to the interest rate on household deposits and also the differences in the levels of transmission between the various countries. These include the low interest rate environment; the surplus liquidity in the banking system; the level of competition; and the bargaining power of customers.[36]

The interest rate environment worldwide led to an increase in the interest rate on the deposits of the public worldwide, although the transmission was only partial.

Figure 3.39 Interest Rate on Household Deposits and Central Bank Interest Rate, January 2022–February 2023 (percent)

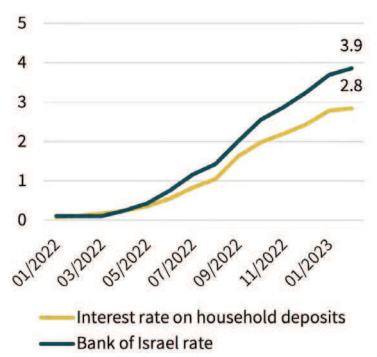
a. United States



* The Fed interest rate shown in this graph is the rate on deposits.

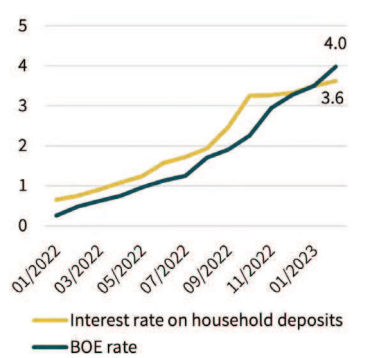
SOURCE: Based on Federal Reserve Economic Data

b. Israel



SOURCE: Based on reports to the Banking Supervision Department.

c. United Kingdom

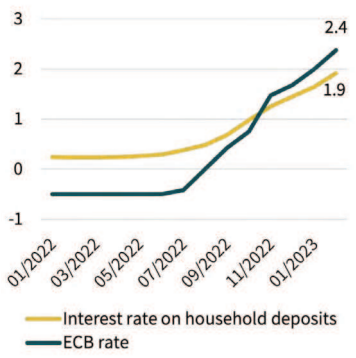


SOURCE: Based on Bank of England data.

[35] Note that these characteristics may vary between the various countries. In the case of the comparison presented here, we relate to deposits with the following characteristics: (1) Israel – average interest rate on households' unindexed fixed-interest deposits (including private banking); (2) the US – average interest rate on the public's fixed-interest 12-month deposits; (3) the EU – the average interest rate on household deposits: (4) UK – the average interest rate on household deposits without the possibility of early withdrawal, also including financial bodies providing mortgages which are not reliant on checking account products; and (5) Australia – fixed-term retail deposits of up to $10,000 at the five largest banks in Australia.

[36] For further details see Box in Chapter 4 of the Bank of Israel Annual Report for 2022.

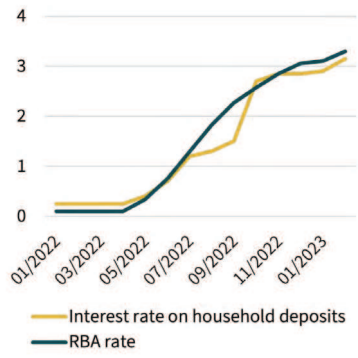
d. European Union



* The ECB interest rate shown in this graph is the rate on deposits.

SOURCE: Based on European Central Bank Statistical Data Warehouse.

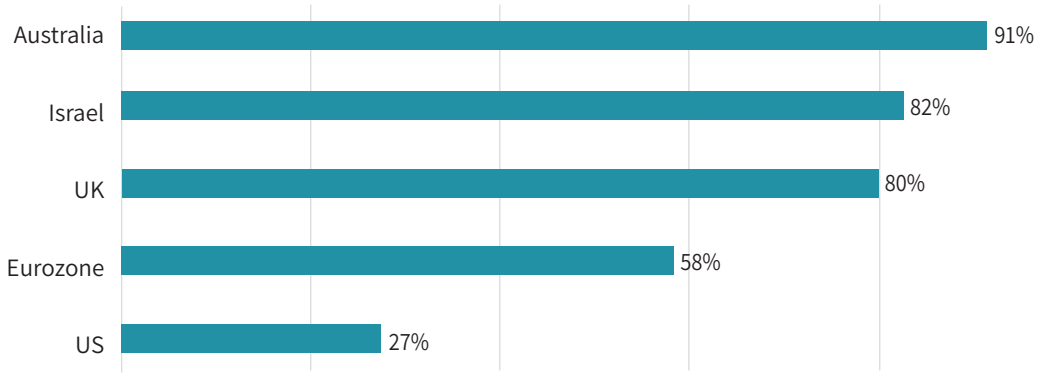
e. Australia



SOURCE: Based on Reserve Bank of Australia data.

The rate of transmission in Israel is among the highest worldwide: it is significantly higher than in the US and the EU, it is similar to that in the UK and it is only somewhat lower than in Australia.

Figure 3.40 Passthrough Rates from an Increase in the Central Bank Interest Rate to the Interest Rate on Household Deposits, February 2023 (percent)



SOURCE: Based on data from central banks and banks' reports to the Banking Supervision Department.

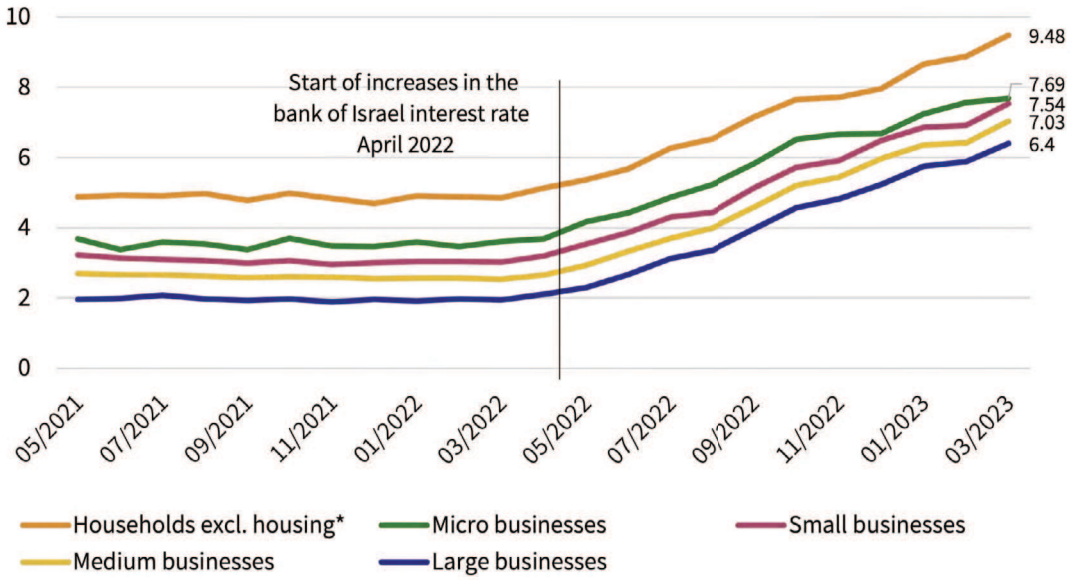
b. Credit granted by sector[37]

During 2022, there was an increase of 28 percent in the extension of credit relative to 2021, which was led by the business sector. During the last quarter of 2022, the trend was mixed across sectors: while there was a slowdown in private nonhousing credit, there was continued growth in the business sectors. However, during the first quarter of 2023 there was a slowdown in the extension of credit to all sectors.

Most of the banking credit, apart from housing credit, is provided in the unindexed variable-interest shekel segment (prime rate of interest), including about 95 percent of the nonhousing credit provided to households and about 77.5 percent of credit provided to the business sector. Therefore, this chapter will herein focus on credit provided at the prime interest rate. With the start of hikes in the Bank of Israel interest rate and the downturn in the macroeconomic environment, as well as the continued uncertainty both in Israel and worldwide, the interest rates rose on all interest tracks and in all sectors (Figure 3.41) and there was a significant slowdown in credit granted, apart from in the large business sector (relative to 2021 which was a peak year; Figure 3.42).

During the year, there was an increase in the average interest rate on credit provided on the Prime track to all the activity segments and on credit to households, following the increase in the Bank of Israel interest rate.

Figure 3.41 Interest Rate in the Unindexed Variable Rate Shekel (Prime) Segment, by Activity Segment, Total Banking System, May 2021–March 2023 (percent)



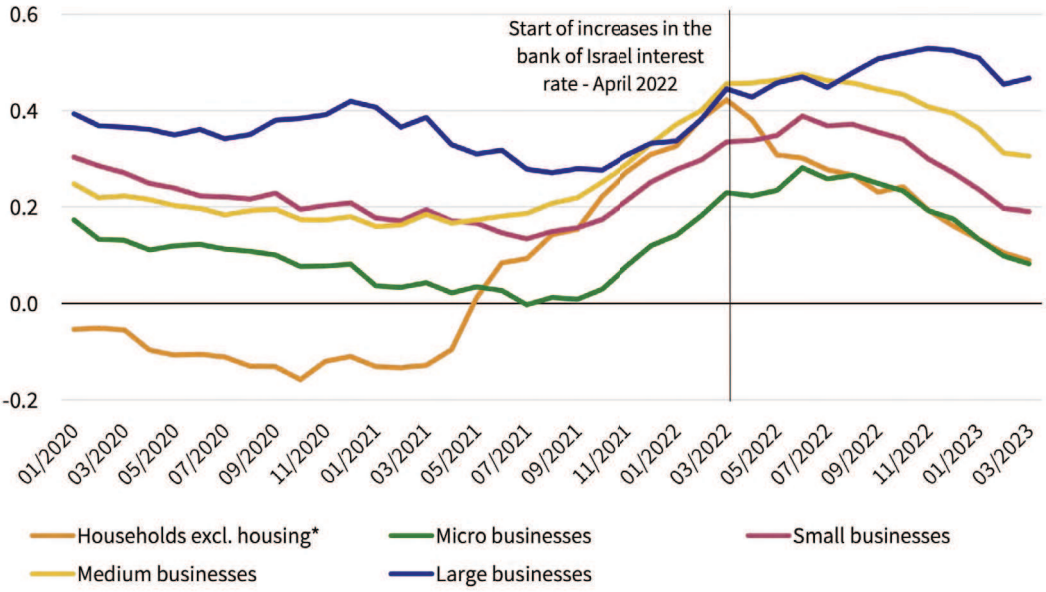
* Credit issued to households includes credit issued through private banking, which is issued at lower interest rates. This credit accounts for an average of about 2 percent of total nonhousing credit to households.

SOURCE: Based on reports to the Banking Supervision Department.

[37] The analysis does not include housing credit. It is discussed in Chapter 5.2 in this survey.

With the increases in the Bank of Israel interest rate, there was a slowdown in the granting of credit (at the prime rate of interest) in most of the activity segments.

Figure 3.42 Annual Rate of Change (Total New Loans Over 12 Months), by Activity Segment, Total Banking System, January 2020–March 2023 (percent)



* Credit issued to households includes credit issued through private banking, which is issued at lower interest rates. This credit accounts for an average of about 2 percent of total nonhousing credit to households.

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

While nonhousing credit to households rose somewhat at the beginning of 2023 for the average term to maturity (currently about 5.5 years), apparently in an effort to reduce monthly interest payments, there was no major change observed in any of the business sectors.[38] The various characteristics of credit provision across the sectors reflect differences in their credit needs. Thus, the average amount of a loan provided to large and medium-sized businesses is higher, although its average term to maturity is shorter (less than one year). In contrast, the average amount of a loan provided to a household or to a miniature business is lower and its average term to maturity is longer (over two years). We would mention that during 2022 there was somewhat of an increase in the average size of a loan to large and medium-sized businesses while in the rest of the sectors there was no significant change. The changes in the provision of housing credit are described in Section 5.2.

[38] Note that on average, the larger the business's turnover is, the shorter the average term to maturity of the loan will be.

Credit by industry

An examination of the provision of business credit by industry indicates that there is significant variation in credit needs across industries, which determine the characteristics of loans provided. Thus, there are industries in which the average amount of a loan is higher (financial services and construction and real estate) while in others the average term to maturity is longer (agriculture, hotels and catering and food). Since most of the credit to the business sector is at an unindexed variable interest rate (prime), the macroeconomic developments during 2022 had an effect on the character of the loans provided during the year. Apart from agriculture, there was somewhat of a decline in the average term to maturity in all of the industries. Similarly, there was a decline in the average loan amount (apart from in construction and real estate and financial services in which there was an increase). For further details on credit risk according to industry, see Chapter 5.2.

Box 3.1
The process of increasing the efficiency of the banks over the years[1]

- The financial system has been transformed in recent years as a result of growing competition in the financial markets, both in Israel and worldwide, increasing the efficiency of the banking system has been critical in order to maintain its stability over time.
- The process to increase the efficiency of the banking system focused primarily on the following elements: (1) reducing manpower; (2) reducing real estate surface area and the distribution of branches; (3) enhance integration of technology; and (4) the operation of partial and mobile branches following the closure of branches.
- The increase in efficiency facilitated rapid growth in assets without any parallel increase in operating expenses, which in recent years has improved the efficiency ratios.[2] In this context, the efficiency ratio decreased (i.e., improved) to 46 percent at the end of 2022. It is important to remember that the public holds the vast majority of the bank shares (about 85 percent as of the end of May 2023), such that the efficiency of the banking system, which was also reflected in an increase in the banks' profitability, led to an increase in the dividends distributed to shareholders, including the public.
- Even net of the positive effect of the increase in the CPI, the hikes in the Bank of Israel interest rate, and the one-off revenues on the profitability of the banks in 2022, the banking system's efficiency ratio stood at about 49 percent at the end of 2022, which is also an improvement from a historical perspective.

Background

Given the rapid transformation of the financial system in recent years as a result of increasing competition in the financial markets, both in Israel and worldwide, increasing the efficiency of the banking system has been critical to maintaining the stability of the banking system over time.[3] This is because, among other things, the first buffer for absorbing unexpected losses is the profitability buffer, such that reducing costs makes it possible to absorb losses in times of crisis, without any danger to the deposits of the public. Increasing the efficiency of the banks, a process that in recent years has characterized the banking systems both in Israel and worldwide, is first and foremost the result of steps taken by the banks themselves,

1 The box is a continuation of Box 1.2 "Adapting the Banking System to the Changing Financial Environment—Increasing Efficiency and Technology" in the Annual Survey for 2019.

2 A calculation of the operating efficiency ratio for the banks is carried out by dividing operating expenses by net revenues from interest and noninterest revenues. In other words the smaller is the ratio, the more efficient the bank is.

3 University of California, Berkeley & University of Wisconsin – Madison and NBER, Competition, Stability, and Efficiency in the Banking Industry, October 29, 2018.

which is likely reflected in a reduction in costs or an increase in output without a change in inputs. This makes it possible for the banks to better deal with shocks and changes as a result of, among other things, increasing competition, including that originating from nonbank entities. Increasing the efficiency of the banking system and in particular integrating advanced technological infrastructure is meant, among other things, to reduce the dependency on human involvement in carrying out transactions and thus save costs, raise the efficiency of processes, and improve service to the customer.

It is important to remember that the public holds the vast majority of the bank shares (about 85 percent as of May 2023) such that increasing the efficiency of the banking system, which also increases the banks' profitability, has led to larger dividends being distributed to shareholders, including the public.

The increase in the efficiency of the Israeli banking system, which began a number of years ago in response to the changing environment, was supported by measures implemented by the Banking Supervision Department. Thus, during the course of 2015, the Supervisor of Banks instructed the banks to submit long-term plans for increasing operating efficiency.[4] In order to support the process to increase the system's efficiency, the Banking Supervision Department later adopted accounting exemptions that allowed for the spreading of the costs of the submitted plans when calculating the capital adequacy[5] and leverage ratios. The Banking Supervision Department also worked to remove barriers to the development of efficient digital banking (such as the process for opening a digital account, the shift to computerization on the cloud, etc.).[6]

The trend in the banking system's operating expenses starting from 2015 (core efficiency)

The main channels in which the banks have acted to reduce operating expenses are the following: (1) reducing manpower; (2) reducing the real estate surface area and the deployment of branches; and (3) the integration of technology. These were intended to improve the banks' managerial flexibility in a changing business environment, with focus on their main operating expenses item (Figure 1). Below we describe the main measures adopted.

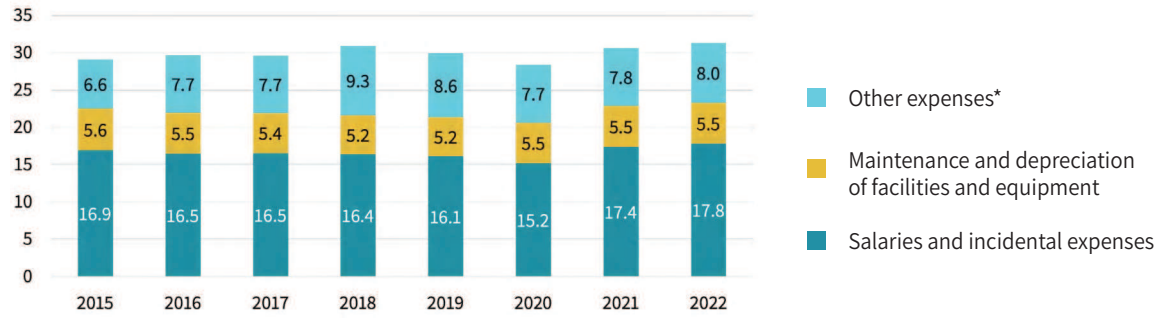
4 For the press release December 28, 2018 on the Bank of Israel site, see here.
5 For the letter published by the Supervisor of Banks on January 12, 2016, see here.
6 A calculation of the operating efficiency ratio for the banks is carried out by dividing operating expenses by net revenues from interest and noninterest revenues. In other words the smaller is the ratio, the more efficient the bank is.

Salaries and related expenses

Salaries and related expenses constitute about 57 percent of the banking system's total operating and other expenses (Figure 3.43). Therefore, the reduction in these expenses is likely to constitute a major factor in the reduction of operating expenses. The implementation of steps to reduce salaries has been and continues to be a complex process and requires a high degree of sensitivity, given the wage agreements and employment contracts in the banking system. Nonetheless, in recent years agreements have been signed that seek to, among other things, increase the bank's managerial flexibility, based on conditioning wage rises on achievement of the bank's targets.

Salaries and related expenses constitute the main component in the banks' operating and other expenses*

Figure 3.43 Components of Main Operating Expenses, Total Banking System, 2020–2023 (NIS billion)

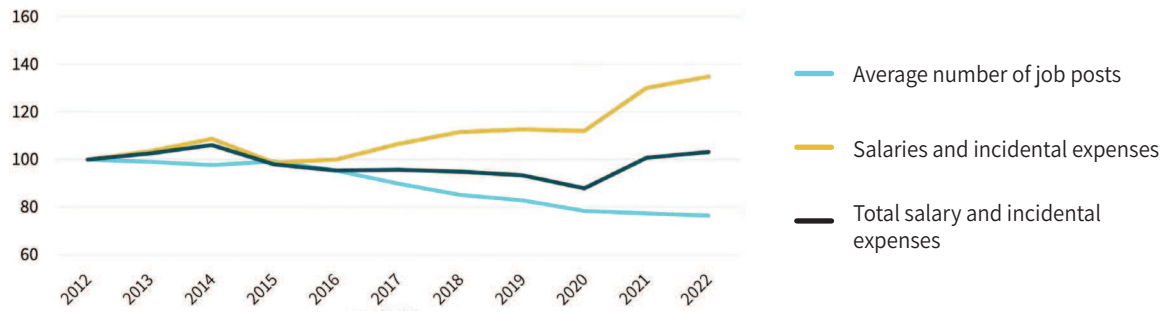


* Other expenses include: marketing and advertising, computers, insurance, office expenses, and others.

SOURCE: Based on published financial statements.

In recent years, and the last two years in particular, there has been an increase in the average salary in the banking system.

Figure 3.44 Develpoment of Average Number of Job Posts[1] and Average Salaries and Incidental Expenses per Post, Total Banking System, 2012–2022 (index: 2012=100)



[1] The number of job posts includes posts at subsidiaries abroad and at consolidated companies, as well as a translation of the cost of external overtime and manpower budgets required for adjustment of current manpower and project implementation

SOURCE: Based on published financial statements.

Despite the aforementioned challenges, the number of positions in the banking system declined by close to 11,000 from 2015 until the end of 2022 (a decrease of about 23 percent in total positions during this period; Figure 3.44). During the first five years since the formulation of the efficiency plans (2016–20), the annual average rate of decrease in number of positions was about 4.2 percent, in comparison to the last two years (2021–22), during which the rate of decrease moderated to about 1.2 percent. The is because the voluntary retirement agreements signed during the first five years of the plans were on a larger scale relative to the last two years.

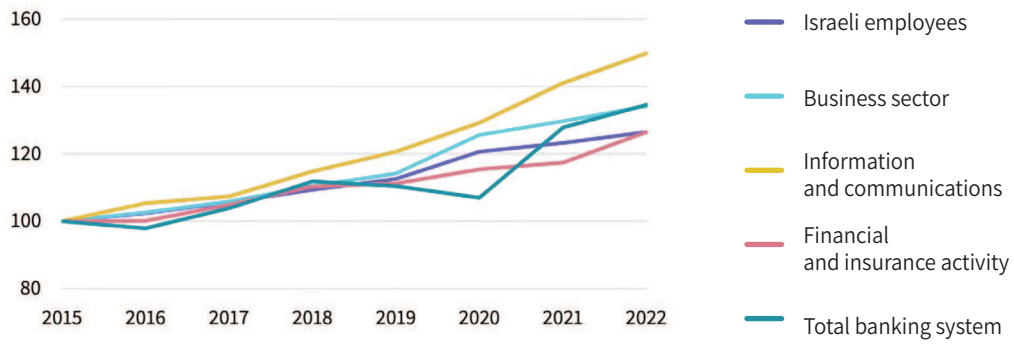
With the more moderate decline in the number of positions, there was an upward trend in the average salary[7] (table of salaries by salary level – Chapter 1, Section 3.3), such that the reduction in number of positions combined with the increase in the average salary left total salaries and related expenses almost unchanged during the period 2015–22. Nonetheless, it should be noted that the increase in salaries in the banking system was no higher than in the business sector in recent years (Figure 3.45).

[7] Salaries and related expenses.

The source for the approximately 36-percent increase in the average salary between 2015 and 2022—which stood at NIS 484,000 per year at the end of 2022—is the increase in the proportion of positions at mid to high levels (above NIS 360,000 per year) at the expense of positions at lower salary levels (up to NIS 360,000 per year). The change in the proportion of high salary earners is the result of the following factors, among others: (1) the change in the skill level of labor force, which requires the employment of workers with technological training who are competed for by other sectors. This means that the banks must offer them competitive salaries. (2) As part of the retirement process, the rights that workers have accumulated over the period of their employment are redeemed, which increases salary expenses in that year. In the years of high levels of retirement, average wages in the system rise. (3) Salaries also include compensation and grants that are based on the banks' performance. In recent years, the banking system has been characterized by high profitability (for further details, see Chapter 3 in this survey), which is therefore also reflected in a rise in the average salary.

The trend in the average salary in the banking system has been similar in recent years to that in the business sector as a whole.

Figure 3.45 Average Wage Per Employee Post in the Various Industries and Salary Expense per Post in the Total Banking System, 2015–2022 (index: 2015=100)



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

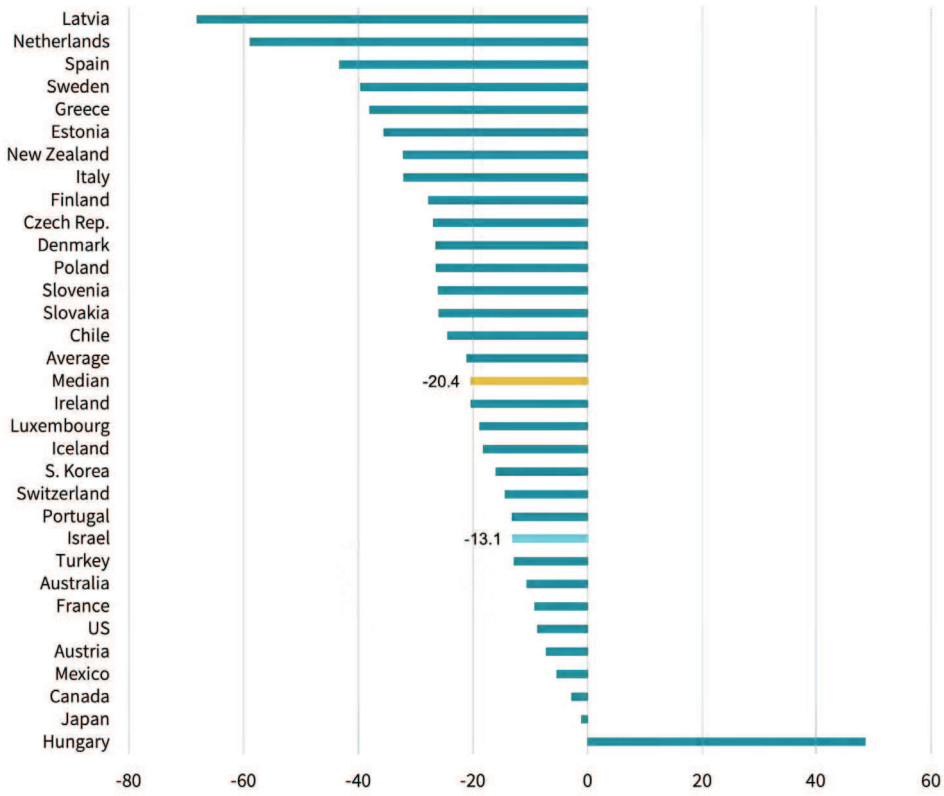
Physical infrastructure and real estate surface area (branches)

The trend of branch closings has occurred not just in Israel but worldwide, although the rate of closing has been slower in Israel (Figure 3.46; for further details on branch closings relative to Israel's population and size, see Chapter 1 in this survey). The trend of branch closing, which has characterized the local banking system during the past decade, has led to a reduction in surface area leased or owned by the banks. A reduction in physical infrastructure is accompanied by savings in rental, maintenance, and depreciation expenses and in salary expenses in the branches. In this context, the banks have reduced their total number of fixed branches by about 14.7 percent during the period 2015–22 (Figure 3.5). In addition, most of the banks are in the process of transferring their headquarters out of Tel Aviv in order to reduce real estate expenses. This will likely be reflected in their financial statements in coming years. The process of transferring their headquarters during the period 2015–22 resulted in one-off revenues of about NIS 3.2 billion.

The closing of branches is liable to affect a broad group of important customers who find it difficult to use direct channels and prefer to obtain banking services in a face-to-face setting (such as the elderly, customers with special needs or disabilities, etc.). With the goal of providing these customers with a suitable solution, Amendment no. 22 to the Banking (Licensing) Law, 5741-1981, was adopted in August 2016 **according to which the closing of a fixed bank branch requires the approval of the Supervisor of Banks and that approval must be based on a variety of considerations and a balancing between the benefit of the bank and the benefit of the public.** In addition to the amendment, the Banking Supervision Department issued Proper Conduct of Banking Business Directive 400, which establishes that before deciding to request approval from the Banking Supervision Department to close/move a branch, the bank must **ensure that sufficient weight is given to the needs of the branch's various customers** (for further details on the activity of the Banking Supervision Department with respect to branch closings, see Chapter 6 of this survey).

The rate of branch closing in Israel is low relative to other countries.

Figure 3.46 Cumulative Rate of Change in the Number of Bank Branches,[1] Israel and OECD Countries,[2] 2015–2022 (percent)



1 Excluding activity abroad. Permanent branches.

2 Belgium, Germany, Norway, and UK are not included due to lack of data.

SOURCE: Foreign countries - International Monetary Fund; US - FDIC; Israel - Based on reports to the Banking Supervision Department.

Starting from the onset of the COVID-19 pandemic, there was a moderate increase in the rate of branch closing in the banking system, alongside an accelerated shift of customers to digital channels (for further information on the consumption pattern of banking services, including direct channels, see Chapter 1 in this survey). Nonetheless, from a broader perspective on the trend in number of branches, and based on an understanding of the importance of partial and mobile branches[8], the growth in the number of partial and mobile branches in recent years

8 As defined in Reporting Directive 888. The permit for partial and mobile branches allows them to provide all services to individual customers, apart from housing loans and the signing of guarantors. The Banking Supervision Department is currently working to expand this permit.

has significantly offset the overall rate of branch closing that has characterized the banking system during the past decade. The partial and mobile branches are permitted to provide most of the banking services for individuals[9] and they contribute to meeting the needs of populations that have been inconvenienced by the closing of fixed branches, although it may be that in reality the banks (or perhaps only some of them) provide only a limited variety of services to their customers.

Maintenance, depreciation, buildings, equipment and other expenses

In addition to the reduction in buildings and equipment, which has lowered maintenance costs, the banks have taken additional steps that are meant to increase work interfaces. The shift to reliance on technological infrastructures has reduced the scope of activity carried out using traditional methods and consequently the level of office and communication expenses (post office and courier service) were reduced at cumulative rates of about 53 and 17 percent, respectively, during the period 2015–22. This somewhat reduced maintenance, depreciation, building and equipment expenses, which accounted for about 17 percent of total operating and other expenses during 2022, relative to 2015 (then constituted about 19 percent). In contrast, the reliance on technological infrastructure increases computer expenses and depreciation on computers, which grew at a cumulative rate of about 27 percent during the period 2015–22 and stood at about NIS 1.3 billion during the past year.

Trends in the efficiency ratios – the level of efficiency and the way in which the efficiency ratios are affected by income and assets

Overall, the banks' degree of efficiency is measured by their ability to create revenue, given the level of inputs and expenses. The two main ratios for measuring the banks' level of efficiency, both in Israel and worldwide, are the efficiency ratio and the average cost ratio:

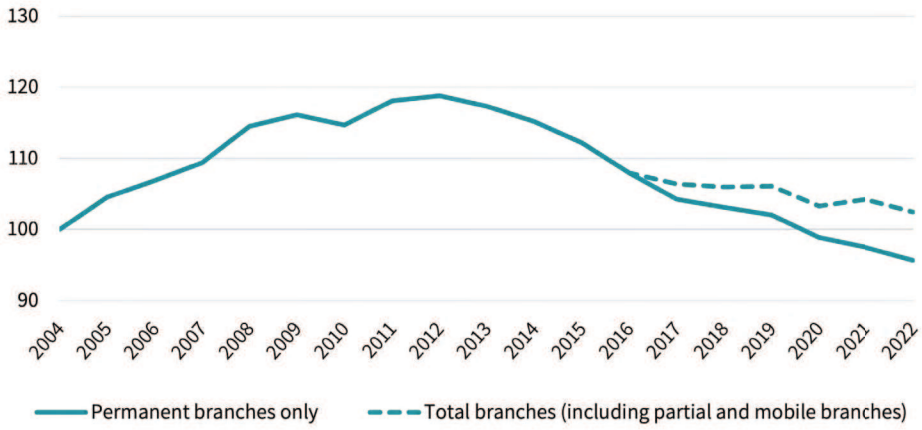
$$1)\ \text{Efficiency ratio} = \frac{\text{Total operating and other costs}}{\text{Net interest and noninterest income}}$$

$$2)\ \text{Unit Output Cost} = \frac{\text{Total operating and other costs}}{\text{Average total assets}}$$

[9] Apart from signing customers on guarantees and providing housing loans.

The partial and mobile branches have moderated the downward trend in number of branches in the banking system.

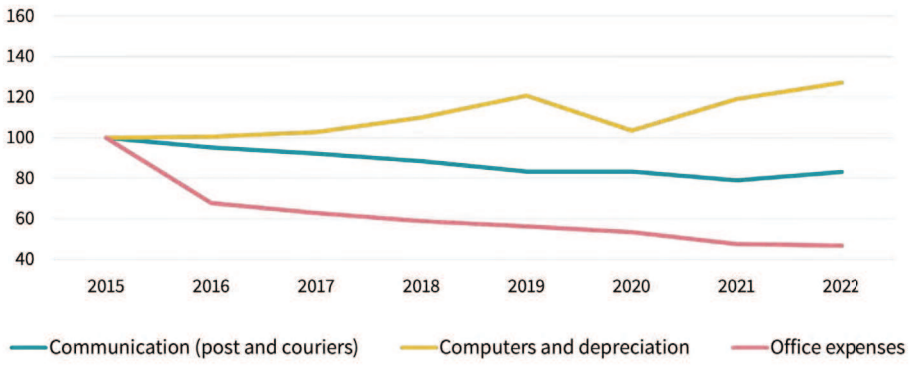
Figure 3.47 Development of the Number of Branches, Total Banking System, 2004–December 2022 (index: 2004=100)



SOURCE: Based on reports to the Banking Supervision Department.

Reliance on technological infrastructure has led to an increase in computer expenses and depreciation on computers, alongside a decline in the amount of activities carried out by traditional means.

Figure 3.48 Development of Other Main Expense Items,[1] Total Banking System,[2] 2015–2022 (index: 2015=100)



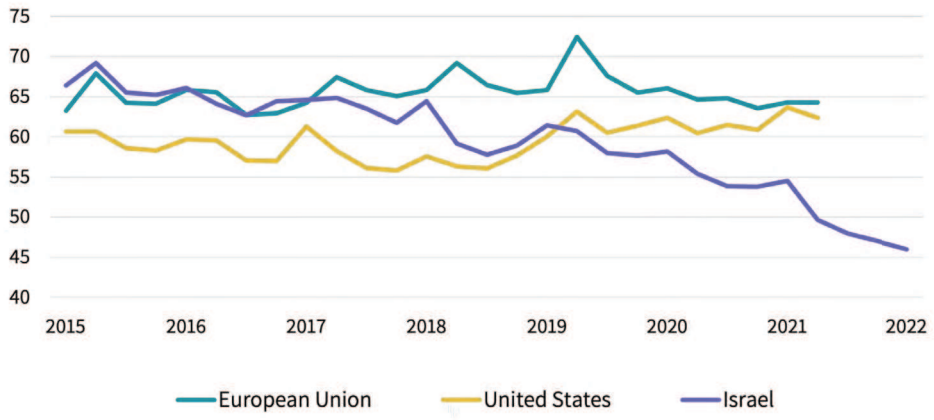
1 Excluding activity abroad. Permanent branches.

2 From 2017 onward, the data exclude Isracard. From 2018 onward, the data exclude Max.

SOURCE: Based on published financial statements.

The efficiency ratio has fallen consistently in Israel in recent years and is currently low relative to other countries.

Figure 3.49 Efficiency Ratio in Israel, the US, and the EU,[1] 2015–2022 (percent)

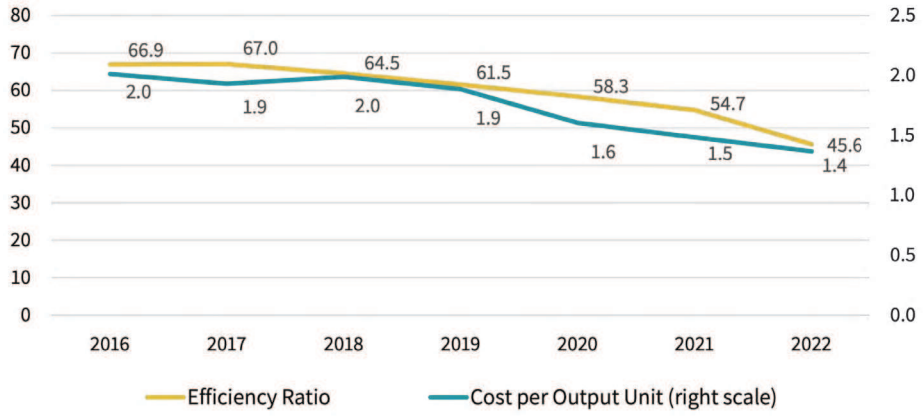


[1] US and EU data are as of the first quarter of 2022.

SOURCE: EU - ECB; US - FDIC; Israel - Based on reports to the Banking Supervision Department.

The efficiency ratios fell consistently starting in 2016 and with greater intensity since 2020.

Figure 3.50 Efficiency Ratios and Cost per Output Unit, Total Banking System, December 2016–December 2022 (percent)



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

These indices make it possible to examine the total expenses needed by the banks to produce a unit of revenue and the level of expenses needed to produce a unit of output, where in the context of the banks this mainly involves the provision of credit, although also the allocation of other assets (such as the acquisition of bonds, the depositing of funds with the central banks, etc.).

The lower the efficiency ratios are, the more efficient the banks are considered to be. It is not impossible for there to be an improvement in the efficiency ratio even without a reduction in operating expenses (the numerator) if there is an increase in revenue (the denominator). Therefore, it is important to understand the factors that are determining developments in the efficiency ratios.

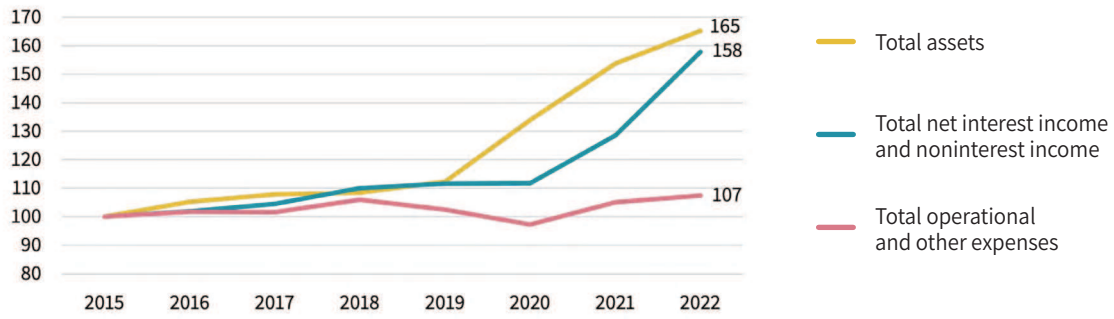
The Israeli banking system has been characterized since 2016 by a consistent improvement in the efficiency ratio, and in recent years also in the average cost ratio. The efficiency ratios have been on a consistent downtrend in recent years (i.e., they have improved; Figure 3.50), while in Europe the efficiency ratio has remained basically unchanged and in the US it has even increased somewhat (Figure 3.49).

Alongside the efficiency measures that have been adopted and that were described in the previous section, the growth in total assets and revenues in the banking system had a major impact on the improvement in the efficiency ratios in recent years, such that total revenues and total assets recorded significant growth in the last decade and in particular during the last two years, while total inputs remained relatively unchanged (Figure 3.51).

During the years 2015–20, the consistent growth on both the income side and in total assets contributed to an improvement in the efficiency ratios; however, during the past two years (2021–22) there was an exceptionally large improvement in the efficiency ratios. This was primarily the result of the following effects: (1) Starting from 2021, with the recovery from the COVID-19 pandemic, the banking system supported economic growth (which was reflected in accelerated growth in the portfolio of credit to the public), in parallel to the growth in assets deposited with the banks (which was reflected in an increase in total assets) (for further details, see Chapter 2 and 5 in this survey and in the parallel chapters in the survey for 2021) and the improvement in income and profitability in the banking system in 2021. (2) Starting in April 2022 and alongside the continuing growth in banking activity (including in the portfolio of credit to the public), the banks' profitability was also positively affected by the increase in the CPI and the increase in the Bank of Israel interest rate (for further details, see Chapter 3 in this survey), as well as the growth in noninterest income, due to, among other things, exceptionally large one-time income during the year being surveyed (primarily from the sale of real estate assets, a byproduct of the efficiency processes mentioned previously). If the increase in the CPI and one-off income are neutralized, the efficiency ratio stood at about 49 percent at the end of 2022.

While in recent years total assets have grown significantly, and particularly during the last two years, total expenses remained unchanged, which is likely evidence of increased efficiency in the system.

Figure 3.51 Development of Efficiency Ratio Components,[1] Total Banking System, December 2015–December 2022 (index: 2015=100)



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

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