BANK OF ISRAEL

Financial Stability Report

Second half of 2023

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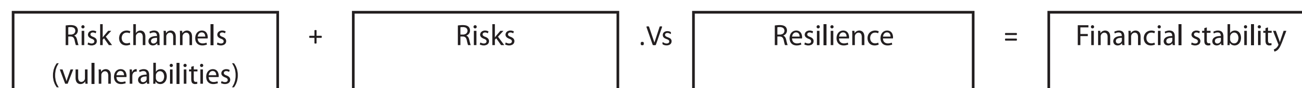
FINANCIAL STABILITY REPORT
Second half of 2023

1. Structure and purpose of this report

The Bank of Israel's Financial Stability Report is published twice a year. In this report, covering the second half of 2023, we analyze **risk channels** in the financial system and their **vulnerability** levels, estimate **main risks,** and test the system's **resilience** to them. The assessments and analyses in this Report are based on a survey of past developments, the academic literature, examination of structural characteristics, use of analytical models (including simulations and stress tests), and an assessment of the latest background conditions in the global and the domestic economy. Generally speaking, the Report presents the risks that, if realized, may have a major impact on the economy in the short and medium terms, in order to enhance policymakers' and public awareness of them so that they may prepare accordingly.

Assessment and Analysis Process of the Level of Financial Stability



The Financial Stability Report for the second half of 2023 reviews financial developments and estimates the level of system stability in view of the main development in the reviewed half-year—the massive terrorist attack on October 7 in southern Israel and the Swords of Iron War that followed. Under these circumstances, the Report focuses almost exclusively on the implications of the realization of geopolitical risk for the vulnerabilities and resilience of the country's financial institutions and estimates the level of financial stability on the basis of these analyses.

2. Main findings

- The massive terrorist attack on October 7 and the Swords of Iron War that followed mark the realization of an extreme geopolitical shock scenario. The realization of this risk did not impair macroprudential stability for reasons that include the high standards of macroprudential regulation that predated the war, preventive measures taken by the Bank of Israel when the events began, and the government's relief programs.
- The war impacted all major vulnerabilities. Due to policy measures that attenuated the transmission of the shocks, however, the level of risk increased only on the macroeconomic channel, as reflected in an increase in Israel's risk premium.

- Although households have found it increasingly difficult to pay back debt due to the monetary tightening that continued since the beginning of the year and the real erosion of their own sources, the volume of household credit at risk remains low. Such is the case even though the war impaired the income of a certain portion of households, possibly making their debt servicing more difficult.
- **The implications of the war for the activity of construction companies exacerbated the credit risk that originates in this industry, in addition to an increase in financing expenses that had been degrading the companies' financial situation even before the war, as noted in the** Financial Stability Report **for the first half of the year.**
- **The safety buffers that the financial institutions had built up by the eve of the war and the policy measures that were invoked to help households and businesses to cope with the ramifications of the war continued to mitigate the impact of the shocks on the financial system and allowed the system to remain stable.**
- Insofar as the war continues, its scale and its adverse implications for the economy will gather strength and may subject the financial system to additional challenges.

3. Overall assessment

The massive terrorist attack on October 7 set the Swords of Iron War in motion, exacerbating all of the financial system's vulnerabilities. Much like previous serious security events, the immense uncertainty of the first days of the war was reflected in steep declines in the prices of financial assets—equities, corporate bonds, and government bonds—an increase in price volatility, and a decrease in asset liquidity. Concurrently, the shekel depreciated considerably and the Bank of Israel announced (on October 9, before foreign exchange trading began) a USD 30 billion program of intervention in the markets.[1] The program stabilized the currency and abetted stability in additional markets. Thus, although volatility in the foreign exchange and equity markets remained relatively high, as did Israel's risk premium, most of the adverse effects in the markets dissipated quickly. The immediate blow to economic activity—due to a decline on both the demand side (acute uncertainty, possible decline in income, and dour "national mood") and on the supply side (labor shortage)—coupled with a steep increase in government expenditure, found expression in the various country risk indicators, including the Israel/United States government bond spread and the five-year CDS price. Also, the three leading rating agencies announced that they were reviewing the possibility of lowering Israel's sovereign rating.

On the eve of the war, households and businesses were contending with an increase in financing expenses that was reflected in a slight increase in the rates of credit in arrears. The war and its ramifications also created a challenge on the income side. The slowdown in economic activity has degraded the income of some businesses and households and may impair their ability to service their debts. To help them cope with the debt-servicing challenge, the Bank of Israel's Banking Supervision Department at the Bank of Israel put together a multifaceted debt-repayment deferral program, which was adopted by the banks. For households and businesses that were directly harmed by the massive terrorist attack and the war, as well as persons mobilized for reserve duty, the deferral came at no cost. Indeed, by the end of 2023, the banks had approved nearly NIS 6 billion in payment deferrals for more than 300,000 loans, of which 30 percent were deferred under the program for those directly affected. From a macroprudential perspective, the deferral of debt payments allowed households and businesses to avoid having to reduce their consumption or activity, and also lowered the likelihood of default.

[1] The program also included an injection of liquidity into the market that would be carried out, where necessary, by activating swap mechanisms totaling up to USD 15 billion in the market.

Among the sectors where there were increases in credit risk, the construction industry, which consumes nearly 20 percent of total business credit and about one-fourth of bank business credit countrywide, stands out. Companies in this industry, most of which are highly leveraged, had to cope even before the war with rising financing expenses and perceptibly falling demand. At the end of the reviewed period, only about half of construction sites were active. Beyond the slowdown in the pace of progress in construction projects, the building freeze may have a significant impact on the companies' expected revenue flow and on some companies' ability to continue servicing their debts to the financial system.

The stability of a financial system is determined not only by levels of risk along the various vulnerability channels, but also by the system's resilience, its ability to absorb shocks, and policy measures, taken when necessary, that attenuate the implications of the realization of risks to the system. Indeed, the financial system's resilience and the policy measures adopted in response to the events are allowing the financial system to cope with the realization of the risks and remain stable. On the eve of the war, the banking system had capital buffers and liquidity ratios that far exceeded the minimum levels set by the Banking Supervision Department. Furthermore, their provisioning for credit losses—provisions already made and the heightened provisioning that followed—reflected a conservative assessment of the solvency of the various sectors. The Solvency Ratio of the country's largest insurance companies also far surpassed the level mandated by the Capital Market, Insurance and Savings Authority. When the war broke out, the government and the Bank of Israel took several steps that mitigated the economic uncertainty that had come about and allowed the temporary impairment of income—as well as the ability to service debt—to be smoothed. The Bank of Israel acted swiftly to stanch the depreciation of the shekel by selling foreign currency, put together a debt repayment deferral program for those directly impacted by the war, and provided low-interest monetary loans so that lenders could issue loans under convenient terms for small businesses. Later on, the government invoked a range of measures to lighten the burden on households and businesses that were directly or indirectly affected by the war, including a compensation fund for businesses, a state-guaranteed loan fund, far-reaching benefits for army reservists, and more.

These policy measures by the government and the Bank of Israel were partly facilitated by the macroeconomic safety buffers that had been built up in the past few years, including a low government debt to GDP ratio and abundant foreign currency reserves. These helped the financial system to remain stable and resilient even as risks were realized. However, insofar as the duration, severity, and economic consequences of the war intensify, the challenges to the financial system may grow.

4. Risk channels

The table below presents a condensed assessment of the risk levels along the financial system's main exposure channels over time. The assessment is partly based on results obtained from the Financial Monitor[2], which presents a collection of quantitative indicators that describe the risk levels along the various vulnerability channels. The risk level in a given half-year is determined on the basis of the position of the values of the quantitative indicators during the period **relative to the historical distribution of the same series in Israel.**[3] In addition to the objective statistical analysis, the monitor offers a judgment based on information and assessments that are not included in the indicators. The table, as stated, uses a color hierarchy to present an assessment of the risk level on each vulnerability channel.

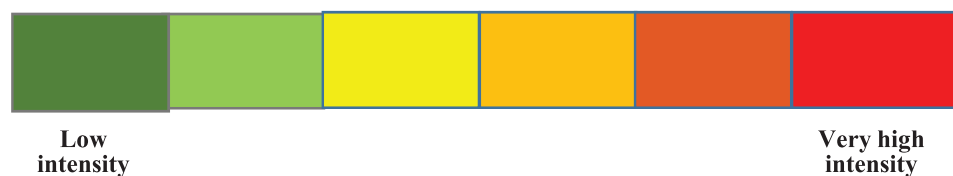
[2] For elaboration, see Konstantin Kosenko and Noam Michelson, **Monitor for Financial Stability in Israel**, Bank of Israel, Periodic Papers 2020.02 (in Hebrew).

[3] The historical depth of the monitor varies from one series to the next but most series cover a period of at least twenty years.

Table 4.1: Estimate of Risk along Main Channels of Vulnerability

Risk channel / period	2022:H2	2023:H1
Macroeconomic environment	Medium-high	High
Asset prices	High	High
Credit	High	High
Liquidity	High	High
Interconnectedness and contagion	High	High

Heat map of risks: Risks are shown commensurate with intensity, from lowest (dark green) to highest (red)



4.1 The macroeconomic environment

Overall local environment Real activity Country risk Global risk	2023:H1	2023:H2
	Medium-high	High

The war's adverse effect on private consumption and the exchange rate weakened shortly after the war broke out. However, the economy is still suffering from a labor shortage due to large-scale mobilization of the reserves and the effective cessation of employment of Palestinian workers. Recovery from war damage and defense investment are likely to increase Israel's debt to GDP ratio in the near term and to stabilize it afterwards, if the budget adjustments that the government decided to make are implemented. The expected government deficit in the next few years, coupled with uncertainty with regard to the development of the war, are reflected in an increase in Israel's risk premium. Against this background, the risk on the macroeconomic channel increased, in our estimation, from medium-high in the first half of 2023 to high in the second half of the year.

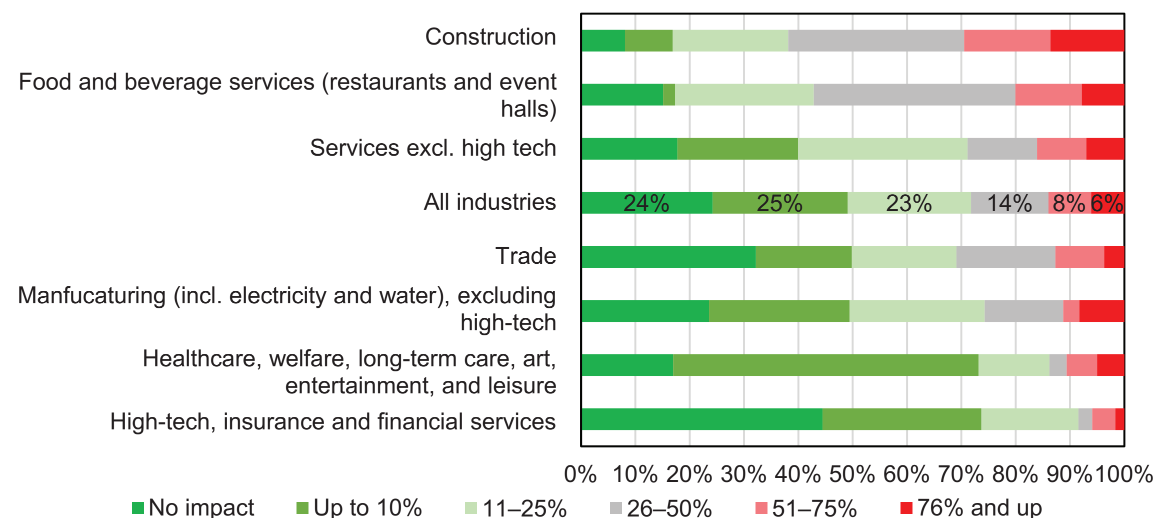
The economy grew at a 2.7 percent pace in Q3:2023. The annual inflation rate in 2023 fell to 3 percent and the Bank of Israel interest rate was lowered to 4.5 percent at year's end.[4] When the war broke out, private consumption, reflected in credit card purchases, plummeted.[5] Private consumption began to recover in the third week of the fighting, and credit card use returned to its prewar level in late December, although the extent of the recovery varied among industries. The second main immediate effect of the war was on the labor market. The unprecedented extent of reserve mobilization, the effective cessation of employment of Palestinian workers, disruptions in the activity of the education system, and restrictions on reaching unprotected workplaces created large-scale disruptions in the activity of many businesses. In addition, consumer demand contracted. However, the broad unemployment rate—which includes absences from the labor market due to reserve duty or for other reasons associated with the war—declined from 9.7 percent in October to 8.5 percent in November and the rate of absence from work for other noneconomic reasons (possibly related to the war but not to reserve duty) fell from 7.8 percent in October to 0.4 percent in November.

Business revenue in all industries fell by 13.6 percent in October. The declines in construction (26.4 percent) and food services (19.1 percent) were even more precipitous. Revenue continued to suffer seriously as the quarter continued, although less so than at the beginning of the war. According to an emergency survey by the Central Bureau of Statistics, companies that represent about one-fourth of entities in each of these two industries reported an expected decline of more than 50 percent in their December revenue. In contrast, high-tech businesses (manufacturing and services) reported minimal impairment of activity. Firms representing around three-fourths of the industry set the expected blow to their revenue at 10 percent at the most (Figure 4.1).

4 The Monetary Committee decided to lower the rate by one-fourth of a percentage point on January 1, 2024.

5 In comparison with the first days of the COVID-19 pandemic, the decrease in credit card spending was 17 percent at the most (relative to spending on the eve of the war) whereas in the COVID-19 period, spending fell for a month and the decline was more than 40 percent relative to its level on the eve of that period.

Figure 4.1
What Will the War's Impact Be on Your Company's Revenue in December Compared with the Same Period During Routine Times



SOURCE: Based on Central Bureau of Statistics Emergency Survey (December 19–20).

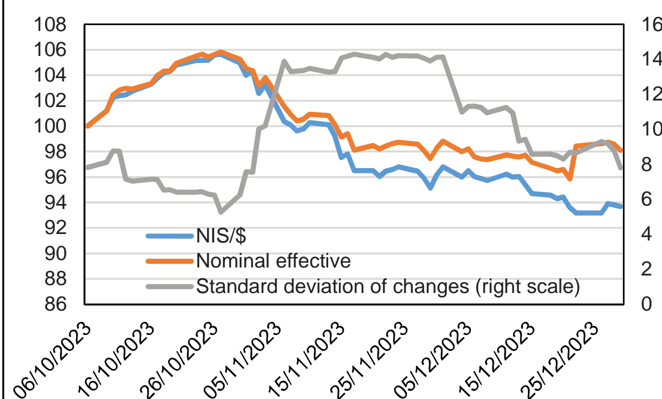
The government deficit in 2023 climbed to 4.2 percent of GDP. The expected increase in government expenditure in coming years on defense, revitalization of areas affected by the war, and interest will cause the government budget deficit to grow and the government debt to GDP ratio with it. According to government decisions about adjustments and foreseen defense spending when the state budget was approved, this ratio is poised to climb to 67 percent in 2024, and to remain at a similar level in 2025. The ample set of adverse domestic developments raised Israel's risk premium. The yield spread between Israeli government dollar-denominated bonds and United States government bonds widened, and the CDS price increased. (See elaboration below.) Concurrently, Fitch Ratings revised its Israel rating outlook to negative, Moody's placed Israel under negative watch, and S&P adjusted its rating outlook to negative.

At the beginning of the war, country risk was also reflected in the rapid depreciation of the shekel against the US dollar and other currencies.[6] To slow the trend, the Bank of Israel announced a $30 billion program of foreign exchange sales program. It sold $8.2 billion in the course of October and additional $0.3 billion by the end of the year. The shekel exchange rate trended toward recovery at the beginning of November and returned to its prewar level but remained more volatile than on the eve of the war. Nonresidents led the exchange rate trends, whereas domestic participants (institutional investors and the business sector) continued to buy foreign currency even during the period of appreciation (Figure 4.3).

According to the baseline scenario in the Research Department staff forecast (published in January 2024), growth is projected to be 2 percent in 2023 and again in 2024. The International Monetary Fund (Global Financial Stability Report, early October 2023), projected global growth in 2024 at around 3 percent but found the balance of risks still leaning toward the negative. The main risk scenario to global financial stability is a renewed global inflationary surge that would induce further monetary tightening by central banks in various countries and the

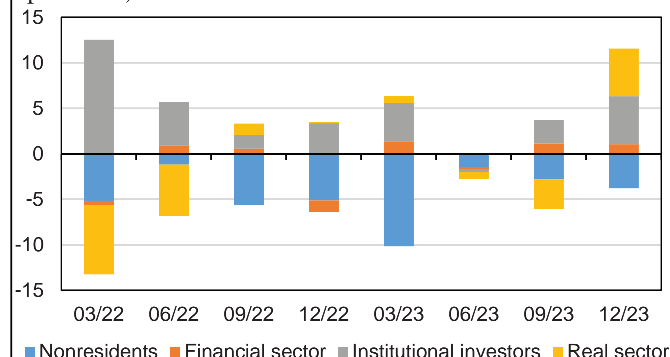
[6] This stands in contrast to the depreciation that ensued at the beginning of the year, when it was nonresidents who bought shekels and sold US dollars, while domestic institutional participants did the opposite.

Figure 4.2
NIS/$ and Nominal Effective Exchange Rates and Volatility Index



SOURCE: Bank of Israel calculations.

Figure 4.3
Foreign Exchange Conversions, by Sector
(quarterly, $ billion, positive value = net foreign exchange purchases)



SOURCE: Based on reports to the Bank of Israel from financial institutions and

possibility of stagflation. The exhaustion of households' and businesses' liquidity surpluses, high interest rates that would impede debt recycling, and further worsening of terms of funding due to a decline in risk appetite may cause difficulties in debt payback, foremost in the commercial real estate industry, and deal a blow to the financial system. In such a scenario, according to the IMF report, banks—including those defined as systematically important in many key countries—may encounter difficulties that may have implications for the Israeli banking system.

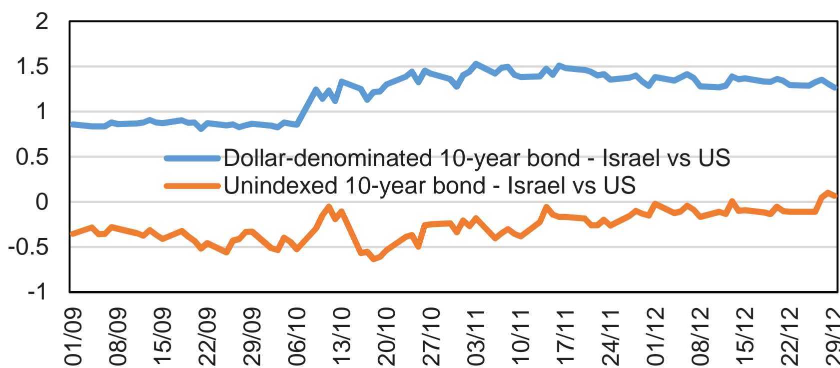
The war's effect on Israel's country risk

In the month preceding the onset of the war, the yield-to-maturity spread between unindexed ten-year Israel government shekel bonds and similar US Treasuries was -0.5 percentage points and the corresponding spread between the two countries' dollar-denominated government bonds hovered around 0.85 percentage points. When trading began on Monday, October 9, the unindexed shekel spread between Israel government bonds and US Treasuries narrowed to -0.3 percentage points and the spread between the countries' dollar-denominated government bonds widened to 1.2 percentage points. The widening reflects an increase in Israel's risk premium.[7] After widening sharply on the first day of trading after the war began, spreads leveled off in ensuing weeks but remained wider than they were on the eve of the war (Figure 4.4).

The increase in Israel's risk premium was mirrored in the bond insurance market and, in particular, the five-year CDS price. The price of insuring Israeli bonds jumped by 60 basis points on the eve of the war, to a record of 144 basis points (on October 26) and settled at 110–120 bp at the end of the reviewed period (Figure 4.5). Figure 4.6 completes the picture by comparing Israel's insurance price with that of 37 other countries. Thus, on the eve of the war the price of insuring Israel's government bonds was in the middle of the distribution, slightly higher than that of Spain and Portugal and a bit lower than that of Poland and Ireland. As a result of the war, the CDS price rose and stabilized at approximately the level of Mexico and Hungary.

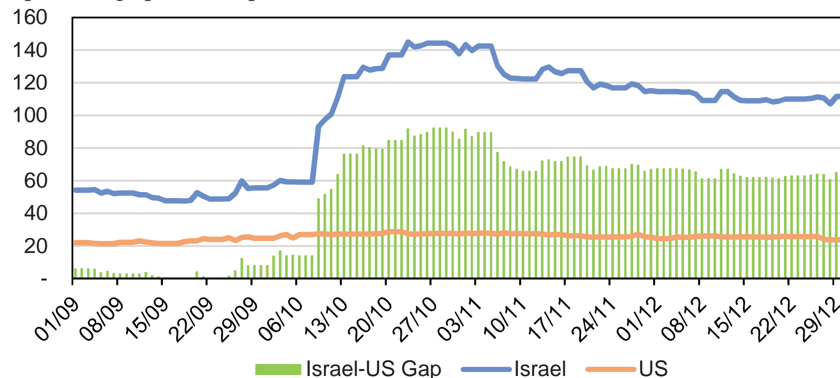
[7] In addition to the risk premium, the yield spread between unindexed shekel bonds and USD instruments reflects differences in the countries' inflation expectations. The USD yield spread also reflects a liquidity premium.

Figure 4.4
Yield Gap Between Israel Government Bonds and US Treasuries (percentage points, daily, Sept. 1–Dec. 31, 2023)



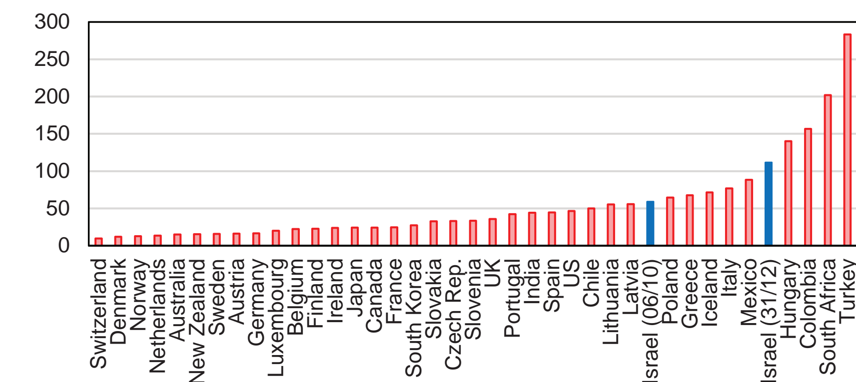
SOURCE: Based on Tel Aviv Stock Exchange and Bloomberg.

Figure 4.5
5-Year CDS, Israel Compared to US
(percentage points, Sept. 1–Dec. 31, 2023)



SOURCE: Based on Bloomberg.

Figure 4.6
5-Year CDS, International Comparison (percentage points, Israel: Oct. 6 and Dec. 31, 2023; other countries: Dec. 31, 2023)

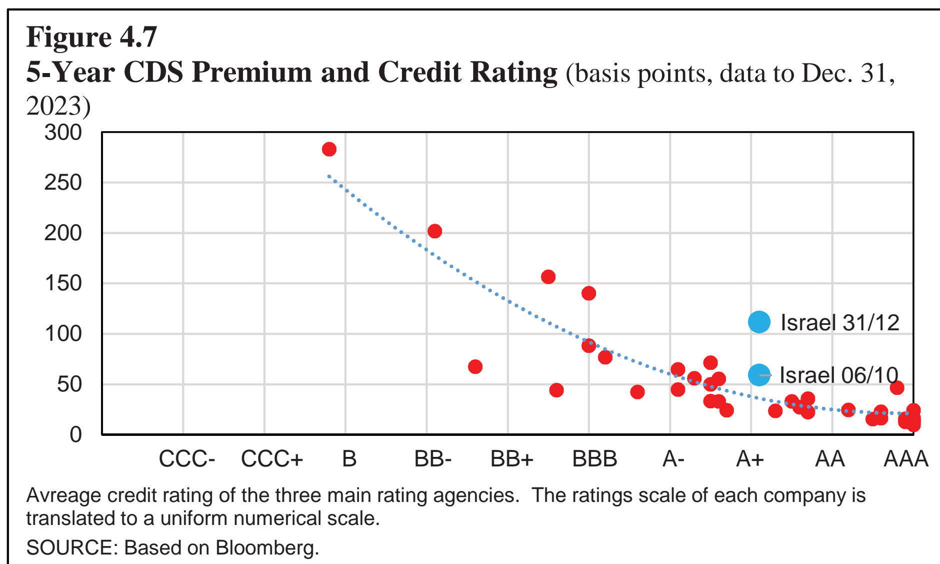


SOURCE: Based on Bloomberg.

The increased financial risk in Israel was also reflected in statements by international credit rating agencies in the first few weeks of the war. On October 17, Fitch announced a revision of its Israel sovereign rating outlook to negative. Two days later, Moody's placed Israel under a downgrade watch, and eight days after that S&P announced a revision of its Israel rating to negative. In their statements, the rating agencies warned against the ramifications of the war for the Israeli economy, including growth of the deficit and other macroeconomic effects.[8]

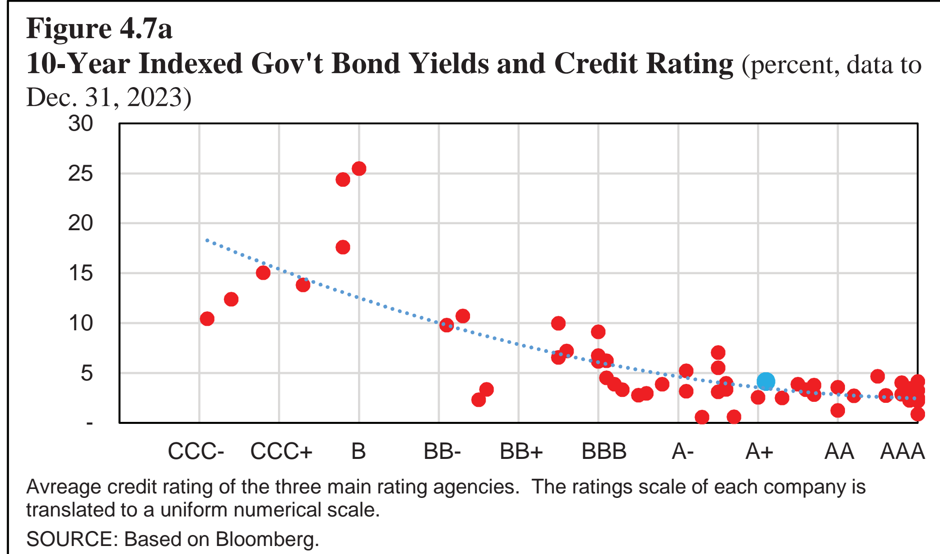
A strong relation is found between the market indicators that reflect Israel's risk premium and the level of the rating. Before the war, the five-year CDS price tracked Israel's credit rating, and at the end of the reviewed period it matched the CDS prices of BBB-rated countries (Figure 4.7). In contrast, the Israel ten-year government dollar bond yield at the end of 2023 tracked the country's current credit rating (Figure 4.7a).

Figure 4.7
5-Year CDS Premium and Credit Rating (basis points, data to Dec. 31, 2023)



Avreage credit rating of the three main rating agencies. The ratings scale of each company is translated to a uniform numerical scale.
SOURCE: Based on Bloomberg.

Figure 4.7a
10-Year Indexed Gov't Bond Yields and Credit Rating (percent, data to Dec. 31, 2023)



Avreage credit rating of the three main rating agencies. The ratings scale of each company is translated to a uniform numerical scale.
SOURCE: Based on Bloomberg.

[8] More recently (January 28, 2024), the analyst in charge of Israel's rating at S&P stated that a rating downgrade might occur if the war expands to additional fronts or if relevant economic indicators such as the growth rate or the government deficit take an unexpectedly severe downturn.

A June 2023 Bank of Israel estimation[9] of the change in government bond yields that would occur in the event of a rating downgrade found an average increase of 10 basis points after changes in economic parameters are taken into account.[10] If a one-notch rating downgrade occurs and it does lead to a 10 bp upturn in sovereign yields, the yield to maturity of Israel's dollar-denominated bonds relative to US Treasuries would probably climb to 1.3 percent.

4.2 Asset prices

	2023:H1	2023:H2
Financial pressure index **Equities** **Corporate bonds** **Housing market**	High	High

Financial asset prices fell sharply when the war broke out and then rebounded. At the end of the year, equities were still trading below their long-term average and corporate bond spreads of construction and real estate firms exceeded their prewar level. Prices in the housing market continued to trend downward but the continuation of this trend will depend strongly on the recovery of construction industry activity.

The Financial Stress Index

The Financial Stress Index, composed of several economic and financial indicators from various fields of economics, yields an aggregate picture of developments in the financial markets (Figure 4.8).[11] Apart from tracking events in each market individually, the Index reflects the extent of comovement of each indicator. High index values are indicative of adverse events that are common to all financial assets. When the war broke out, the Index increased sharply, indicating that negative developments in the financial markets encompassed all

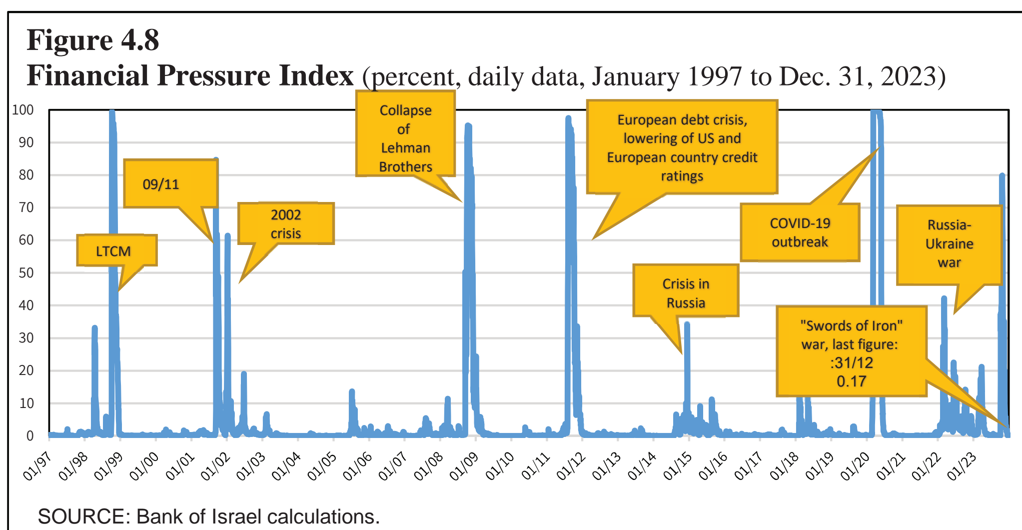


Figure 4.8
Financial Pressure Index (percent, daily data, January 1997 to Dec. 31, 2023)

SOURCE: Bank of Israel calculations.

9 Noam Michelson and Roy Stein (2023). "The Factors that Explain Long-Term Government Bond Yields in Israel and OECD Countries," Bank of Israel Survey 93: 103–146.

10 This evidently reflects the certification effect: Investors interpret a rating downgrade, if it occurs, as confirmation of their fears of credit risk. It may even cause a flight of international institutional players from Israeli sovereign and/or commercial paper for regulatory reasons (e.g., supervision of risk assets).

11 Based on Yossi Saadon and Meital Graham (2013). "A Composite Index for Tracking Financial Markets in Israel," Bank of Israel Working Papers 2013.01, Bank of Israel Research Department.

markets, as would happen in any systemic event. The Index began to fall in late October and approximated its prewar level by year's end.

The initial implications of the terrorist attack and the war manifested immediately in the financial assets market. The TA-125 index showed a sharp and lengthy downturn, bottoming out (on October 31) 9.7 percent lower than on the eve of the war in dollar terms (such that currency depreciation also contributed to the decline), while leading equity indices abroad slipped by 5 percent (Figure 4.9). The precipitous downturns in the domestic market followed underperformance during all of 2023. During the year, the TA-125 posted a weak increase of only 4.8 percent in shekel terms (and 1.6 percent in dollar terms), compared with 10–15 percent among leading foreign indices. The Israeli "Fear Index", reflecting the uncertainty intrinsic to the equity market, also climbed and remained above its prewar level despite a sharp decline later on (Figure 4.10).

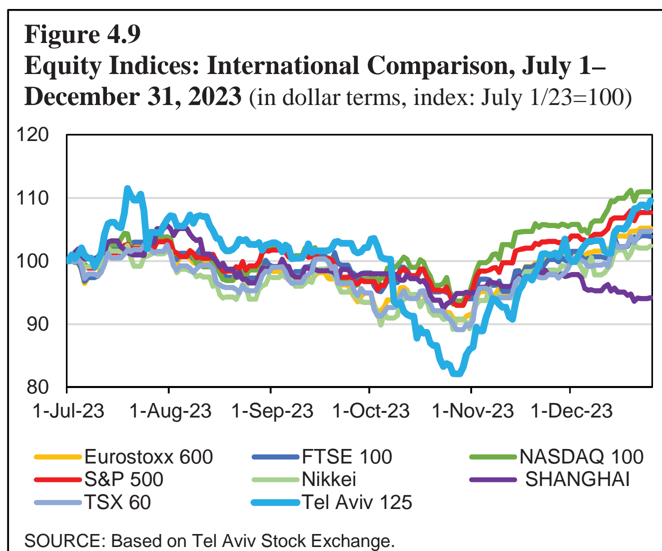


Figure 4.9
Equity Indices: International Comparison, July 1–December 31, 2023 (in dollar terms, index: July 1/23=100)

SOURCE: Based on Tel Aviv Stock Exchange.

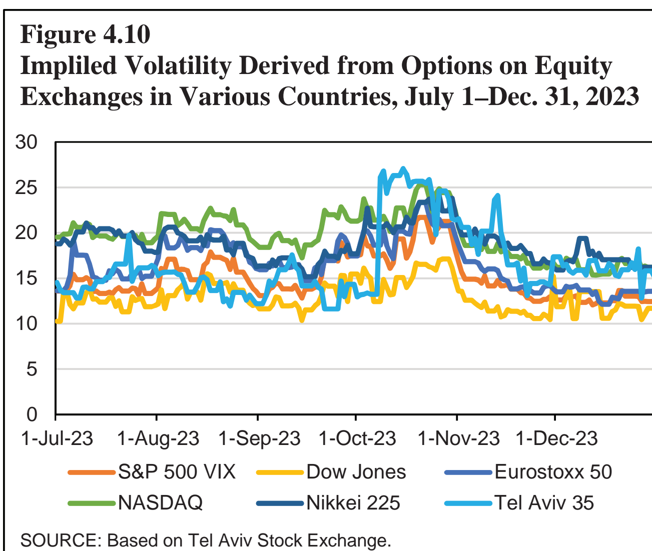


Figure 4.10
Impliled Volatility Derived from Options on Equity Exchanges in Various Countries, July 1–Dec. 31, 2023

SOURCE: Based on Tel Aviv Stock Exchange.

The MV/BV (market value to book value) ratio[12] of public firms included in the TA-125 index, which serves as a pricing index for equities, stood at 1.24 at the end of November, far below the long-term average (1.55).[13] The long-term P/E (CAPE-Shiller) ratio[14] remained relatively low in the third quarter and will probably remain low in view of the absence of change in equity prices in the fourth quarter (Figure 4.11). The risk premium that the equity market demands—the ratio between total net earnings in the past year and equity market value less the ten-year indexed sovereign yield—also increased and remained above its long-term average despite the upturn in indexed sovereign yields (Figure 4.12).

[12] The ratio of the market value of a company's shares to the equity attributed to its shareholders.

[13] The partial indices—TA 35 and TA 90—trended similarly.

[14] The long-term P/E ratio is the ratio of the aggregate market value of companies traded in Tel Aviv to their average inflation-adjusted aggregate value in the previous ten years.

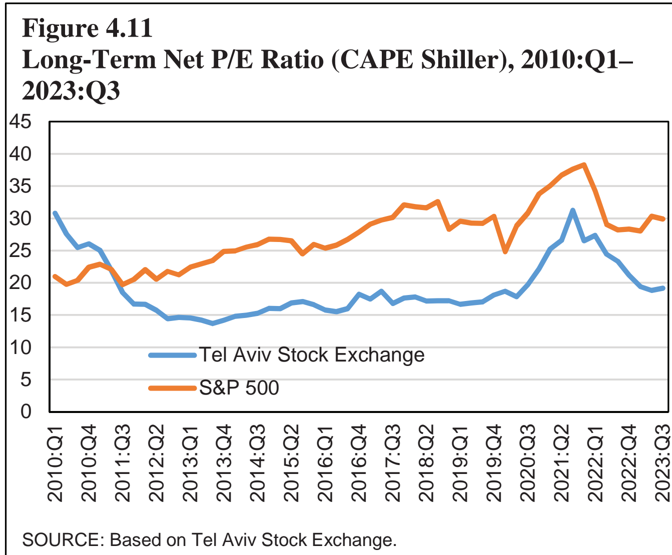


Figure 4.11
Long-Term Net P/E Ratio (CAPE Shiller), 2010:Q1–2023:Q3

SOURCE: Based on Tel Aviv Stock Exchange.

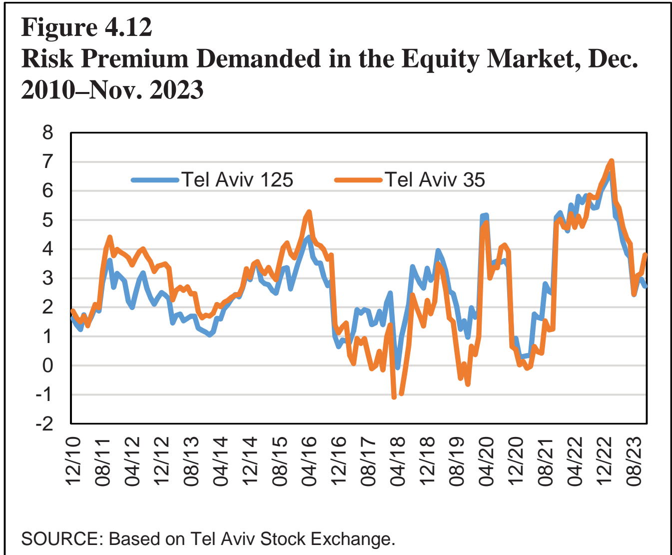


Figure 4.12
Risk Premium Demanded in the Equity Market, Dec. 2010–Nov. 2023

SOURCE: Based on Tel Aviv Stock Exchange.

Corporate bonds

The yield spread between corporate bonds and government bonds of similar duration widened by about 1 percentage point after the war began, and the lower the rating of the bonds, the more sharply the spread expanded. The impact of the war dissipated toward the end of the reviewed period, and the average spread of corporate bonds was 1.9 percent at the latest observation (December 31), similar to the prewar level (Figure 4.13). A similar development was detected when bonds were parsed by issuing companies' industry of activity, with one exception. As of the end of 2023, the spread of construction companies' bonds (mainly those of real estate development companies) was 0.6 percentage points wider than its prewar level (Figure 4.14). This reflects the specific risks of this industry and the credit risk of the companies that operate in it, as explained at greater length in Section 4.3.2 (Business Credit). In a comparison of the actual average spread with that predicted by the fundamentals[15], the two were found to be very close after having taken a positive turn in October and November due to investors' pessimistic assessment of developments.

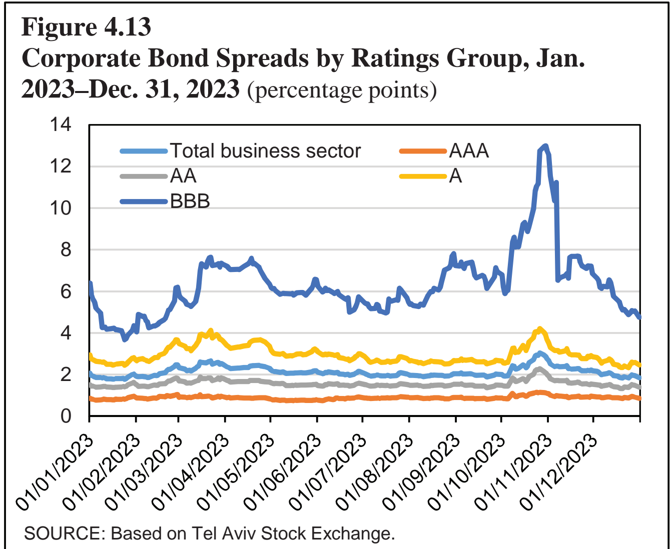


Figure 4.13
Corporate Bond Spreads by Ratings Group, Jan. 2023–Dec. 31, 2023 (percentage points)

SOURCE: Based on Tel Aviv Stock Exchange.

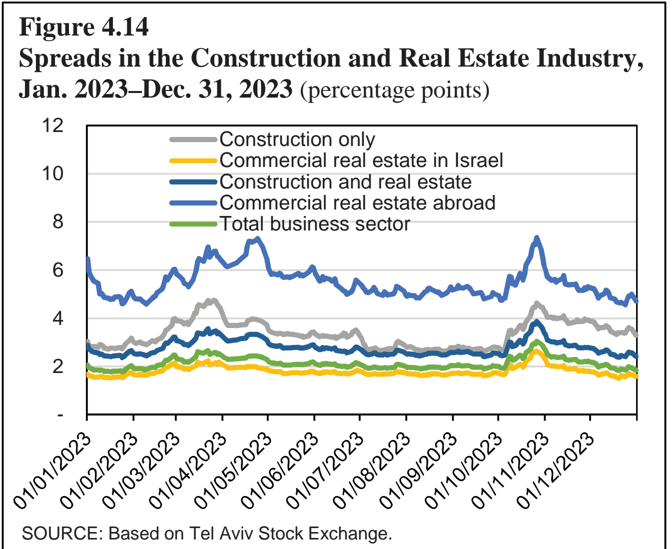


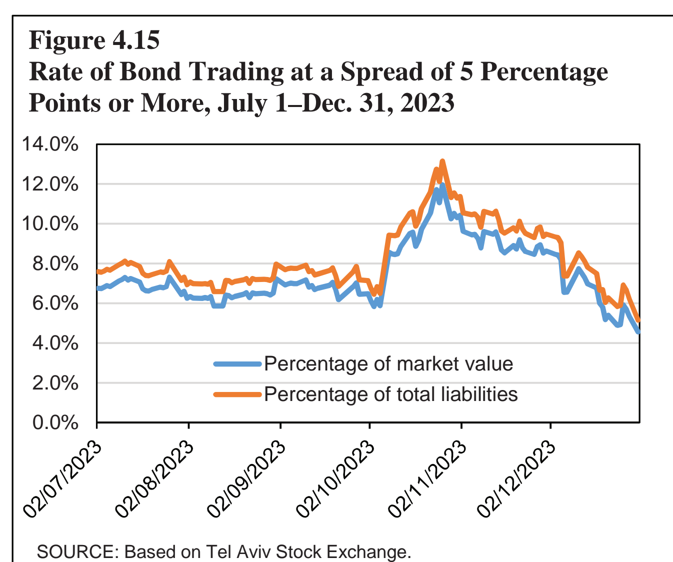
Figure 4.14
Spreads in the Construction and Real Estate Industry, Jan. 2023–Dec. 31, 2023 (percentage points)

SOURCE: Based on Tel Aviv Stock Exchange.

[15] Based on methodology in Meital Graham-Rozen, Haim Vieder, and Noam Michelson (2021), "The Factors Affecting Corporate Bond Spreads," Bank of Israel Research Department Discussion Paper 2021.11.

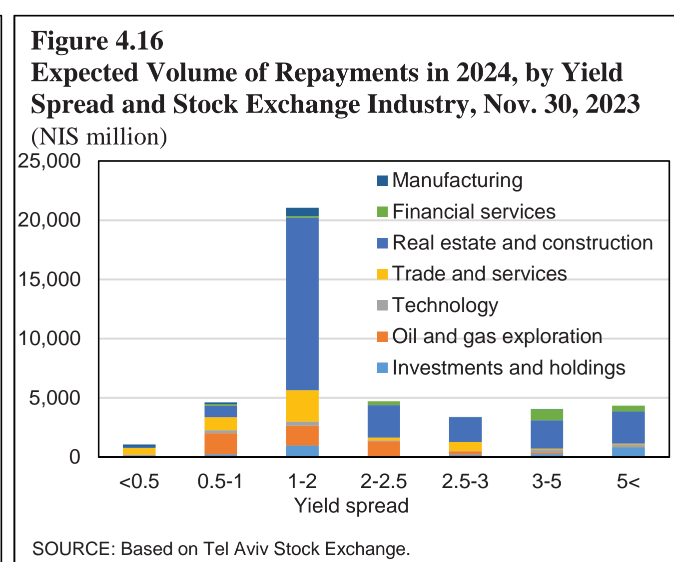
When the war broke out, the share of bonds that were trading at high spreads (above 5 percentage points) climbed steeply and crested at 12 percent (NIS 30 billion) of the market value of corporate bonds (not including banks and insurance) compared with only 5.9 percent prior to the war. As the spreads narrowed, however, the proportion of these bonds in the total retreated to approximately the prewar level by the end of the year (Figure 4.15). A wide spread may cause real difficulties for companies that wish to recycle their debts in the market. An observation of expected redemption predicts NIS 43.2 billion in redemption by companies that are outside the banking or insurance industries in 2024. At the present writing, 10 percent of the total (NIS 4.3 billion) is trading at spreads of more than 5 percentage points, compared with only 7.7 percent prior to the war. Around 60 percent of the total redemption of bonds trading at wide spreads belongs to construction and real estate companies, 18 percent to investment and holding companies, and 11 percent to financial service companies (Figure 4.16).

Figure 4.15
Rate of Bond Trading at a Spread of 5 Percentage Points or More, July 1–Dec. 31, 2023



SOURCE: Based on Tel Aviv Stock Exchange.

Figure 4.16
Expected Volume of Repayments in 2024, by Yield Spread and Stock Exchange Industry, Nov. 30, 2023
(NIS million)



SOURCE: Based on Tel Aviv Stock Exchange.

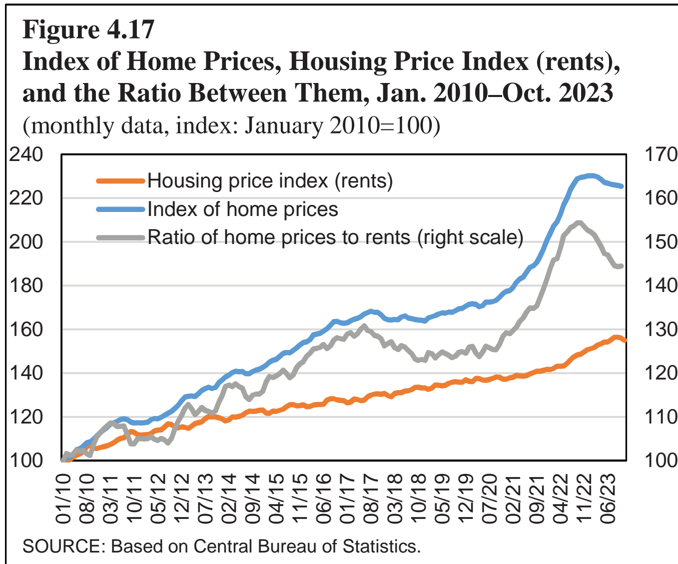
The housing market

Home prices fell by 1.8 percent in the twelve months ending in October 2023 and the rent index rose by 4.9 percent during the same period. Thus, the purchase/rent price ratio, an indicator for pricing risks in the housing market, declined. The ratio of home prices to the national average wage also fell steadily. Both pricing indices, however, remained higher than in the past (Figures 4.17, 4.18).

On the eve of the war, the stock of unsold homes and construction industry activity were high, while the number of transactions and the size of new mortgage loans were coming down, indicating falling demand. The war is likely to have a major impact on developments in this market on both the demand and supply sides. On the demand side, the blow to economic activity, aggravating households' uncertainty about their future income, will probably dampen housing demand for the time being. However, if more households that were evacuated from their homes do not return to them and seek alternative permanent housing, demand for dwellings in areas farther from the confrontation lines in the north and the south is likely to grow.[16] This effect may be intensified by an increase in demand for home purchases by Jews living abroad. On the supply side, unsold housing stock remained high.

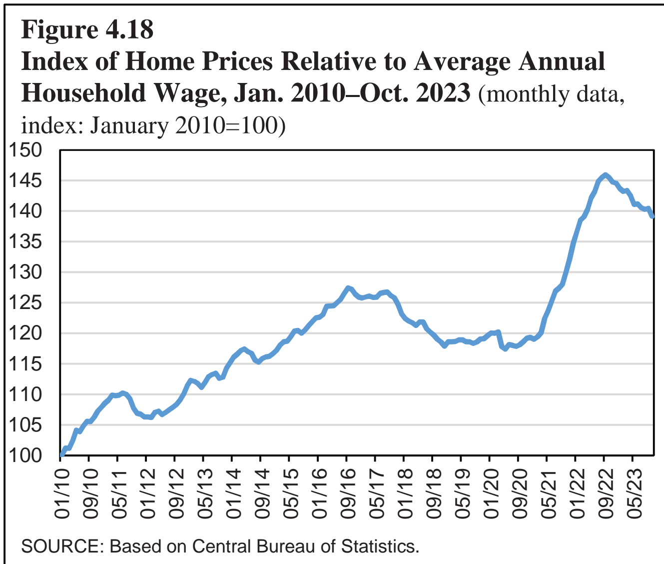
[16] The extent of evacuations from the northern and southern confrontation areas is likely to have another effect. In the Research Department's estimation, the longer the war lasts and the longer the term of housing programs will need to be, the stronger the increase in rent levels will be. For example, internal migration of 70,000 people is likely to push up rent by 2.8 percent in the first year and 1.6 percent in the following year.

Figure 4.17
Index of Home Prices, Housing Price Index (rents), and the Ratio Between Them, Jan. 2010–Oct. 2023 (monthly data, index: January 2010=100)



SOURCE: Based on Central Bureau of Statistics.

Figure 4.18
Index of Home Prices Relative to Average Annual Household Wage, Jan. 2010–Oct. 2023 (monthly data, index: January 2010=100)



SOURCE: Based on Central Bureau of Statistics.

Conversely, however, the war dealt a severe blow to the construction industry due to the absence of workers called into reserve duty, the effective cessation of employment of Palestinian workers, and the suspension of projects due to inadequate security measures.[17] The shutdown centered on projects in their initial construction stages, where the shortage of Palestinian workers was more strongly felt than elsewhere due to their occupational specializations.

There is currently no telling which of these effects will be stronger and what their repercussions on housing prices will be. These will be determined in accordance with the developments of the war and their implications for industry activity.

4.3 Credit

	2023:H1	2023:H2
Housing credit **Business credit**	High	High

Together with the increase in households' and businesses' difficulties in debt repayment, due to the increase in financing expenses during the year and real erosion of their own resources, the war-induced blow to income is likely to have a negative effect and exacerbate debt-servicing hardships even more. The construction industry is the most vulnerable, but the credit relief programs introduced by the government and the Bank of Israel, along with the program for deferring debt repayments to the banking system, are attenuating the risk.

[17] As of the Central Bureau of Statistics survey in late December, only about half of construction sites were fully active.

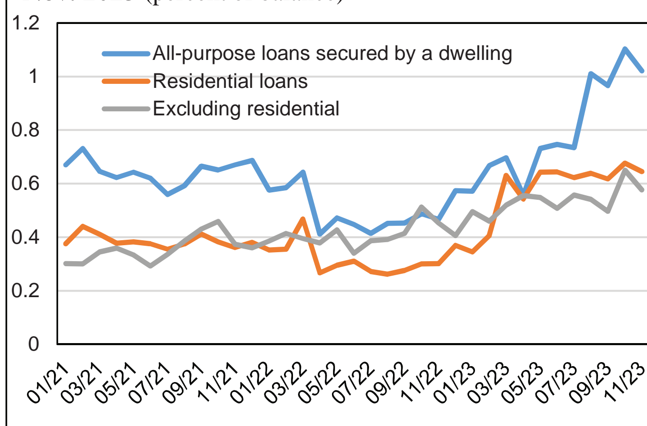
4.3.1 Household credit

The household debt to GDP ratio continued to trend downward, to 42.5 percent in November amid a mild increase in housing debt and no change in nonhousing debt. The November data from the banking system (which provides 90 percent of household credit) point to mild expansion of housing credit and further contraction of outstanding nonhousing credit.[18]

The volume of new housing credit issued remained relatively low but the downward trend observed from the middle of 2022 stopped. Within this generality, the share of mortgage refinancing has been rising since early 2023 due to two factors. The first is an improvement in lending terms. In recent months, interest on new unindexed, variable-rate housing loans (the "prime" track) increased—a situation that motivates borrowers to refinance loans taken on this track. The second factor is that borrowers who refinance their housing loans may be doing so in order to lighten their payment burden. Indeed, the term to maturity of refinanced mortgage loans that were taken at the bank that originated the first loan increased—indicating that at least some of the refinancing was meant to spread out and lower monthly payments.

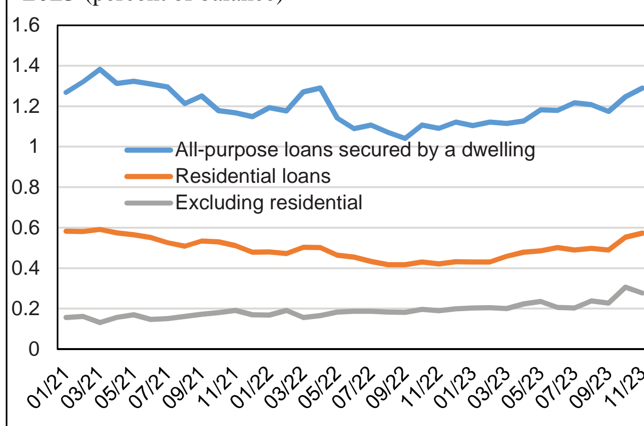
The extent of households' ability to service their debts is reflected in the share of outstanding credit in arrears. This indicator had been drifting upward even before the war, and its ratio to total credit, particularly in nonhousing credit, has risen further since the war began (Figures 4.19, 4.20). In addition, the share of credit defined as under special watch—the kind that evokes concern about a degradation of borrower solvency[19]—stands at 1.2 percent of all housing credit and 2 percent of all nonhousing credit. Notably, despite the changes, these are low rates of credit at risk.[20] The quality of outstanding credit card debt has also been declining. The share of nonaccruing credit[21] and credit in arrears of ninety days or more surged in the first two quarters of the year, as did the companies' credit loss provisions.

Figure 4.19
Rate of Credit in Arrears 30–89 Days, Jan. 2021–Nov. 2023 (percent of balance)



SOURCE: Based on reports to the Banking Supervision Department.

Figure 4.20
Rate of Credit in Arrears 90+ Days, Jan. 2021–Nov. 2023 (percent of balance)



SOURCE: Based on reports to the Banking Supervision Department.

[18] Data from the Bank of Israel's Central Credit Data Register show that the changes in outstanding debt in the past year were not uniform. While average outstanding debt increased among borrowers living in localities with low socioeconomic status (SES), among those living in high-SES localities, there was a smaller increase in outstanding debt of various kinds, and even some contraction in average outstanding consumer debt, evidently due to early repayment of these loans, which are more expensive.

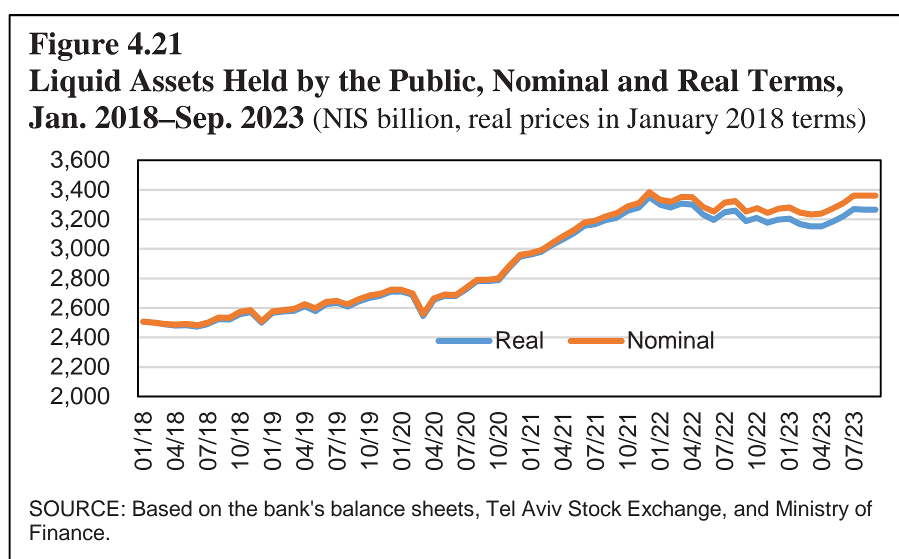
[19] Each bank determines which credit it chooses to classify as under special watch subjectively and by its own standards.

[20] The data on rates of credit in arrears in each activity segment have been available in their current format only from 2021 onward. However, previously available indicators and international comparisons confirm that the level of this ratio is relatively low.

[21] Credit is classified as nonaccruing when the lending institution expects, on the basis of up-to-date information and events, that it will be unable to collect the entire amount owed under the terms of the contract.

The war is likely to make households' debt servicing more difficult by lowering average labor income. The Bank of Israel put together a loan repayment deferral program, which was adopted by the banks, in which households directly affected by the war were allowed to defer repayment for three months at zero interest and without fees. (For elaboration, see Box 1.) As of December 29, 2023, payments on 75,000 loans (housing and nonhousing) have been deferred in accordance with the program, and payments on 150,000 loans were deferred outside the program, with deferrals totaling some NIS 2 billion. In any event, households that suffered a loss of income that surpassed the extent of servicing of their loans (not due to army reserve mobilization, for which the state pays) may reduce their consumption[22], take further credit, or use other liquid sources. Additional borrowing at this time may exacerbate households' vulnerability, especially if the economic recovery from the war is prolonged and interest rates remain relatively high. As for other sources, the balance of liquid assets[23] held by the public[24] has not grown in the past two years, and has actually shrunk by 6.5 percent in real terms (Figure 4.21).

Figure 4.21
Liquid Assets Held by the Public, Nominal and Real Terms, Jan. 2018–Sep. 2023 (NIS billion, real prices in January 2018 terms)



SOURCE: Based on the bank's balance sheets, Tel Aviv Stock Exchange, and Ministry of Finance.

4.3.2 Business credit

The business sector in general

The business sector debt to GDP ratio was largely unchanged during the reviewed period. Banks lent a little more to large businesses but the same or slightly less to small and medium enterprises.[25]

There are more indications of difficulty in debt servicing in business credit as well. Even before the war, the share of bank credit in arrears of more than ninety days had been trending upward due to rising financing costs. This continued in October. Furthermore, 1.8 percent of credit to the business sector was defined as under special

[22] In the first few weeks of the war, much like the COVID-19 period, a steep decline in private consumption was indeed observed, apparently not due to savings considerations. If a further blow to income occurs, an additional and longer-lasting decline in consumption can be expected.

[23] These liquid assets include all assets that the public holds directly (cash and deposits, securities, and investments abroad) and short- and medium-term savings plans managed by institutional entities (provident funds, advanced training funds, mutual funds). The estimate in real terms assumes that all these assets are unindexed shekel assets and, therefore, constitute an upper barrier of the extent of the effect of inflation.

[24] "The public" is comprised of households and business enterprises.

[25] At the latest point in time (November), credit repayments by large businesses also exceeded new credit taken.

watch. Within the framework of the various programs, NIS 3.7 billion in payments by some 85,000 borrowers was deferred. The picture in nonbank credit was similar. Beyond the increases in yields and corporate margins (see section on Asset Prices), suppliers of nonbank credit reported an increase in credit loss allowances and suffered from higher capital raising costs.

The war and its adverse effects on demand and the labor force may seriously impair business activity and, in turn, business cash flow and debt servicing ability. The Central Bureau of Statistics emergency survey (published in late December) gives evidence of the extent of the harm caused by the labor shortage.[26] Some 14 percent of business firms countrywide reported a reduction of at least 80 percent in their workforce, which means, practically speaking, that their activity had ceased. Due to the decline in demand, expected revenue also fell considerably. Thus, about one-third of businesses expected a revenue loss in excess of 50 percent in October–December relative to the prewar situation. There were greater expected hardships for smaller businesses and those operating in confrontation-line areas. It is true that these surveys tend to prove overly pessimistic after the fact. Therefore, they may overestimate the extent of expected damage. An analysis of the connection between declines in credit card spending and business activity turnover, however, shows that a decrease in the former indicator correlates with a downturn in the latter. Accordingly, based on the decline in spending due to the war, about 16 percent of businesses are likely to experience a decline of 80 percent in their activity turnover.[27]

Construction and real estate

The industry in which developments are the most important at the system level is construction and real estate, comprised of development companies, construction companies, and commercial real estate companies. Credit to companies in these industries accounts for 38 percent of outstanding bank credit to businesses, and 44 percent of total tradable corporate debt. According to the Central Bureau of Statistics industrial classifications, some 50,000 companies are classified under the "Construction" industry, around 28,000 of which belong to the "Construction of buildings" subindustry, and another 30,000 to the "Real estate activities" subindustry. In terms of size, more than half the bank credit is issued to large enterprises—around two-thirds to such businesses in the construction industry and 40 percent to those in the real estate activity industry. In addition, many large enterprises are private companies. An item-by-item examination of the twenty-five largest public companies in the construction industry shows that they hold NIS 36 billion in bank credit out of NIS 118 billion in bank credit for large enterprises. By implication, much of the bank credit that the industry receives accrues to large private enterprises.

As in the other industries, the risk indicators—such as the share of credit more than ninety days in arrears—of the construction and real estate industry climbed, implying a decline in the quality of outstanding credit, foremost in the construction industry itself. Still, the level remained low at only 0.43 percent (as of November).[28] Furthermore, the war had an especially strong effect on activity is in this industry. In the CBS emergency survey (published in late December), about one-fourth of companies in the construction industry reported a decrease of more than 80 percent in activity, and nearly half reported an expected decline of more than 50 percent in revenue.

In construction projects already begun, the decrease in activity aggravated builders' need for available credit to cope with the downward trend in sales cash flow and to finance construction expenses (foremost permanent ones). This aside, due to the suspension of construction at some sites, the flow of payments from buyers who have already signed purchase contracts may also suffer (perhaps also due to the prolongation of purchase contracts).

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[26] For further reference, see the Macroeconomic Environment section.

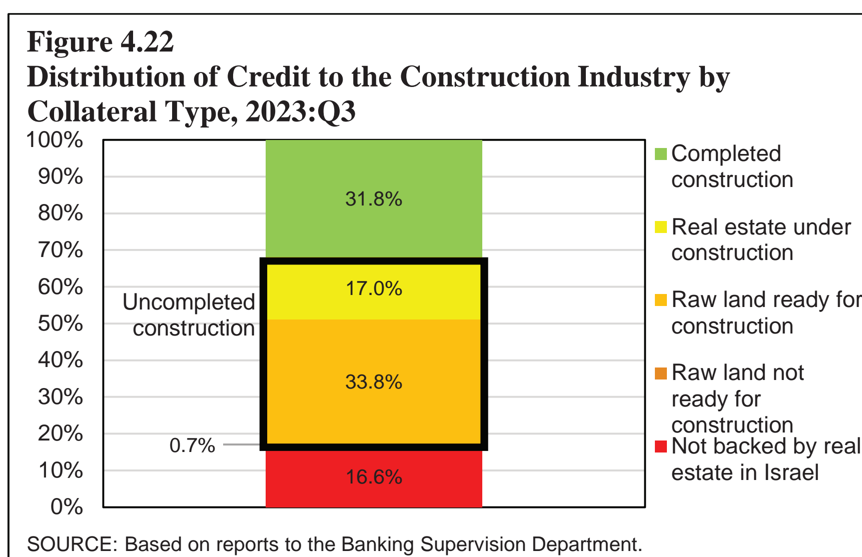
[27] In an ordinary year, 8 percent of businesses fail. Thus, if all businesses that suffer an 80 percent decline in activity turnover are shut down, the failure rate would be twice that of an ordinary year. For elaboration, see Box 2 in Chapter 4 of the Bank of Israel **Annual Report** for 2020.

[28] See also footnote 17.

In projects where construction has not yet begun, the companies also have to cover financing expenses for land already purchased. The difficulty in doing so is greater for land that was purchased at higher prices and with greater leverage.

Against this background, the distribution of credit to the construction and real estate industry should be examined via the indicator of progress in construction of a property that serves as collateral for credit. According to reports from the banks at the end of the third quarter of 2023, out of NIS 288.5 billion in balance-sheet credit to the construction and real estate industry[29], NIS 98 billion (34.5 percent) went to projects secured by "raw land," the kind in which the developer has not yet begun the development (preconstruction) process. Another NIS 48 billion (17 percent) was lent for projects under construction, those in which development processes have begun and construction may have started but has not been completed (Figure 4.22). As stated, if the standstill in the construction industry persists, the companies managing projects in their beginning stages will be less able to attain income flow and service their debts.

Figure 4.22
Distribution of Credit to the Construction Industry by Collateral Type, 2023:Q3



SOURCE: Based on reports to the Banking Supervision Department.

Since the construction companies consume a major share of total credit in the economy, the industry is typified by numerous small firms, and there is high intraindustry connectivity (large firms hiring the services of smaller ones)—the implications of the adverse expectations for the financial institutions' balance sheets, should they come to pass, may be severe.[30] However, several factors may attenuate the dire implications. First, quite a few companies hold stocks of unsold dwelling that they hope to sell under terms more convenient for them. Therefore, if they need to, the companies will be able to service their debts by selling off some of their stock and avoiding default. In addition, even if firms are unable to repay their debts, most credit is secured by high-quality collateral and the banks are quite able to absorb the blow.[31] Therefore, even if defaults occur, the financial institutions that

[29] Some 60 percent of the total is lent to the construction subindustry and the rest to the real estate activity subindustry.

[30] In addition, the regulated credit companies guide the various construction and real estate companies and finance their activity by taking bank credit and tradable credit. Therefore, if the gloomy forecasts come to pass, the failures in the construction and real estate activity will immediately cascade to the financial services industry and from there to the banking system. For more on this channel of contagion, see the **Financial Stability Report** for the first half of 2023.

[31] The highest rate of decrease in home sale prices that can occur without the bank taking a loss on the project.

finance the relevant projects will be able to take possession of high-value properties that they can liquidate.[32] Furthermore, in respect of the banking system, regulatory provisions in recent years that pertain specifically to the construction and real estate industry have created safety buffers that will enable banks to absorb shocks with minimal risk that they will turn into system-level events.[33]

Resilience of the business sector

To test firms' stability and their risk of financial difficulties in repaying debt, two main parameters should be studied. The first is firms' ability to use earnings as a source for debt repayment, and the second is the liquidity surpluses that they hold, which may be put to use in repaying debt even if their earnings slump. Since we have no data on private companies in the economy, which account for most of the companies in numerical terms, the analysis will deal with public companies only. Most of these companies are large ones that have sizable liquidity surpluses and additional advantages that they can use to cope with current challenges. In our estimation, therefore, the public firms constitute the safer and more stable part of the economy, while the nonpublic companies and small and medium enterprises provide a greater challenge than what is stated below.[34]

Figure 4.23 shows the solvency of public firms in the various stock exchange industries, measured in terms of financing expenditure as a share of earnings on a cash basis (EBITDA net of revaluation earnings).[35] As the Figure shows, this rate is relatively low and has not risen in most stock exchange industries apart from construction and real estate, in which it surpassed 60 percent at the latest observation (third quarter of 2023) after two years of increases. A slightly more granulated view shows that the high rate is concentrated in a few companies. Whereas the median rate increased mildly to 36 percent at latest measurement, the 75th percentile of the ratio verges on 70 percent, slightly higher than the previous quarter (Figure 4.24). Assuming that about half of the companies expect a revenue decline of more than 50 percent in the near term, as found in the CBS's emergency survey, and assuming that profit will fall at a similar rate, this means that about half of the public firms in the construction and real estate industry will spend more on financing than they will gain in profit.[36]

To complete the picture, we now examine the state of the public companies' liquidity surpluses. Figures 4.25 and 4.26 show that the two indicators[37] of these firms' state of liquidity point to a decrease in the second quarter and some leveling off in the third quarter. As noted in the Financial Stability Report for the first half of the year, as long as their profitability is not seriously eroded, the companies will probably cope successfully with the increase in financing costs. However, with profitability expected to decline on account of the war, the state of liquidity will figure importantly in the firms' ability to cope with hardships in the near term.

[32] If immediate liquidation becomes necessary, the properties would probably be sold at below-market prices. Since the decreases in housing prices have been mild thus far, however, the liquidation price would still suffice.

[33] For elaboration, see the "Banking System" section.

[34] In the construction and real estate industry, on which we focus below, public companies receive about half of total credit to this industry.

[35] That is, the total financing expenses in the past four quarters of companies that belong to a certain industry divided by total cash-based earnings in the last four quarters in the same industry.

[36] Given that the public companies are larger and financially stronger than the total population of companies participating in the survey, this conclusion probably underestimates the real level of the risk.

[37] They are (1) a company's immediate liquidity ratio, the ratio of its cash and cash equivalents to its current liabilities, and (2) its current ratio, the ratio of its total current assets to its total current liabilities.

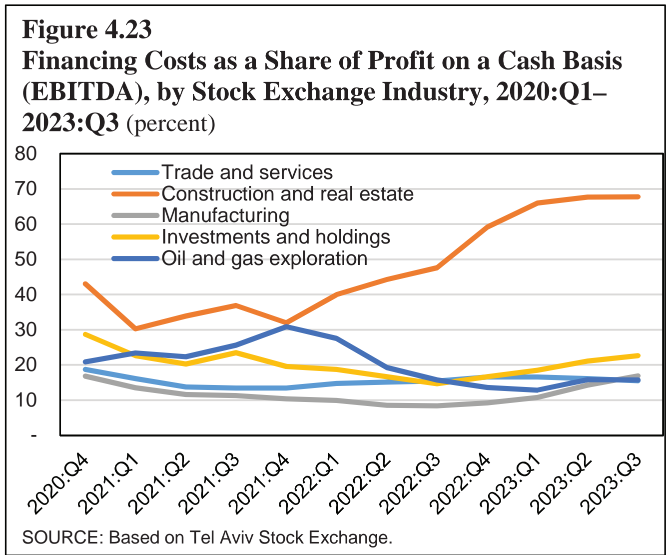


Figure 4.23
Financing Costs as a Share of Profit on a Cash Basis (EBITDA), by Stock Exchange Industry, 2020:Q1–2023:Q3 (percent)

SOURCE: Based on Tel Aviv Stock Exchange.

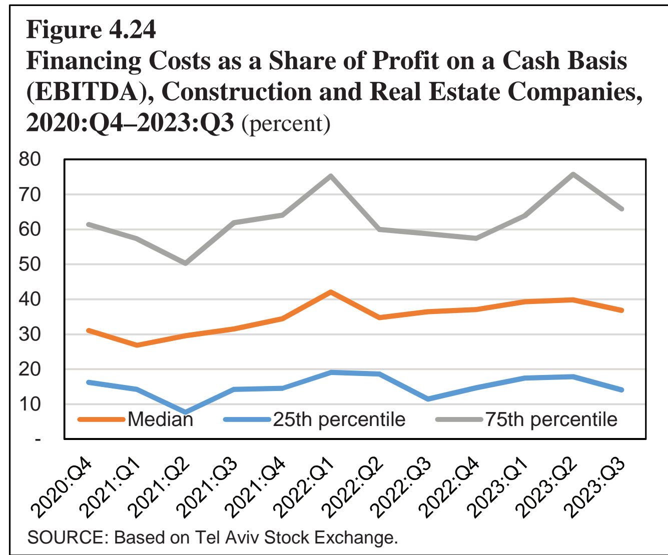


Figure 4.24
Financing Costs as a Share of Profit on a Cash Basis (EBITDA), Construction and Real Estate Companies, 2020:Q4–2023:Q3 (percent)

SOURCE: Based on Tel Aviv Stock Exchange.

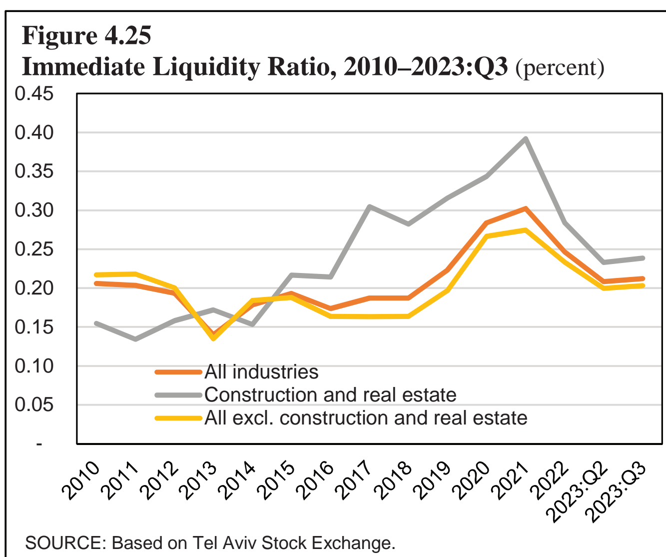


Figure 4.25
Immediate Liquidity Ratio, 2010–2023:Q3 (percent)

SOURCE: Based on Tel Aviv Stock Exchange.

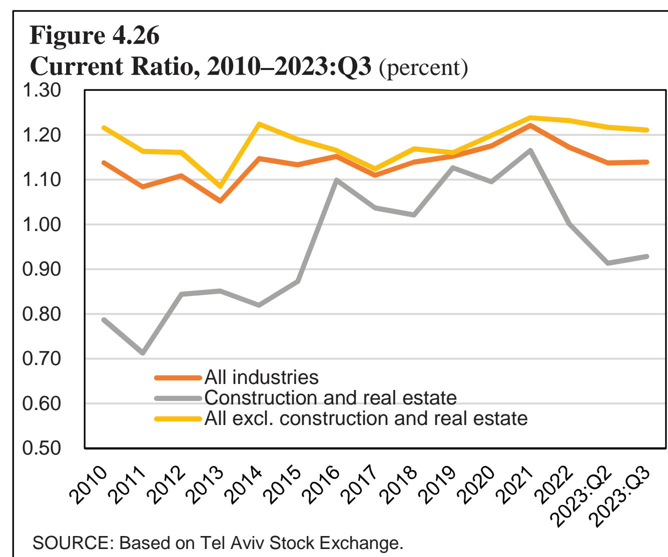


Figure 4.26
Current Ratio, 2010–2023:Q3 (percent)

SOURCE: Based on Tel Aviv Stock Exchange.

We obtain another assessment of the companies' vulnerability from a simulation of construction companies' financial robustness and liquidity under various scenarios of activity and revenue impairment (revenue declines of 20, 40, 60, and 80 percent).[38] With the companies' financing expenses, volume of liquid assets in their possession, and the revenue-loss scenarios as givens, we may sort the companies into four groups: (1) insolvent companies—companies with **both** low liquidity ability **and** low robustness in the scenario; (2) companies that have a liquidity problem—those with **only** low liquidity ability; (3) companies that have low absorbent ability—those that have **only** low robustness in the scenario; (4) the others. The simulation (Figures 4.27 and 4.28) shows that the main problem in most scenarios is liquidity. However, in the gravest scenario—an 80 percent decline in revenues—companies that have NIS 17.3 billion in debts would be defined as insolvent. The quantitative conclusions that we draw from this exercise establish a lower barrier of total industry risk because the public companies are probably less vulnerable due to the availability of credit, their access to it, their large number of projects, and other variables.

[38] A similar simulation with similar underlying assumptions but different opening data in accordance with availability appears in the Financial Stability Report for the first half of 2023.

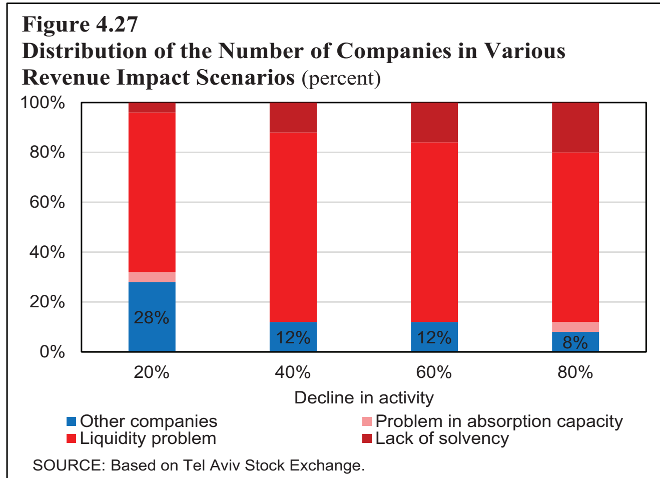


Figure 4.27
Distribution of the Number of Companies in Various Revenue Impact Scenarios (percent)

SOURCE: Based on Tel Aviv Stock Exchange.

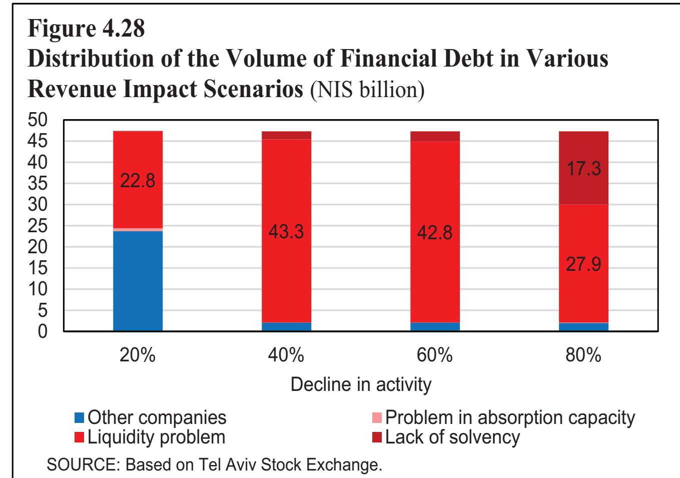
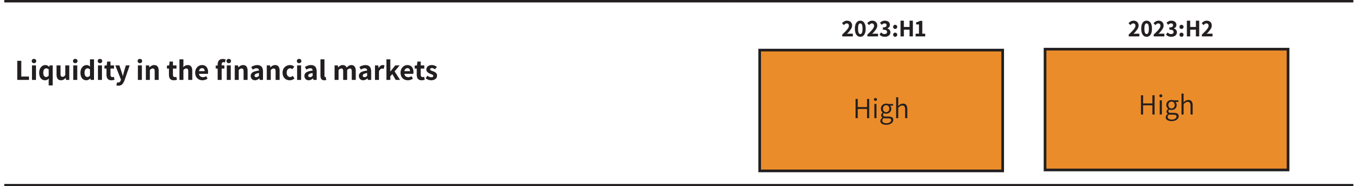


Figure 4.28
Distribution of the Volume of Financial Debt in Various Revenue Impact Scenarios (NIS billion)

SOURCE: Based on Tel Aviv Stock Exchange.

4.4 Liquidity



	2023:H1	2023:H2
Liquidity in the financial markets	High	High

Liquidity in most financial markets, as reflected in bid–ask spreads, worsened when the war broke out. Some improvement occurred within a few days, but the liquidity level remained lower than it was before the war. Throughout the reviewed period, the institutional investors and the insurance companies were the main buyers in most financial asset markets apart from the Makam (central bank bill) market. In the Makam market, institutional investors and insurance companies were sellers along with the banks, and the main purchases were made by the business sector and mutual funds (apparently money market funds).

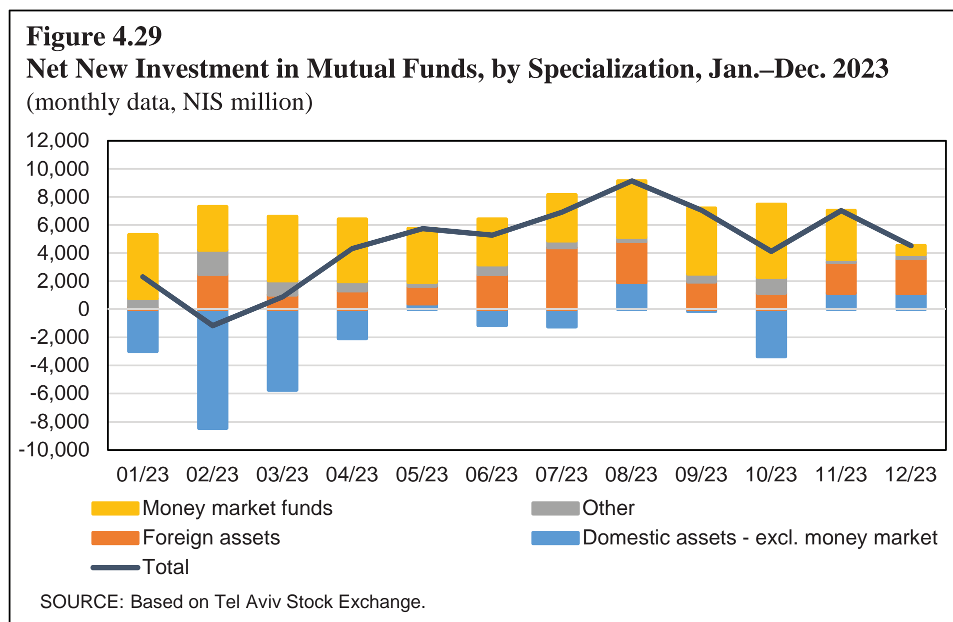


Figure 4.29
Net New Investment in Mutual Funds, by Specialization, Jan.–Dec. 2023
(monthly data, NIS million)

SOURCE: Based on Tel Aviv Stock Exchange.

Nearly NIS 700 million was redeemed from mutual funds in the first two days of the war, but accrual reverted to positive in subsequent days. The intensity and duration of the response were low relative to previous major shocks such as the COVID-19 crisis and the Global Financial Crisis in 2008. However, only money market funds showed positive accrual. By the beginning of November, funds specializing in other assets had experienced NIS 1.6 billion in cumulative redemption, about half a percent of their balance at the end of September. As the capital markets recovered, the funds again enjoyed large positive accrual (Figure 4.29). As the year wound down, a trend of negative accrual ensued at the money market funds, evidently due to expectations of an imminent rate cut.

The state of liquidity in the financial markets partly depends on the identity of the asset holders. By and large, when the crisis is a local event, the main concern is about a rapid outflow of foreign investors, and the larger their share in a given asset is, the more powerfully a massive selloff of the asset will affect the asset price. An examination of this aspect of the situation shows that as of August 2023, after several years of steady increase, foreign investors held sizable proportions of government bonds and Makam (15.2 percent and 18.2 percent, respectively), a similar share (19.7 percent) of equities traded on the domestic stock exchange, and a negligible stake in corporate bonds. Therefore, the government bond, Makam, and equity markets seem prone to the possibility of liquidity problems if foreign investors decide to reduce their financial exposure to the Israeli economy.[39]

5. Resilience of the financial system

The stability of a financial system also depends on the resilience of financial institutions and infrastructures and their ability to provide the security margins that the system needs for its continued sound functioning. In this part of the Report, we review main developments in the banking system and among the insurance companies that were affected by the war and its ramifications. The payment and settlement systems, in contrast, showed no major changes.[40]

5.1 The banking system

The Israeli banking system continued to maintain its strength in the first three quarters of 2023. Capital and liquidity ratios remained high (Figures 5.1 and 5.2) for reasons including strong system profitability relative to previous years (Figure 5.3), largely coupled with growth of the credit portfolio and a rising interest rate environment. In the course of 2023, the growth rate of the credit portfolio slowed in all activity segments apart from large businesses. Credit portfolio quality remained good despite some increase in credit-loss provisions.

The Tier 1 equity ratio of the banking system remained stable as of September 2023, and was estimated at 10.9 percent. All the banks' capital ratios remained high and above the compulsory minimum. The strong profitability that the banks posted in the course of the year had an ameliorating effect on capital ratios. The growth of risk weighted assets and dividend distribution acted in the opposite direction. Even a country rating downgrade, if it were to happen, is unlikely to impair the banks' capital ratios substantially. The banks' estimates in their second quarter 2023 financial statements show that a one-notch downgrade would probably shave a mild 0.2 percentage points off the Tier 1 equity ratio due to the banks' need to make additional provisioning for their exposure to the government of Israel, public sector entities, institutional investors, and other banks.

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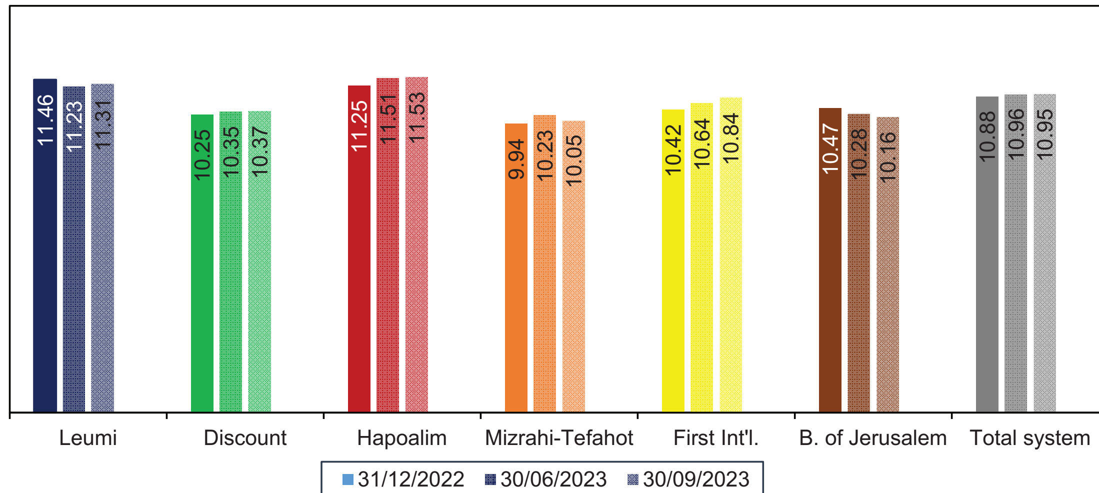
[39] For elaboration, see Box 2 in this Report.

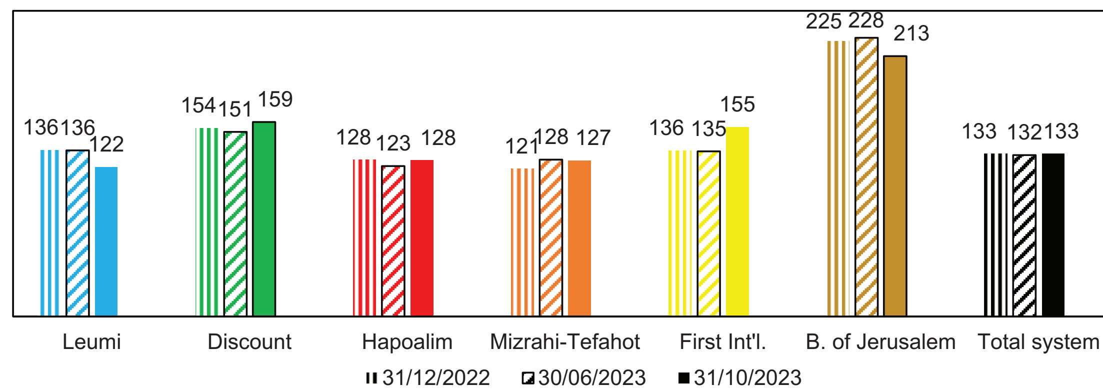
[40] For elaboration on the stability of the payment and settlement systems, see the **Financial Stability Report** for the first half of 2023.

Figure 5.1
Tier 1 Equity Ratio, Dec. 2022–Sep. 2023 (percent)



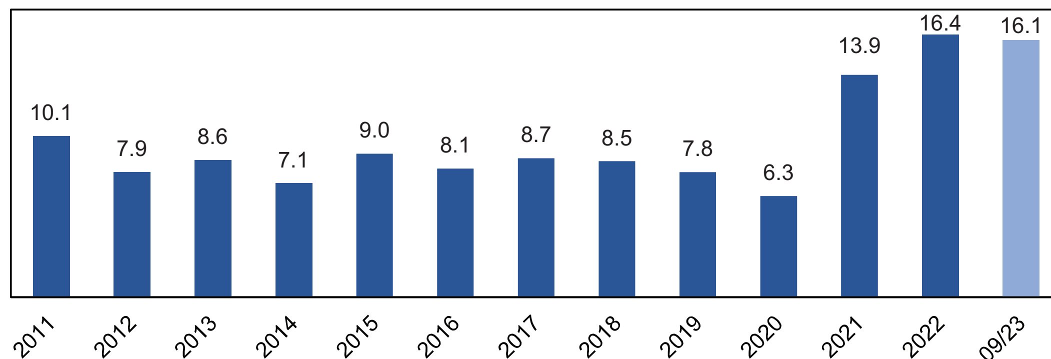
SOURCE: Financial statements and banks' reports to the Banking Supervision Department.

Figure 5.2
Liquidity Coverage Ratio (LCR), Dec. 2022–Oct. 2023 (percent)



SOURCE: Financial statements and banks' reports to the Banking Supervision Department.

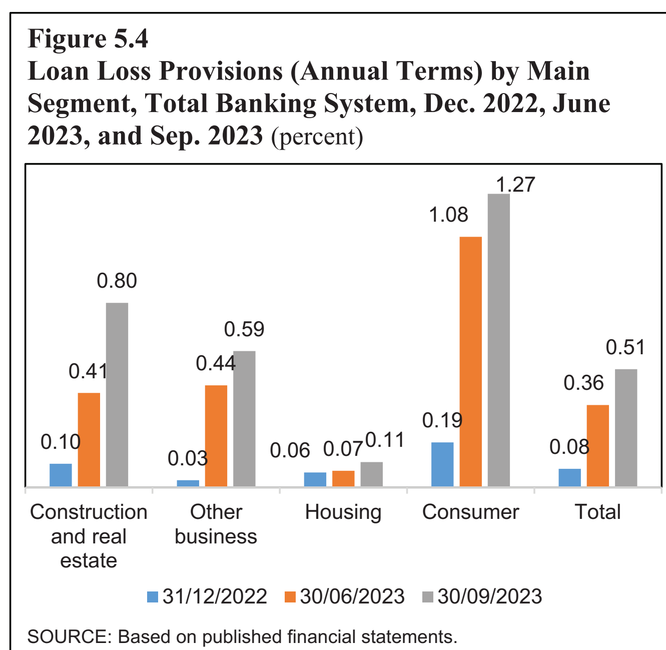
Figure 5.3
Return on Equity (ROE) After Tax, Total Banking System, 2011–Sep. 2023 (percent)



SOURCE: Financial statements and banks' reports to the Banking Supervision Department.

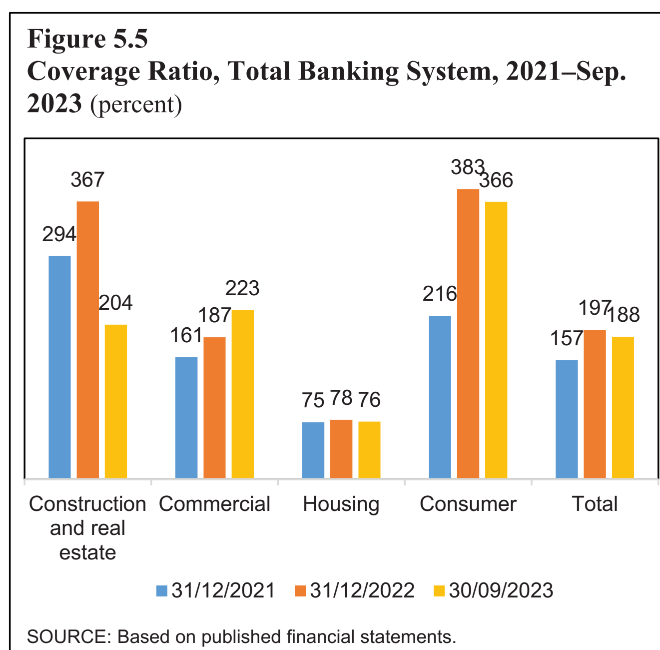
Bank credit to the public grew at an annual pace of 8.2 percent in the first three quarters of 2023, down from 12.3 percent in 2022. Credit portfolio growth was led by business credit (mainly to borrowers in the construction and real estate industries). The strongest decline occurred in consumer credit to households, which are particularly sensitive to macroeconomic shocks (Figure 5.4). Credit loss provisioning rates rose in all activity segments during the first three quarters of 2023. This is explained mainly by an increase in collective provisioning due to adjustments for macroeconomic effects in view of forecasts of a slowdown in economic activity prior to the war, along with the war's expected implications for the economy. However, the coverage ratio[41], an indicator of a bank's ability to absorb losses, remained high at 188 percent as of September 2023, compared with 197 percent at the end of 2022 (Figure 5.5).

Figure 5.4
Loan Loss Provisions (Annual Terms) by Main Segment, Total Banking System, Dec. 2022, June 2023, and Sep. 2023 (percent)



SOURCE: Based on published financial statements.

Figure 5.5
Coverage Ratio, Total Banking System, 2021–Sep. 2023 (percent)



SOURCE: Based on published financial statements.

During the first three quarters of 2023, the public's bank deposits increased by 1 percent, with variance among types of deposits and depositors. Among types of deposits, demand deposits (interest-bearing and not) contracted considerably during the year. Much of the decrease was offset by diversion to interest-bearing time deposits, while the rest of the funds were apparently reinvested in Makam. Among types of depositors, corporate deposits decreased, private deposits continued the upward trend that was observed in the course of 2022, and institutional investors' deposits grew more slowly than in previous years. As for the rate of transmission, there is full transmission from the increase in the Bank of Israel rate to lending rates to the various activity segments (with the exception of housing loans).[42] In contrast, the rate of transmission to deposits, although it rose during the course of the year, remained lower and differed among activity segments. In particular, the rate of transmission was lower to households than to the business sector.[43,44]

[41] The coverage ratio is the ratio of outstanding credit loss provision and total nonaccrued credit and accrued credit more than ninety days in arrears.

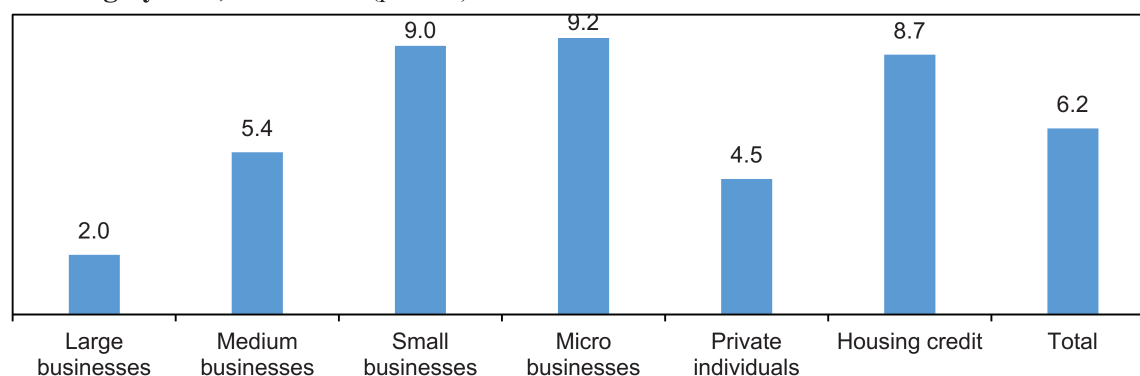
[42] The rate of transmission is lower in housing loans due to the higher share of loans at fixed and nonprime variable interest in this segment.

[43] Several measures were taken during the year, both publicly and in direct discourse, to help customers whose debt burden had risen considerably and to speed up the mechanism of interest adjustment. For elaboration, see, for example, letters from the Supervisor of Banks to the banks' CEOs concerning "Consumer Fairness in a Changing Financial Environment" (September 2022) and "Consumer-Related Measures in a Changing Financial Environment" (February 2023), and a special discussion by the Governor of the Bank of Israel and the Supervisor of Banks with the banks' CEOs concerning deposit, current account, and bank loan interest rates (June 2023).

[44] In the course of the year, the Bank of Israel took several actions to improve the transmission to households' deposits.

The Bank of Israel and the Banking Supervision Department have been acting since the beginning of the war to maintain the stability of the financial system and provide relief for people affected during the war: regulatory leniencies to help the banks maintain the business flexibility that is required at this time and to facilitate service continuity[45]; relief programs for customers directly affected by war damage[46,47]; and a special monetary program that relaxes terms of lending to small and micro businesses.[48] As of the end of December, payments on roughly 310,000 loans were deferred—accounting for 7 percent of total outstanding credit—and NIS 2.1 billion in credit was extended under the special monetary program.[49]

Figure 5.6
Deferred Credit as a Share of Total Outstanding Credit, by Activity Segment, Total Banking System, Nov. 2023 (percent)



SOURCE: Based on published financial statements.

In summation, **the effects of the war have not impaired the stability of the banking system thus far.** Multiple measures taken over the years by the Bank of Israel, the Banking Supervision Department, and the banks themselves improved the system's resilience to shocks, as is also reflected in the results of stress tests in recent years.[50] Due to its stability, the banking system will be able to continue meeting the credit needs of households and businesses and, later on, to facilitate the recovery of the economy as well.

[45] "Regulatory easings in view of the Swords of Iron War—The Banking Supervision Department adopts regulatory easings with the goal of assisting during the Swords of Iron War," https://boi.org.il/en/communication-and-publications/press-releases/c22-10-23/.

[46] "The Bank of Israel's comprehensive outline, adopted by the banks, to help customers deal with the ramifications of the 'Swords of Iron' war," https://boi.org.il/en/communication-and-publications/press-releases/c15-10-23/ ; "The Bank of Israel announces the expansion of the assistance program to residents of the north dealing with the impact of the 'Swords of Iron' war," https://boi.org.il/en/communication-and-publications/press-releases/a08-11-23/

[47] In December, the Bank of Israel announced the extension of its programs by another three months and the expansion of the "first degree" population of customers: "The Bank of Israel expands the comprehensive assistance program adopted by the banks for dealing with the ramifications of the Swords of Iron war," https://boi.org.il/en/communication-and-publications/press-releases/a17-12-23/

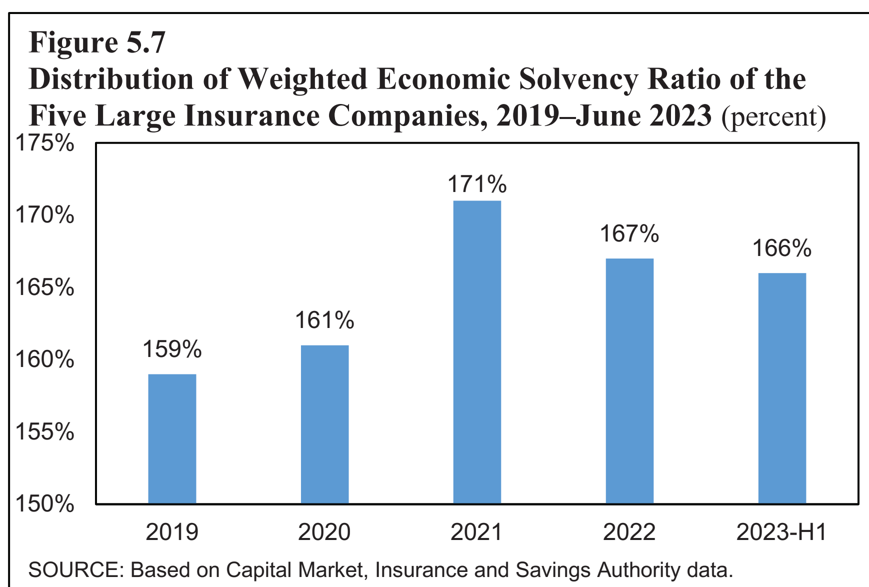
[48] "The Bank of Israel announces a targeted monetary program for easing credit terms for small and micro businesses adversely impacted by the war," https://boi.org.il/en/communication-and-publications/press-releases/a06-11-23/

[49] "Monthly Report on Programs the Bank of Israel Is Operating in the Financial Markets in View of the War," https://boi.org.il/en/communication-and-publications/press-releases/c07-12-23/. For elaboration, see also the Business Credit section of this Report.

[50] For elaboration, see the Annual Surveys of Israel's Banking System.

5.2 Insurance companies

The economic solvency ratio outcomes[51] for June 2023 (published at the end of November 2023) indicate that the Israeli insurance industry was robust and stable on the eve of the war. This solidity is reflected in particularly high economic repayment ratios[52] in recent years (Figure 5.7). The aggregate economic capital of the five large insurance companies[53] was NIS 70 billion on June 30, 2023 and required capital for solvency purposes was NIS 42 billion, **bringing the five large insurance companies' aggregate economic solvency ratio** to 166 percent.



The economic solvency ratio was steady in the first half of 2023 due to the offsetting effects of various risk factors. The mild increase in the risk-free interest curve for economic solvency purposes[54], de-intensification of the equities scenario in the capital requirement[55], positive yields in the capital market, and capital-raising all made a positive cumulative contribution to the five large insurance companies. Conversely, the increase in the CPI and the distribution of dividends by several companies had an adverse effect on the solvency ratio.

Estimation of the effect of the changes in the second half of 2023, including the war, on the insurance companies' stability

[51] For elaboration and background about the insurance companies' economic solvency regime, see Chapter 3.2, Insurance Companies, in the Financial Stability Report for the first half of 2023.

[52] All economic capital and economic repayment ratio data relate to the results along with transitional directives unless otherwise indicated.

[53] Migdal, Clal, Phoenix, Harel, and Menora.

[54] The interest curves for economic solvency ratio purposes are based on the curves published by the winning company in the price quote solicitation, which, in turn, are based on yields to maturity of tradable Israel government bonds. These curves are identical to those published by the winning firm in the solicitation up to the Last Liquid Point (LLP) in Year 10. Beyond this point, the interest curves are set on the basis of a Smith-Wilson extrapolation up to the sixty-year ultimate forward rate (UFR). From the UFR onward, the forward interest rate is constant.
For elaboration on the transmission from changes in the interest curve to main components of the calculation, see the Financial Stability Report for the first half of 2023. On the basis of interest sensitivity tests that the companies published as of December 31, 2022, a 0.5 percent increase in the interest curve (up to the LLP) is expected to raise the large companies' economic solvency ratio by 12–19 percentage points.

[55] The intensity of the equities scenario varies depending on the extent of the symmetric adjustment (SA). The SA is a countercyclical mechanism that is meant to reduce the power of the equities scenario when price levels in the capital market fall below the three-year average of the TA-125, and to raise the power of the scenario when these price levels surpass the average.

As reviewed in the Asset Prices section, the outbreak of the war led to declines in the capital market, increased government bond yields, and contraction of economic activity due to the temporary closure of businesses, suspension of in-person teaching in some educational institutions, and mass mobilization of army reserves.
At the present writing, the known changes in vulnerabilities since the most recent calculation (June 30, 2023) have had contrasting and offsetting effects on the insurance companies. The continued increase in the risk-free interest curve to middle and long terms, the rising prices of domestic and foreign equities, and a slight decrease in motor vehicle claims due to tighter security and less travel, have acted to improve the solvency ratio. In contrast, the contraction of economic activity and the expected lowering of insurance premiums, mainly in the business sector, are having a mild downward effect on the ratio.
For the time being, it seems that the effect of insurance claims (mainly increases in death risk, personal accident, and loss of earning ability claims) has been limited and unsubstantial due to the scatter of the exposure among the insurance companies, the existence of reinsurance in this field, and state participation in indemnifying residents who experienced property loss by means of the property tax mechanism. Therefore, the main short-term effect on the insurance companies is likely to take place via the capital market and the decline in activity.
Notably, it is difficult to estimate the duration of the war, the intensity of changes in the vulnerabilities reviewed, and additional indirect effects, if any, on the insurance companies' solvency ratios. However, given the presence of offsetting effects and the companies' robustness and stability prior to the war, **we estimate that the war will not have a substantial effect on the insurance companies' solvency and stability** in the foreseeable term.

6. Risk scenarios

In this part of the Report, we examine scenarios of risk to the Israeli financial system, including shocks transmitted and amplified by main risk factors that exacerbate the vulnerability of the financial system and the economy at large. The scenarios, of course, are not independent of each other. They may be realized concurrently and may even feed each other.

Expansion of the war into a major multiple-front confrontation
In view of developments in the reviewed period and the realization of a geopolitical risk scenario that was mentioned in the Financial Stability Report for the first half of the year, the current risk scenario reflects a considerable worsening of the current security situation, and an expansion of the war into a major confrontation on multiple fronts. Such a scenario may result in a much larger scale of military mobilization, affect household income and business and government revenues, and induce a further increase in the risk premium that would be reflected in financing expenses. Alongside these domestic developments, the escalation of the war into a large-scale multifront event may affect the global economy via energy prices.[56] The scenario described may impact risk on all channels of vulnerability and may even cascade into nonlinear effects on the economy.

Sticky inflation and continued monetary tightening around the world[57]
According to the Global Financial Stability Report (published in early October 2023), concern lingers about sticky inflation or about a new inflationary surge that would necessitate further monetary tightening. These developments, however, are less likely than they were when the previous Financial Stability Report was published.[58]
According to the authors of the GFSR, the exhaustion of households' and businesses' liquidity surpluses in many

[56] In this context, it should be noted that the Russia-Ukraine war is continuing, and that it also poses the risk of an increase in energy prices.

[57] For details and elaboration on this scenario, see the Financial Stability Report for the first half of 2023.

[58] Recent statements by the Chairman of the Federal Reserve also expressed a lower probability of the realization of this event.

countries, high interest rates that impede debt recycling, and further worsening of financial conditions due to a decrease in risk appetite are liable to bring on hardships in debt repayment, foremost in American and European commercial real estate, and to deal a blow to the financial system. In such a case, banks—including those defined as of systemic importance in many major economies—may face difficulties. This would most likely project onto the domestic banking system, as happened in the events surrounding the failure of Silicon Valley Bank and other banks (March and April 2023).

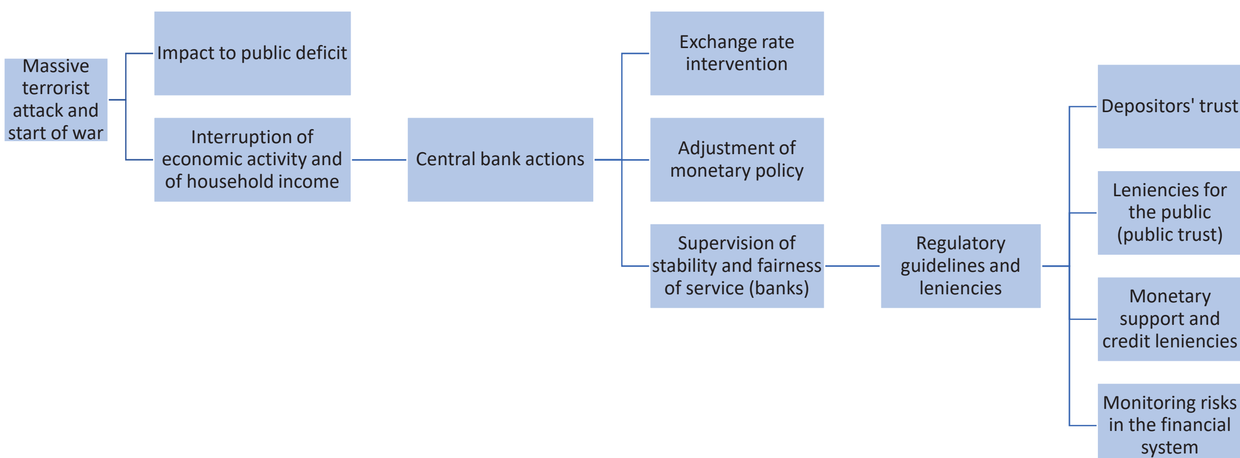
Box 1: Bank of Israel Measures to Stabilize the Financial System during the Swords of Iron War

- When the war broke out, the Bank of Israel introduced a range of policy tools to keep the Israeli economy resilient. In this Box, we elaborate on the Bank of Israel's measures from the beginning of the war to the present writing, presenting the opening data and basing ourselves on working assumptions that are updated from time to time.
- The tools in question, meant to assure continuity in the functioning and stability of the markets generally and the entities supervised by the Bank of Israel particularly (the banking system), were invoked in order to stabilize the exchange rate, align monetary policy with the macroeconomic environment, keep the banking system stable, and help vulnerable businesses and households by means of a program for loan payment deferral and dedicated monetary programs.
- The Bank used these tools within the framework of a comprehensive policy program that struck a balance between mitigating macroprudential risks and the need to spare vulnerable businesses and households from severe damage that would impede the continued recovery of the economy after the war.
- These tools were employed via dedicated monetary programs that operate along the channels of macroprudential monetary transmission from the financial markets to real focal points of growth.

Background

The war began on October 7, 2023, when the terrorist organizations in Gaza launched their massive attack. The Bank of Israel turned its attention to economic assessments that included a worsening of the baseline scenario, and tailored its measures to the evolving risks to the financial system and economic activity. In response to the situation, the Bank of Israel immediately implemented a macroprudential action plan tailored to the crisis (Figure 1).

Chart 1: Central Bank During War – Main Activity Channels



The folllowing is a summary of the Bank of Israel's measures, parsed by channels of activity (Table 1a).

Table 1: Bank of Israel measures

Area	Action	Date of (first) announcement	Comments
Financial markets	Continuation of economic activity after war begins	October 8, 2023	As will be remembered, a massive terrorist attack on October 7, 2023—the Sabbath and a Jewish festival—took Israel by surprise.
Financial markets	Measures to stabilize the exchange rate, capital movements, and financial system liquidity Announcement of a $30 billion program of foreign currency sales.	October 9, 2023	USD 8.2 billion was sold in October, USD 0.3 billion in November, and 0 in December.
Banking system	Assurance of continued banking services; closure of branches and opening of core branches	October 8, 2023	40 km. from the Gaza Strip
Banking system	Instructions to banks in regard to risk assessment	Immediate	Ongoing
Banking system	Regulatory leniencies and dispensations for customers	Immediate	Ongoing
Banking system	Banking system program to alleviate the credit burden, led by the Bank of Israel—deferral of loan repayments	October 15, 2023	The program was expanded as the war continued.
Monetary decisions	Interest rate left at 4.75 percent	October 23, 2023 November 27, 2023	
Monetary decisions	Rate cut to 4.5 percent	January 2024	
Support for businesses	Program of lenience in the provision of credit	November 6, 2023	Up to NIS 10 billion
Support for businesses	Repo transactions for nonbank credit institutions	November 21, 2023	Up to NIS 1 billion
Support for households and businesses	Regulatory leniencies for the banking system	Individually adjusted	Ongoing
Protecting individuals' credit ratings	Guidance for rapporteurs to the Central Credit Data Register	October 22, 2023	
Leniencies in lending	Dedicated ad hoc directive for wartime	December 25, 2023	Up to NIS 200,000 in credit using a dwelling as collateral

Bank of Israel actions in support of the Israeli economy and financial markets

Financial markets: Economic activity on business days continued uninterruptedly from the first business day after the war began.[59] Actions to stabilize the exchange rate, capital movements, and financial system liquidity in foreign currency were taken at once. On the second business day of the war[60], the Bank of Israel announced a USD 30 billion foreign currency sale program. The Bank advised the public that it would act to mitigate exchange rate volatility and provide the liquidity needed for continued regular activity in the markets. In addition, where necessary, the Bank announced the activation of USD 15 billion in swap transaction mechanisms and repo transactions vis-à-vis institutional entities and mutual funds with government and/or corporate bonds as collateral. By year's end, the Bank found it necessary to implement only the foreign currency sale program, through which it sold USD 8.2 billion in October and USD 0.3 billion in November.

Banking system: On the first business day of the war, immediate actions were taken to ensure the continuation of banking services, the continuity and stability of payment systems, and cash supply in ATMs. The Banking Supervision Department announced the closure of bank branches within forty kilometers of the Gaza Strip and the opening of core branches in a reduced format within forty to eighty kilometers of the Strip. The branches' business hours were adjusted to the state of the fighting. The Bank of Israel also took a series of measures to stimulate the domestic payments market.[61] To ensure the stability of the banking system, on October 12, 2023, the Supervisor of Banks instructed the heads of the banks to assess and integrate the various risks, including cyber risk, and to comply with the Reporting to the Banking Supervision Department directives as were adjusted to the state of emergency. As the fighting continued, the Supervisor of Banks instructed the banks to increase their loss allowances and adapt them to the latest situational picture. In a letter to the heads of the banks in November, the Supervisor instructed them to rethink their dividend distribution policies. Concurrently, the Banking Supervision Department adjusted specific aspects of Proper Conduct of Banking Business Directive 251 for a limited period of time[62]: leniencies in the regulatory directives in relation to operations, approval of leniencies for customers as specified below, and extension of some leniencies given during the COVID-19 era in regard to leverage ratios.[63]

Rate decisions: The first interest rate decision during the war[64] left the rate unchanged at 4.75 percent. In response to a macroeconomic forecast that included the assumption that the war during the last quarter of the year would be concentrated on the southern front, and in view of the outlines for the banking system

[59] As will be remembered, the massive terrorist attack took Israel by surprise on the Sabbath.

[60] Monday, October 9, 2023.

[61] In aspects of remote use of means of payment, information security, business continuity, and enhancement of market competition, as well as by admitting additional domestic financial players whose financial activity begins in the field of payments. See Bank of Israel press release, November 19, 2023.

[62] As of the present writing, the Directive was amended three times: on October 22, October 31, and November 21.

[63] Within the framework of Proper Conduct of Banking Business Directive 250, "Adjustments to Proper Conduct of Banking Business Directives for Dealing with the Coronavirus (Temporary Provision)." The leniency was extended to December 31, 2025. A banking corporation that invoked it at this time would have to return within two quarters to the leverage ratio specified in the ad hoc directive.

[64] Made on October 23, 2023.

that contained provisions alleviating the public's credit burden, the second wartime rate decision[65] also left the rate unchanged. In the January 2024 rate decision, the Monetary Committee decided to lower the rate by 0.25 percentage points (to 4.5 percent). In its reasoning, the Committee mentioned aligning the rate with the real economic circumstances of the war along with the recovery of the financial markets and the downturn in inflation.

Support for businesses: The Monetary Committee decided[66] on a program of easier credit terms for small and micro businesses (in respect of credit issued up to the end of January 2024). As part of the program, the Bank of Israel provided the banking system with two-year variable interest monetary loans.[67] As the war continued, the terms of the program were broadened[68] and an additional track of three-year monetary loans was set up, for use in lending to terms of more than two years to small and micro businesses that had been harmed by the war. The total scale of the program is up to NIS 10 billion. As an additional and supplemental tool[69], the Bank of Israel offered nonbank credit institutions[70] the possibility of repo transactions (in respect of credit to be issued up to January 2024)[71] for small and micro businesses that lost at least 25 percent of their turnover.[72] The extent of the program for these entities is up to NIS 1 billion.[73]

Support for households and businesses: Banks were awarded regulatory dispensations that would give them the business flexibility they require and ease the pressure on customers who were harmed by the state of war[74], with emphasis on the need to apply heightened sensitivity and maximum lenience toward customers in distress.[75] The Checks Without Cover (Restrictions to Applicability of the Law) Regulations, 5784–2023, were enacted in the same spirit.[76]

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65 November 27, 2023.

66 Announced on November 6, 2023.

67 The interest rate on these loans is the Bank of Israel rate minus 1.5 percentage points, against loans that the banks extend to small and micro businesses that lost at least 25 percent of their turnover due to the war, provided the average rate on the loans to these small and micro businesses does not exceed the prime rate.

68 Press release, November 21, 2023.

69 Press release, November 21, 2023: "Another step to ease the terms of credit for small and micro businesses that were harmed as a result of the war: The Bank of Israel enables supervised nonbank credit providers to make repo transactions with it."

70 Entities licensed by the Capital Market, Insurance, and Savings Authority to issue expanded credit as defined in the Supervision of Financial Services (Regulated Financial Services) Law, 5776–2016.

71 In a repo transaction, the owner of a security (usually a bond) sells it to a counterparty and undertakes to repurchase it on a predetermined date and at a predetermined price. Thus, in effect, the owner of the security receives financing for a fixed period and the security serves as collateral. In the transactions in question, the eligible entities give the Bank of Israel tradable collateral—government bonds, Makam, and corporate bonds—under certain criteria.

72 Provided the average interest rate on the credit issued does not exceed the prime rate and the impact on turnover (as shown in Value Added Tax reports) is at least 25 percent in one of the calendar months October, November, and December 2023.

73 The interest rate on the transaction is variable: the Bank of Israel rate minus 1.5 percentage points. The Bank of Israel transactions are to be carried out to a six-month term on two possible tracks: Track A—for credit issued to small and micro businesses to terms of 6–24 months; and Track B—for credit to these businesses to terms exceeding two years. On Track A, the Bank of Israel allows three additional terms of six months each, and on Track B—five additional terms of six months each, under the same conditions.

74 Press release, October 22, 2023.

75 Banking Supervision Department publication, October 12, 2023.

76 Press release, October 26, 2023. Checks that bounced due to insufficient funds in October would not be included on the list of checks for which the accounts on which they were drawn would be restricted. This arrangement continued during the fighting for a group of eligible customers under the Extension of Deadlines (Temporary Order—Swords of Iron War) (Contract, Verdict or Payment to Authority) Law, 5784–2023.

Protection of customers' credit ratings: The Supervisor of Credit Data Sharing instructed rapporteurs to the Central Credit Data Register to identify and mark adverse data that they report against the background of the security situation and its implications for citizens of Israel, in order to distinguish between negative information created before the war and negative information created after the war began.[77] Later on, the Supervisor gave an order further deferring the reportage of arrears in loan repayments[78] in order to give people time to settle their obligations to creditors and prevent reportage of arrears in loan repayments for various technical reasons.

Deferral of loan repayments during the war: At the beginning of the second week of the war, on October 15, the Governor of the Bank of Israel and the Supervisor of Banks presented a comprehensive program for relief of the burden of consumer and business credit, which was adopted by the banking system.[79] About ten days later, the program was expanded to include es to credit card companies.[80] From the beginning of the war to the end of November 2023, repayments on some 278,000 loans in the banking system, most in housing and consumer credit, were deferred. The total amount of repayment deferrals added up to NIS 4.8 billion, mostly in the business sector.[81] On December 17, 2023, the Bank of Israel announced that the program would be expanded from January 2024 to include first- and second-degree customers, including additional leniencies for first-degree customers, and that further groups to this population. In addition, the program would extended for an additional three months.[82] On December 26, 2023, the program for customers of credit card companies was also expanded.[83]

Leniencies in providing credit to private customers: On December 25, 2023, the Banking Supervision Department issued a draft concerning additional measures to help the public get through the relevant period[84]—an exemption from regulatory restrictions such as the leverage rate and the payment to income ratio for credit of up to NIS 200,000 earmarked for construction of a safe room, in which the construction permit is given in an expedited procedure; and allowing customers to borrow with a dwelling as collateral by increasing the maximum leverage ratio on such loans from 50 percent of property value to 70 percent,

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[77] Press release, October 22, 2023.

[78] Press release, November 13, 2023. The instruction applied to monthly reporting for October and November 2023, and the Supervisor of Credit Data Sharing was allowed to extend the arrangement to additional reporting months.

[79] The program was intended for those living and operating within thirty kilometers of the Gaza Strip, civilians evacuated from their homes by an official state authority, persons called into the reserves by emergency order, and first-degree relatives of persons killed, abducted, or missing in the war (the first-degree customer group). For this group, repayments would be deferred with no interest and no fees charged. The banks' other customers (the second-degree group) would be allowed to defer loan repayments for three months, the deferred repayments would bear interest that would not exceed the interest rate in the loan contract, and no fees would be charged. The program specified minimum terms for the deferral of loan repayments, and each bank could expand the program for its customers and at their request. On November 8, 2023, the definition of first-degree customers who were eligible for support under the program was expanded to include those dwelling or having businesses in localities in northern Israel.

[80] Press release, October 23, 2023.

[81] https://boi.org.il/en/communication-and-publications/press-releases/a17-12-23/

[82] Bank accounts of abducted and missing persons, siblings of abducted persons, and participants in the Nova festival at Re'im. For first-degree customers, the exemption from interest on credit balances was raised from NIS 10,000 to NIS 30,000 for accounts of businesses with activity turnover of up to NIS 5 million. A leniency in deferring housing loan payments was also added for first-degree customers, with the possibility of receiving an interest-free loan in the sum of the deferral to a term of at least four years, to be paid back a year after the end of the term of the deferral.

[83] Spokesperson's statement, December 26, 2023: "Bank of Israel expands assistance program for credit card company customers coping with the implications of the war."

[84] Amendments to Directive 251—"Dedicated Ad Hoc Wartime Directive.""

provided the sum of the loan in excess of 50 percent leveraging does not exceed NIS 200,000. Additional leniencies originated in dispensations to the banking system under Proper Conduct of Banking Business Directive 251—including raising the leverage rate on loans for the purchase of land for development or building beyond the 80 percent limit set before the war.Customers were also given leniencies based on dispensations related to managing operational risk and money laundering and terrorism financing (AML/CFT) risks.

Box 2: Trends in Institutional Investment Portfolios and Their Impact on the Israeli Capital Market

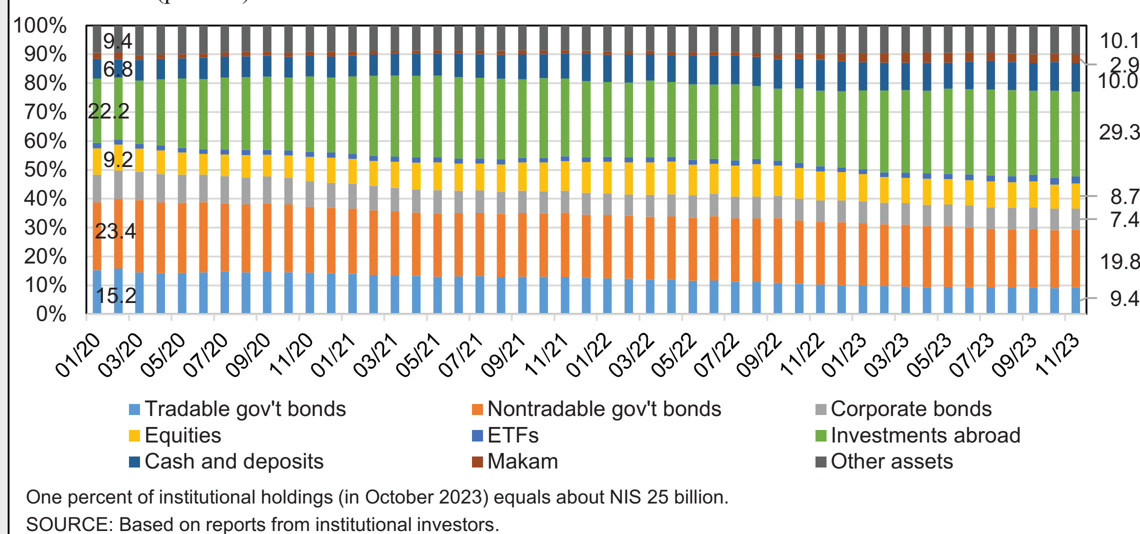
- Institutional investors manage 55.4 percent of the public's asset portfolio, worth roughly NIS 2.9 trillion. Net of mutual funds, their share comes to 47.3 percent and NIS 2.45 trillion.
- Institutional investments in government bonds have been falling and investments abroad have been rising in recent years.
- Israeli institutional investors have been increasing their exposure to foreign assets and foreign currency (with and without derivatives) and have been cutting back their share in foreign exchange trading. Since the beginning of 2022, institutional investors have been net buyers of foreign currency on average.
- Foreign institutional investors have been stepping up their activity in the foreign exchange market, while domestic investors' foreign exchange turnover has not changed. Consequently, domestic institutions's share of foreign exchange trading has been declining steadily, while that of foreign institutions has been rising. As a result, the Israeli foreign exchange market is increasingly exposed to foreign investors' activity.
- Since the beginning of 2022, Israeli institutional investors have been downsizing their holdings of tradable and nontradable government bonds, and the banks have been taking over the institutions' share in holdings of tradable bonds. If this trend attests to a policy change among the institutional investors, it may make government issuing more expensive in view of the increase in government issuing needs.
- Data since the beginning of the war indicate that the trends are continuing. Institutional investors' exposure to foreign assets and foreign currency is growing further and more sharply. Their holdings of government bonds decreased in October due to the price effect, and grew in November due to purchases apparently made in the primary market. Even after this spot increase, the downward trend in institutional holdings of government bonds is perceptible.

Institutional investors are managing a growing share of the public's asset portfolio, namely, its long-term savings: provident funds, advanced training funds, pension funds (new and old), and guaranteed yield and profit-sharing insurance plans. As of the end of September 2023, about NIS 2.45 trillion was managed through these vehicles. The purpose of this box is to examine the investment trends in the institutional investors' investment portfolios and the way these trends may affect the Israeli capital market, including developments since the beginning of the war.

1. Trends before the war

The most conspicuous trend in the institutional investors' portfolio is a perceptible increase in the share of investment abroad and in the public's foreign currency exposure (Figure 1). The trend intensified in 2023 but it is premature to say whether this was due to a decrease in the public's confidence in institutions due to the legislative processes surrounding the judicial system and whether war and acute geopolitical risk in the fourth quarter of 2023 exacerbated it. Concurrent with the upward trend in the share of investment abroad, there has been a very prominent downward trend in investment in government bonds. We discuss both these trends in the sections that follow.

Figure B2.1
Composition of Institutional Investors' Asset Portfolio (excl. mutual funds), Jan. 2020–Nov. 2023 (percent)



One percent of institutional holdings (in October 2023) equals about NIS 25 billion.
SOURCE: Based on reports from institutional investors.

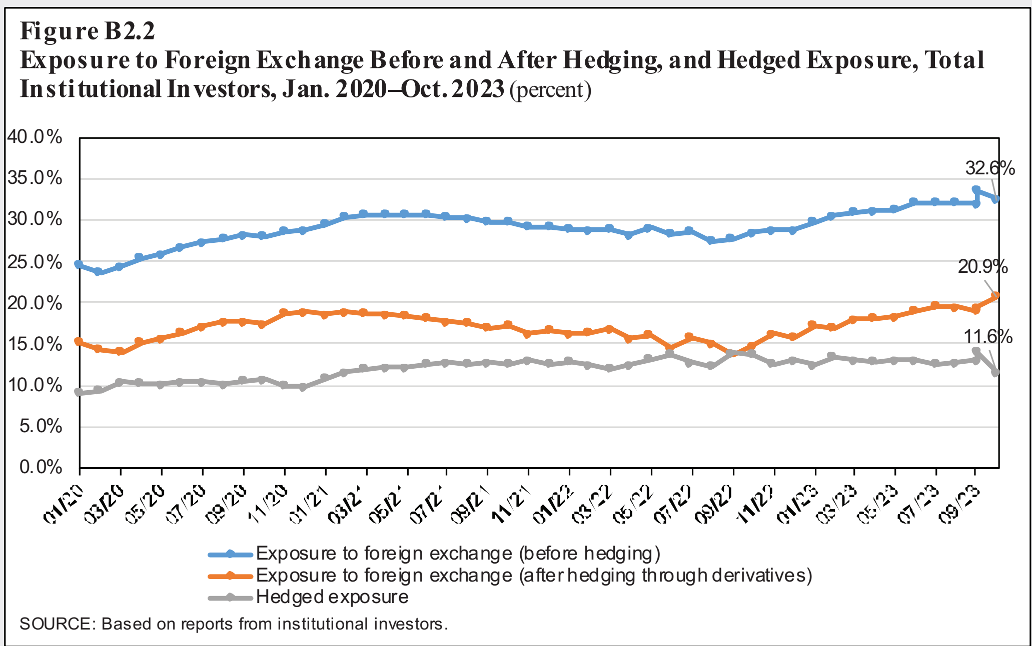
1.1 Impact on foreign exchange trading

To reduce the exposure of their securities portfolio to changes in the exchange rate against other currencies (in which the securities purchased are denominated), institutional investors buy or sell derivatives that ensure their buyers a future exchange rate that is known in advance. The derivatives may be traded on the stock exchange (futures) or over-the-counter (forwards), and their purchase entails collateral to ensure the ability to perform the future transaction. Today, due to hedging, increases in foreign equity indices (mainly NASDAQ and S&P 500) create upward pressure on the shekel against the US dollar and decreases in these indices push for depreciation of the shekel. The more derivatives the institutions acquire, the stronger the connection between change in foreign equity indices and the shekel exchange rate. In contrast, if the institutional investors allow their foreign currency exposure to rise, as appears to have happened recently, they save on costs and their portfolio value is more exposed to exchange rate changes. For the markets, this means that the connection between foreign share indices and the exchange rate weakens.

Figure 2, relating to the COVID-19 era, shows that the share of exposure to foreign currency increased and that of hedging steadily declined. These trends were also typical of the past year-and-a-half. The recent tendency appeared to gather momentum in October. Institutional investors' exposure surged but most of the increase was hedged by derivatives, such that the net exposure increased less.

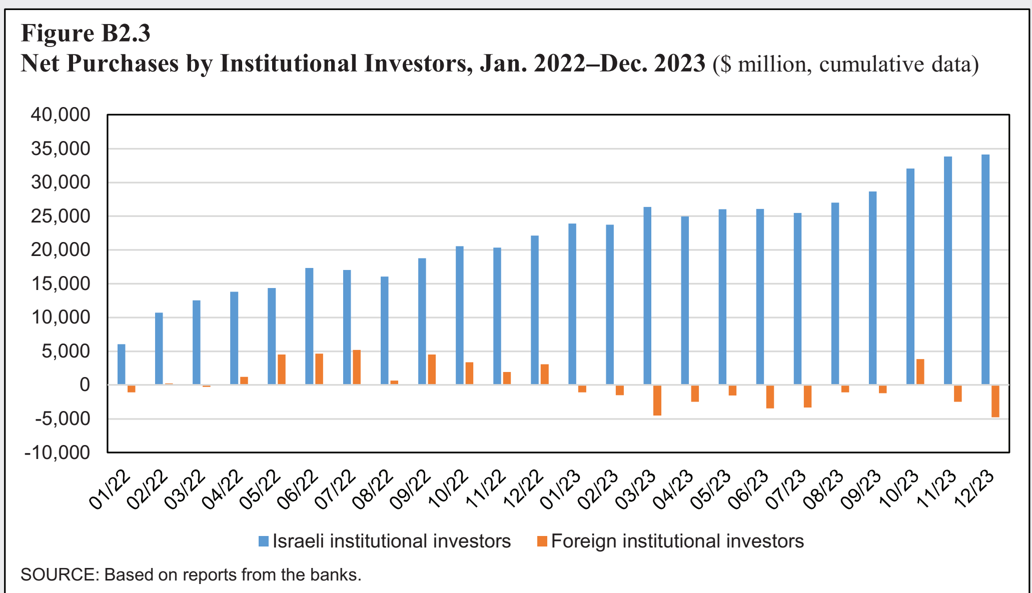
From the fact that not only exposure to investments abroad but also the exposure to foreign currency grew (with or without derivatives), one may conjecture that the Israeli institutions are injecting less liquidity into the foreign exchange market and switching mainly to buying, leaving the foreign investors (namely, financial institutions abroad) as the main providers of foreign currency liquidity to the Israeli market (Figures 3 and 4). An examination of net forex purchases by Israeli and foreign institutional investors since the beginning of 2022, and of these investors' forex trading volumes, corroborates this hypothesis:

Figure B2.2
Exposure to Foreign Exchange Before and After Hedging, and Hedged Exposure, Total Institutional Investors, Jan. 2020–Oct. 2023 (percent)



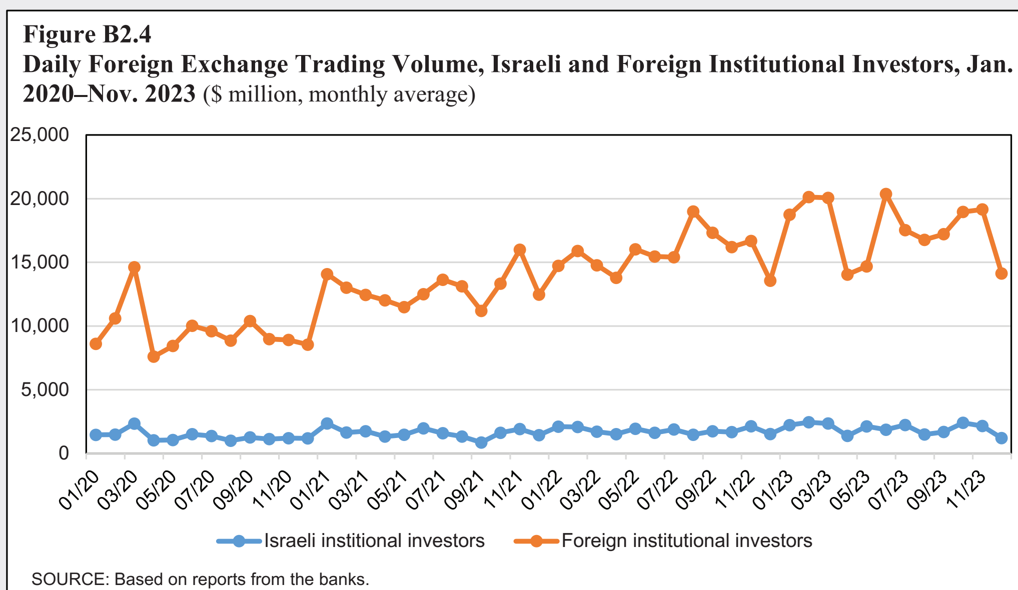
SOURCE: Based on reports from institutional investors.

Figure B2.3
Net Purchases by Institutional Investors, Jan. 2022–Dec. 2023 ($ million, cumulative data)



SOURCE: Based on reports from the banks.

Figure B2.4
Daily Foreign Exchange Trading Volume, Israeli and Foreign Institutional Investors, Jan. 2020–Nov. 2023 ($ million, monthly average)



SOURCE: Based on reports from the banks.

The figures reveal two trends in the past two years:

1. Israeli institutional investors switched mainly to buying foreign currency (Figure 3, red columns) due to the increase in exposure to foreign assets, as stated.[85] Foreign investors acted in no clear direction, both selling and buying foreign currency.
2. Israeli institutional investors' daily foreign exchange trading volumes have changed little in recent years, whereas their foreign counterparts increased their share in forex purchases and sales.

The meaning of these trends is that institutional investors's share of the domestic market has been declining steadily. Their role in injecting liquidity into the foreign exchange market and setting the exchange rate may be changing as well. The greater the foreign institutional investors share of foreign exchange trading becomes, the less influence Israeli institutional investors have on trading. Another question is whether, and to what extent, the institutional investors will continue to hedge their foreign currency exposure. Those that increased their foreign currency exposure (i.e., did less hedging) profited from the protracted depreciation of the shekel in 2023. The negative correlation between the exchange rate and equity indices in Israel, a correlation that intensifies during local events such as those in 2023 (legislative processes related to the judicial system and the Swords of Iron war), may abet efficient diversification of risks in the investment portfolio.

[85] In 2022, global equity indices fell steeply, creating the demand that institutional players put up larger US dollar collateral against derivatives and generating demand for forex among these investors. Even though the equity indices rebounded in 2023, institutional investors continued to buy foreign currency, possibly due to the uncertainty surrounding the legislative process concerning Israel's judicial system.

1.2 Impact on the government bond market

Figure 1 shows that the increase in investment abroad came mainly at the expense of investment in government bonds. Figures 5 and 6 break down the types of institutional entities and their holdings in government bonds.

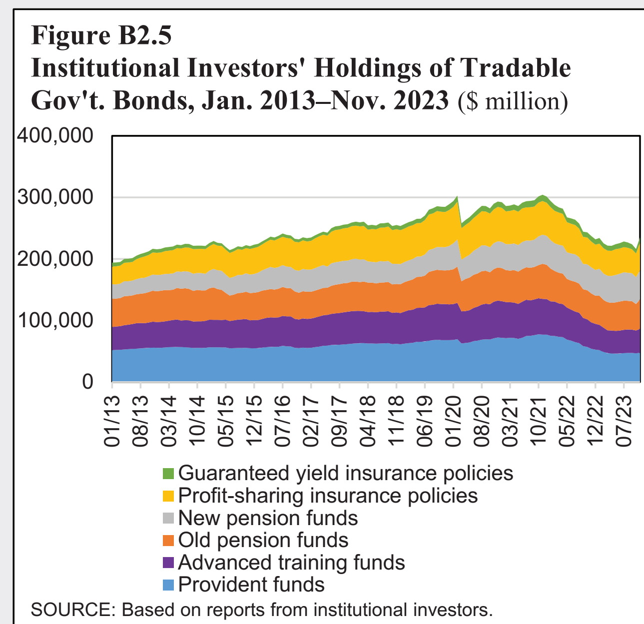


Figure B2.5
Institutional Investors' Holdings of Tradable Gov't. Bonds, Jan. 2013–Nov. 2023 ($ million)

SOURCE: Based on reports from institutional investors.

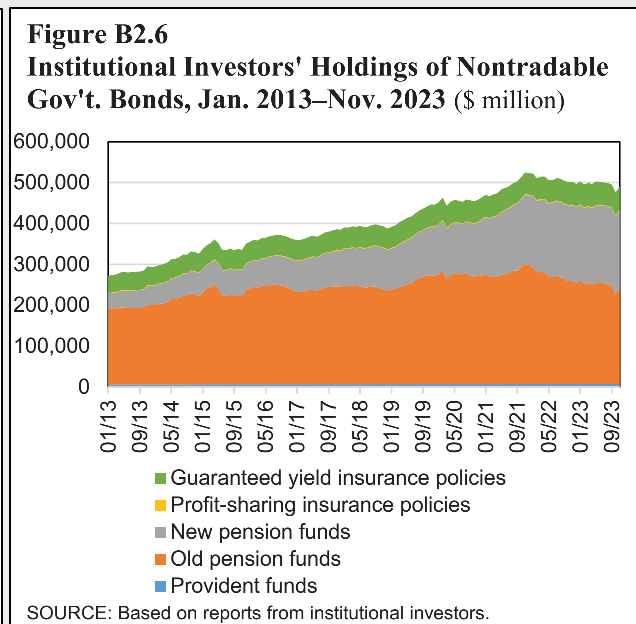


Figure B2.6
Institutional Investors' Holdings of Nontradable Gov't. Bonds, Jan. 2013–Nov. 2023 ($ million)

SOURCE: Based on reports from institutional investors.

As part of the earmarked bonds reform that began in October 2022, the state stopped issuing earmarked bonds that ensured a high real yield on funds invested in them. Instead of using these bonds to deliver a defined return, the state undertook to complete the yield if the institutional investors did not attain it through their investments.[86] The reform set out that pension funds must invest assets that were formerly invested in earmarked bonds in accordance with the mix of assets of the fund's main track. It was therefore expected that redeemed earmarked bonds would be partly replaced by tradable government bonds. According to the main forecast in the section of the Bank of Israel's Annual Report for 2021 that analyzed the reform, the pension funds were expected to invest more in equities, tradable government bonds, and foreign assets.[87]

However, figures 5 and 6 show that while holdings of nontradable (earmarked) bonds declined from late 2021 onward by an average of nearly NIS 1 billion per month, holdings of tradable bonds contracted much more rapidly during that time—by a monthly average of more than NIS 2 billion.[88] The sum held in government bonds (tradable and nontradable) contracted even as the total sums managed by institutional players grew steadily (accrual of more than NIS 50 billion in savings per year). By implication, the institutional investors'

[86] The guaranteed yield is 5.15 percent on 30 percent of the investment portfolio of new pension funds and on 70 percent of assets in old pension funds.

[87] Bank of Israel Annual Report for 2021, Chapter 4, Box 4.4: "The Expected Effect of Cancelling Earmarked Bonds in the Pension Funds."

[88] Apart from the effect of quantity on the depreciation of institutional investors' bond holdings, the revaluation of nontradable bonds at market interest rates in a relatively high interest environment—i.e., the price effect—caused the value of the holdings to decline.

share of holdings of government bonds has been shrinking. Figure 7 shows that this indicator fell to 46 percent in November 2023 after cresting at 60 percent in 2019. As the institutional investors' share of bond holdings declined, the proportion held by commercial banks rose.[89] The banks hold government bonds in order to maintain the compulsory liquidity coverage ratio and to improve their capital ratio. When the COVID-19 crisis began and the public switched from risky assets (on the capital market) to safe and liquid ones such as bank deposits, the banks increased their holdings of government bonds.[90] It is not clear whether this upward trend in banks' bond holdings is currently continuing. What may cause the banks to sustain the trend is a country rating downgrade of Israel by one or more of the rating companies. In such a case, assets held by banks as equity for the calculation of their capital ratios would be revalued. If this were to happen, Israel shekel-denominated government bonds, even if depreciated due to the increase in the risk premium, would retain their full weight as an asset on the banks' books, but the other bonds—those of Israeli companies—would probably sustain greater depreciation in calculating the capital ratio, both due to the decline in their value and due to a decrease in the weight that the banks can assign to these instruments. Thus, the banks would have to buy additional bonds in order to maintain the same level of capital.

An examination of the types of institutional investors that reduced their government bond holdings shows that the decrease encompasses all investors, including new pension funds and old ones (which face the most severe impact of a decline in the extent of earmarked bonds), but is strongest among provident funds and advanced training funds (which do not hold earmarked bonds). The reasons for this may be the attractiveness of investments abroad—including US Treasuries, which have recently been delivering a strong US dollar yield in addition to the currency yield. The steep decrease that occurred in March 2020 (when the COVID-19 crisis began) is attributed to massive sales of government bonds that had been held as collateral for futures on foreign equity indices.[91] The urgent need for US dollar liquidity that emerged at that time due to urgent demand for an increase in collateral in view of falling equity prices created pressure to sell government bonds. The downward trend in government bond holdings that is now two years in progress, unlike that of the COVID-19 era, appears to originate in a change in institutional investors' policy. If thatpolicy has indeed changed, the trend may make it difficult for the government to raise large amounts of debt—as it will probably need to do soon due to the expected increase in the deficit—and is likely to raise issuing prices. Conversely, the decrease in bond holdings among some institutional investors gives them flexibility in increasing bond purchases if they see an investment opportunity in the larger sums of government issuance.

[89] The data are net of the holdings by the Bank of Israel, which purchased government bonds on the secondary market nonrecurrently during the COVID-19 period and has held them to maturity, i.e., kept them off the market. The same trend is found when the Bank of Israel's holdings are taken into account.

[90] Israel's Banking System, Annual Survey (2020), Box 4.

[91] Financial Stability Report for the second half of 2020, Box 3: "Institutional Investors' Exposure to Futures Contracts on Foreign Equity Indices."

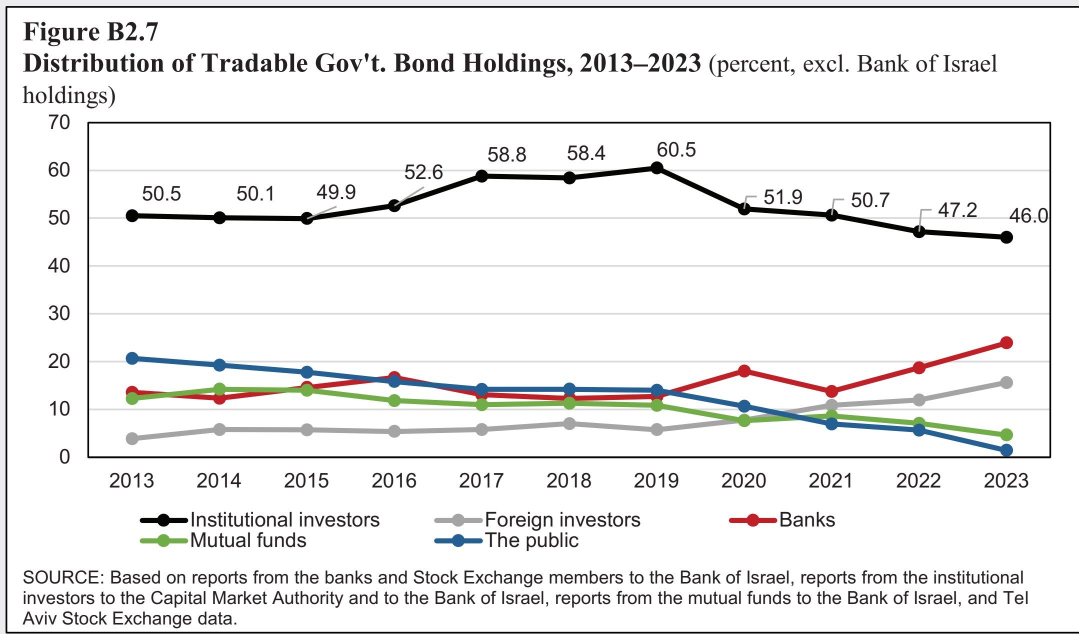


Figure B2.7
Distribution of Tradable Gov't. Bond Holdings, 2013–2023 (percent, excl. Bank of Israel holdings)

SOURCE: Based on reports from the banks and Stock Exchange members to the Bank of Israel, reports from the institutional investors to the Capital Market Authority and to the Bank of Israel, reports from the mutual funds to the Bank of Israel, and Tel Aviv Stock Exchange data.

1.3 Impact on the domestic equity market

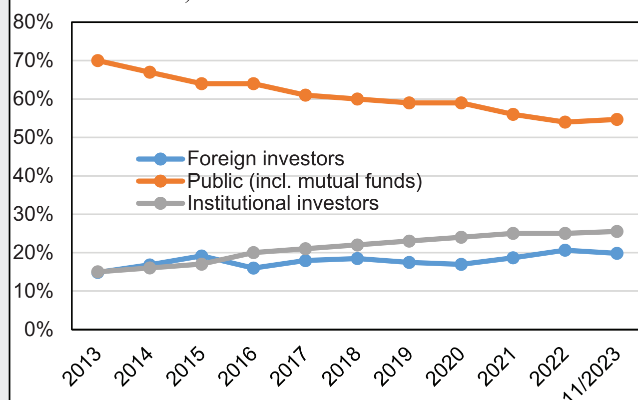
As stated, institutional investors's total exposure to foreign currency, with or without derivatives, rose consistently in 2023. The direct outcome of this was the hedging of portfolio yields (particularly in October) against the steep declines that the Israeli equity market experienced. Gains from the shekel's depreciation offset the losses resulting from the declines in the domestic equity indices. Concurrently, the share of Israeli equities in the institutional investors' portfolio contracted somewhat during this time (from 11.2 percent in August 2022 to 9.1 percent in October 2023).

The declining proportion of Israeli equities and the increase in investments abroad evoke concern about the possibility that the institutional investors will reduce their investments in Israeli firms—via equities or corporate bonds—something that may, in the long term, create a problem of sources for domestic businesses. The hypothesis that the increase in investments abroad will come at the expense of sources for the Israeli business sector is tested in the next two figures.

Figure 8 examines institutional investors' share of equity holdings traded on the Tel Aviv Stock Exchange (not including dual-listed firms, which are also traded abroad). It is evident that these investors' share has not changed in the past three years, when they have consistently held 25 percent of the value of equities traded in Tel Aviv. Figure 9 shows that institutional investors' share of holdings of private (corporate) bonds on the Tel Aviv Stock Exchange has grown in the past two years.

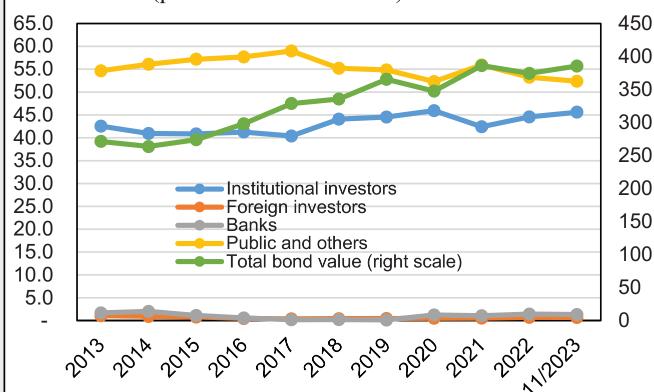
In summation, although equities and corporate bonds account for a declining share of institutional investors' total assets in recent years, institutional investors' share of total equity and corporate bond holdings in the market has not been impacted due to rapid increase in the assets that they manage. Therefore, the sources of funding for Israel's business sector do not appear to have been impaired for the time being.

Figure B2.8
Distribution of Equity Holdings, 2013–2023 (percent, excl. dual listed)



SOURCE: Based on reports from the banks and Stock Exchange members to the Bank of Israel, reports from the institutional investors to the Capital Market Authority and to the Bank of Israel, reports from the mutual funds to the Bank of Israel, and Tel Aviv Stock Exchange data.

Figure B2.9
Distribution of Tradable Corporate Bond Holdings, 2013–2023 (percent and NIS billion)



SOURCE: Based on reports from the banks and Stock Exchange members to the Bank of Israel, reports from the institutional investors to the Capital Market Authority and to the Bank of Israel, reports from the mutual funds to the Bank of Israel, and Tel Aviv Stock Exchange data.

2. Flows since the start of the war

2.1 Foreign exchange purchases

Figures 3 and 4 show the last three observations—from October–December 2023—of the foreign exchange trading behavior of Israeli and foreign institutional investors' since the war began. The Israeli institutional investors' conduct since the beginning of the war appears to have followed a trend similar to their actions in the past year-and-a-half—manifested mainly in buying US dollars—showing their continued diversion of investments to destinations abroad. Foreign institutional investors, after buying US dollars and removing investments from Israel during the first two weeks of the war, reverted to selling US dollars amid the appreciation of the shekel from late October onward. Since the war began, the level of activity of Israeli and foreign institutional investors (buying and selling foreign currency) has resembled the 2023 average, indicating that the trend described in Section 1.1 of this Box has continued.

2.2 Exposure

Data on institutional investors' exposure to foreign currency are monthly and appear at a lag, such that at the time of this publication, the most recent data available are for the end of November—about two months after the war began. According to these data, the institutional investors' exposure to foreign currency surged in October but retreated slightly in November. Whereas in October the institutional investors hedged most of the increase in exposure, in November the extent of hedging declined sharply, so that foreign currency exposure after consideration of derivatives jumped. This means that the institutional investors are stepping up their tendency to increase foreign currency exposure by investing in foreign assets and cutting back on hedging by means of derivatives.

2.3 Institutional investors' trading volumes by type of security

Reports from the Tel Aviv Stock Exchange on institutional investors' trading volumes[92], parsed by type of security, show that they have been mainly selling Makam and corporate bonds and purchasing government bonds and Israeli equities since the beginning of the war. The government bond purchases have been relatively small and no change is evident relative to daily data from before the war (beginning of July–October 5). Table 1 compares the averages of institutional investors' purchases on the exchange by type of instrument, using a t-test. The table shows that, for the time being, no a significant change in institutional investors' buying behavior is visible in any of the instruments, with the exception of equities and participation units.

Table 1
Institutional investors' purchases on the Tel Aviv Stock Exchange, daily average
(In parentheses—standard deviation)

	Government bonds	Corporate bonds and convertible debentures	Equities and participation units***	Makam
	NIS million			
Pre-war average (July 11–Oct. 5)	70.3 (179.9)	-7.8 (43.1)	-17.7 (50.2)	-94.1 (242.3)
Wartime average (Oct. 8–Dec. 18)	99.4 (173.0)	-5.4 (52.3)	52.4 (70.5)	-91.1 (236.4)

*** Difference significant at 99 percent level.

92 The daily data obtained from the Exchange do not include over-the-counter (OTC) transactions and purchases on the primary market. Therefore, they do not match the monthly data that we used for Figures 1, 2, 5, 6, and 7.