BANK OF ISRAEL

Financial Stability Report

Jerusalem, June 2018

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Financial Stability Report
for the First Half of 2018

The Bank of Israel's Financial Stability Report is published twice a year. In the report, the Bank's economists assess the main risks to which the financial system is exposed, analyze potential stress scenarios, and examine the system's resilience to the risks and scenarios. The assessments and analyses are based on a review of historical developments, an examination of structural features, use of analytical models (including simulations and stress tests), and an assessment of updated background conditions in the global and domestic economies. The report presents the risks whose realization is liable to impact markedly on the economy in the short and medium terms, with the goal of increasing awareness of them among policy makers and the general public, and allowing appropriate preparations.

1. Introduction and highlights

The Financial Stability Report for the first half of 2018 evaluates the stability of the domestic financial system through an analysis of four dimensions: (1) the environment in which the financial system operates (the Monitor), which includes the macroeconomic environment, asset markets , credit, liquidity, and the level of interconnectedness in the economy; this dimension provides an indication of the economy's exposure to foreign or domestic shocks; (2) the resilience (ability to absorb shocks) of the financial system's components (the banks, the insurance companies, the business sector, households and the payment and settlement systems); (3) the main points of vulnerability and weakness in the economy, which expose the financial system to risk; and (4) stress scenarios that reflect the threats originating from outside the financial system. These usually originate abroad and therefore the analysis is based primarily on the assessments of international institutions. Based on the data, the models and the analyses, we formulate a subjective evaluation of the probabilities and level of risk faced by the financial system.

Highlights:

- An analysis of the environment in which the domestic financial system operates and its resilience level indicates that it has remained stable. Its level of stability has improved over the years due to the support of the economic environment and the positive segment of the business cycle, from which the Israeli economy is benefiting.

- Although the Israeli economy and its ability to withstand shocks are benefiting from the positive macroeconomic situation, according to the various assessments[1] the probability of an economic or geopolitical shock from abroad has increased and this is liable to have an adverse effect on both real and financial economic activity.

- During the first half of the year, a long period of almost monotonic price rises in the financial markets came to an end. During the first part of that period, there were sharp declines in other countries and subsequently in Israel, as well as increases in volatility; however, later on the trend changed.

- Widening spreads on corporate bonds somewhat reduced the economy's exposure through the asset prices channel; however, the increased volatility and the tendency toward declines in foreign markets, against the background of, among other things, the contractionary monetary policies adopted by the central banks, as well as the narrowing of spreads in recent years, increase the probability[1] that the recent widening of spreads is the beginning of a trend reversal in global financial markets, which is liable to worsen and have an effect on the local capital markets.

- The most prominent focal point of vulnerability in the Israeli economy is the housing market, in view of the developments in that market in recent years.

- The slowing in the housing market has had a major influence on public companies in the residential construction industry and has led to a decline in sales and an increase in the stock of unsold homes. As a result, companies in the industry are feeling somewhat greater pressure on their operating cash flow. Stress scenarios that were examined for variables such as home prices, sales and the interest rate indicate that the effect on their financial leverage and immediate liquidity is significant only for extreme values, while at lower values the exposure is relatively minor.

[1] Based primarily on the assessments of the international organizations.

- An examination of the financial situation of households, as an aggregate, shows that it has not changed significantly relative to the previous six-month period. Most nonhousing credit, which is equivalent to about 15 percent of GDP, is provided by the banks, but in parallel other entities that provide credit (credit card companies and non-bank entities) are showing increasing levels of activity.

- The growing availability of nonbank credit is increasing the financial risk of the households that hold this credit, and primarily households in the lower deciles. Since the share of these households in total debt is relatively small, there is no risk to the financial system from this source, although there is a risk to the households themselves. It should also be remembered that the pricing of credit by lenders is based on only partial information (until the Central Credit Register goes online).

The Financial Stability Report for the first half of 2018 also analyzes resilience by institution, sector and infrastructure. Following are the main findings:

- There is continuing improvement in the resilience of the banking system. The improvement this year was reflected in the continuing accumulation of capital and its composition, in the maintenance of the high quality of the credit portfolio and in the higher-than-required liquidity coverage ratios.

- All the insurance companies meet the capital adequacy ratios that were set in the Solvency II transitional provisions, but not all the firms meet the final targets.

- From a long-term perspective, the resilience of most of the industries in the business sector has improved. This is reflected in the financial ratios and other indicators of the public companies.

Table 1

The environment in which the financial system operates (the Monitor)—summary

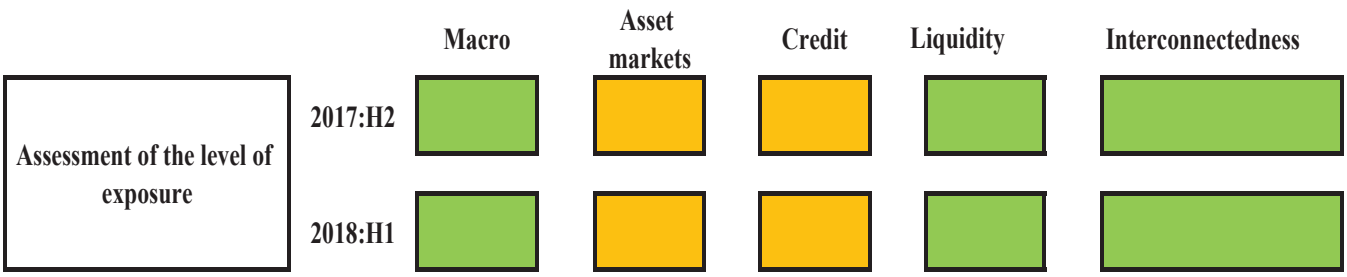


Table 2
Resilience by institution, sector and infrastructure, and main changes—summary

	Summary	Main changes and events	Significance
The banks	Improvement continued and was reflected in the continued accumulation of capital and its composition, the continued improvement in the quality of the credit portfolio and in the high level of the liquidity coverage ratios.	Somewhat of an improvement in the capital ratios (from 10.7 to 10.9 percent)	Minor
		Increase in credit to the construction industry.	Minor
		Increase in risk in the small and micro business sectors and in the consumer credit of some of the banks	Minor
Insurance companies	All of the insurance companies meet the capital adequacy targets set by the interim directives of Solvency II. Not all of them have met the final targets.	Increase in the ratio of recognized capital to required capital.	Major
		Sharp increase in aggregate profit of the insurance companies.	Medium
The business sector	The resilience of most of the industries in the business sector improved (public companies). In contrast, there are signs that indicate some threat to the cash flow of companies in the construction industry. Low probability of insolvency (according to the EDF model).	Apart from the high tech industry (biomed and technology) and the oil and gas exploration industry, there was an improvement in the current ratio.	Medium
		There was an improvement in the interest coverage ratio in most industries. Nonetheless, there was a significant worsening in the biomed industry.	Minor
		The trend of decline continued in the number of companies with a going-concern explanatory paragraph in their financial statements.	Medium
		Worsening in the ratio of cash flow to financing expenses in the construction industry.	Medium
The household sector	The total leverage of households was at a low level; however, leverage in the lower deciles was high. The share of problem debt within total debt to the banks was relatively stable (1.5 percent). The improvement continued in the risk indicators for households' housing	Increase of 5.1 percent in the total debt of households.	Medium
		An increase of 3.8 percent in non-housing credit (a decline in the rate of increase).	Minor
		A decrease in the rate of growth in housing credit.	Medium
The payment and settlement systems	The level of concentration of participants in the Zahav (RTGS) system in Israel is high relative to other countries.	An increase of 2.1 percent in the financial concentration ratio in the Zahav (RTGS) system in 2017, to a level of 83.1 percent.	Minor

Table 3
Transmission channels—risks and main focal points of vulnerability—summary

		Change during the first half of the year	Transmission channels to the financial system[1]				
			Macro	**Asset Market**	**Credit**	**Liquidity**	**Interconnectedness**
Main economic risk scenarios [2] (Pages 50-53)	Worsening of financial conditions as part of the exit from accommodative monetary policy worldwide.	Probability increased[3]	**	**	*	*	*
	Reversal of the trend in the global financial markets and as a result also in the domestic financial markets	Probability increased[3]	**	**	*	**	*
	Reversal of the trend in real domestic activity as a result of a shock from abroad or a geopolitical event	Probability increased[3]	**	*	*		*
	A sharp and rapid drop in home prices	Probability remained unchanged	**	**	*		*
Main focal points of vulnerability (P. 53-56)	Housing market	Unchanged	*	**	*		*
	The financial assets market	Unchanged	*	**		**	*
	Household debt	Unchanged	*		**		*
	The environment in which the banking system operates	Unchanged			*	*	**

Very high rated risk — Very low rated risk

[1] The number of asterisks indicates the scale of the transmission channel, in our assessment.

[2] The assessments are that the probability of a realization for three out of the four scenarios has risen. At the same time, each of the scenarios is relatively extreme within a broad spectrum of much less risky scenarios in the same category. The probabilities of realization of each of the three stress scenarios have risen but the assessment is that these probabilities are not high. On the other hand, the conclusions arising from the analysis in this report state that the resilience of the financial system is relatively high and continues to improve. In our assessment the probability, on average, of a significant destabilization of the financial system is low.

[3] Based mainly on assessments by international institutions.

2. Channels of exposure – the environment in which the financial system operates (the Monitor)

In this section, we analyze the environment in which the financial system operates (the Monitor), according to the five main exposure channels through which the system will be affected in the case of a realization of one of the stress scenarios: the macroeconomic situation and the global environment in which the Israeli economy operates; developments in the asset markets (financial assets and housing); credit in the economy (business and consumer credit); liquidity; and interconnectedness between the financial institutions and the business sector (potential of contagion).

The Monitor is used to assess the stability of the financial system and the supervision over it. The analysis according to the main components of the Monitor is accompanied by quantitative estimates and resilience tests, such as stress tests, as well as macroprudential tracking. The development of the monitor is ongoing, according to the quality of its performance (its forecasting ability), an analysis of new indicators, data and statistical tools. The Bank of Israel's Financial Stability Division updates the monitor once every six months in order to reflect the changes in risks to the financial system and its vulnerability.

The general risk to the stability of the financial system in Israel remains medium in our estimation, as it was in the previous six-month period.[2] The heat map (Table 1) makes it possible to follow the development of the exposures' severity and the change in it relative to the previous period. The Monitor is not meant to forecast the timing of a financial shock to the economy or to predict its size, but rather to identify the main areas that will be affected.

2.1 Macro

Real activity, labor market, & inflation	2017:2	2018:1
Country risk (risk premium, credit rating)		
Fiscal policy		
Geopolitical and world environment		

The economy continues to grow at a rate that exceeds the potential rate of growth and the forecasts indicate that this will continue. The unemployment rate continues to decline and has reached historic lows; occupational security is high. Inflation is rising toward the lower bound of the target range. The forecasts point to a continuation of accommodative monetary policy. In contrast, the risks presented in the previous report have not diminished: developments in the global environment and in particular in the financial markets; a period lasting several years of relatively high levels of economic activity; and the increasing concern that the economy is approaching the peak of the business cycle. Taking all the factors into consideration, we believe that the macro risk, which increased in the second half of 2017, remained unchanged at a low level.

2.1.1 The domestic environment

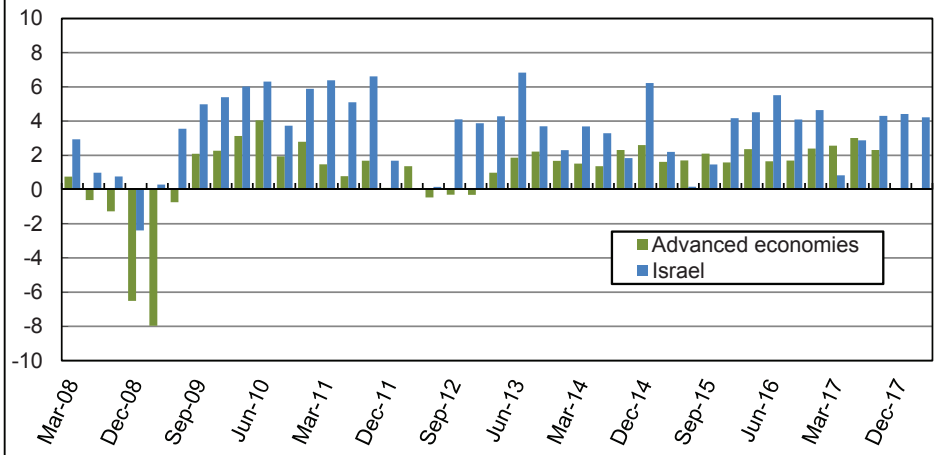
The National Accounts: According to the second estimate of National Accounts data for the first quarter of 2018, the economy continued to grow at a relatively high rate (4.5 percent in annual terms), with growth occurring in all

[2] The tracking is carried out on the basis of the available data. The level of risk (the color) is determined according to the data, the models and subjective judgement.

the main uses, except for investment in construction. Nonetheless, the relatively high level of economic activity has continued for a number of years and there is concern that the economy is approaching the peak of the business cycle. A certain level of risk to the continuation of growth in demand for output exists in the construction industry (which accounts for 8 percent of business sector product). The investment in the industry has fallen during the past year, as can be seen in the number of building starts and the demand for workers.

For the past three years, the economy has been growing at an average rate of close to 4 percent, and in each of the quarters, growth has been close to or higher than potential. The nonfinancial side is supporting financial stability.

Figure 1
The Quarterly Growth Rate[a] in Israel and Other Advanced Economies[b], March 2008 to March 2018 (percent)



[a] Seasonally adjusted rates of change compared with the previous quarter in annual terms.
[b] Simple average of the growth rates of 20 wealthy countries in the OECD: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Italy, Japan, South Korea, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, US, and UK.
SOURCE: Based on OECD data.

Research Department Forecast: The Research Department's staff forecasts published in April are for growth of 3.4 percent in 2018 and 3.5 percent in 2019. In retrospect, the economy began to grow at an average rate of close to 4 percent starting from the fourth quarter of 2015 and in each of the subsequent quarters it has grown at its potential rate[3] or higher.[4]

Labor market: The level of activity in the labor market remains high and the market is in the vicinity of full employment. The unemployment rate in the first quarter was at a historic low of about 3.2 percent (among the 25–64 age group) alongside a participation rate that has stabilized at a high level. The upward trend in the job vacancy rate continues in all industries except for the construction industry (in which the rate is falling but is still high at about 4 percent). Labor supply is not keeping up with demand and more companies are reporting increasing difficulty in finding workers in order to meet the rapid growth in domestic demand.

Inflation: In the year ending in May, inflation was 0.5 percent and expectations of inflation derived from the capital market were characterized by an upward trend. Annual inflation without government intervention, fruit and vegetables and energy (an approximation of a core CPI) is also on an upward trend and in May it declined somewhat to 0.7 percent. The seasonally adjusted expectations of 1-year inflation derived from the capital market and the

[3] The potential rate of growth in GDP is estimated to be about 3 percent.

[4] After averaging of the fourth quarter of 2016 with the first quarter of 2017, due to the effect of vehicle purchases.

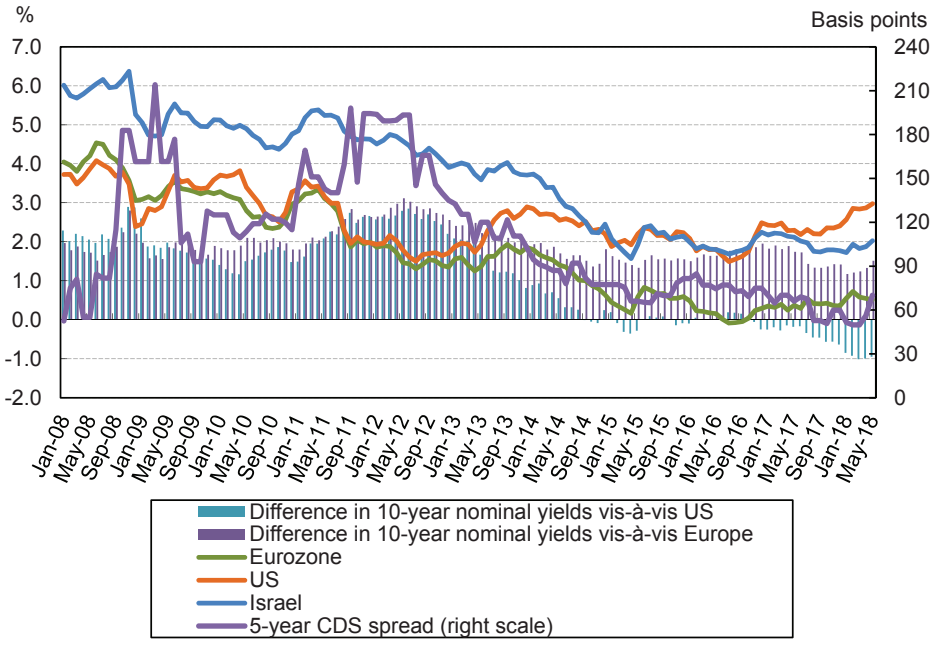
forecasts of analysts were somewhere below the lower bound of the inflation target range in May.

Monetary policy: Accommodative monetary policy continued. The interest rate remained low at 0.1 percent, in addition to Bank of Israel activity in the foreign exchange market. These were aimed at supporting economic activity. The Bank of Israel's Monetary Committee stated in its interest rate announcement that it intends to "maintain the accommodative policy as long as necessary in order to entrench the inflation environment within the target range". The low interest rate environment of recent years supported domestic demand by reducing the cost of credit, decreasing the incentive to save and intensifying the "wealth effect" that is the result of the increase in value of the assets held by the public. According to the Research Department's forecast, the monetary interest rate is expected to increase to 0.25 percent in the last quarter of 2018.

The economy's credit risk: The Israeli economy is characterized by a low level of risk, as reflected in its credit rating and as derived from the capital markets. Israel has had a good credit rating for an extended period (at the level of A and A1+) and recently S&P and Fitch rating agencies again confirmed it. S&P accompanied its rating with a positive outlook and Fitch with a stable outlook horizon. Although Fitch's announcement mentioned the increasing risk in the North as a weak point, it added that the Israeli economy had in the past proven its resilience to military conflicts in the region. Capital market indicators also show a low level of risk for the Israeli economy. Israel's five-year CDS premium is at a historic low. The credit spread on 10-year notes between Israel ("Shachar") and the US stands at about minus 100 basis points, which is also at a historic low (Figure 2). The factors behind the negative and low spread include the continuing decline in the ratio of government debt to GDP, the increase in institutional holdings of 10-year Israeli government bonds, the difference in the monetary trajectory between Israel and the US and the Israeli economy's positive fundamentals. Although it appears that there has been a worsening in

The strong fundamental data of the Israeli economy and financial factors are among the reasons for the negative yield spread between Israeli and American government bonds, and apparently also for the low CDS level.

Figure 2
Comparison of the Nominal 10-Year Interest Rates—Israel ("Shahar"), US and Eurozone, May 2017 to May 2018 (monthly average)



SOURCE: Bank of Israel calculations.

Israel's geopolitical environment, experience shows that over time the effects of security events on the markets are declining,[5] a fact that provides support for the low pricing of the economy's risk despite the security risks and the local public discourse surrounding it. It seems that some of these factors have contributed to Israel's good rating and its low CDS premium level.[6]

Fiscal policy: Despite the sharp growth in government expenditure in 2017 (1.2 percent of GDP, which is the highest rate during the last decade), the central government deficit in 2017 stood at 2 percent of GDP, similar to its level in 2016 and lower than the ceiling established by the government, of 2.9 percent. This is attributable to the tax revenues which exceeded the forecast contained in the budget by 0.9 percent of GDP. However, the increase in tax revenues was primarily the result of one-off factors—the tax benefit on payment of a dividend and the sale of companies—and therefore the structural deficit, which is calculated without one-off revenues and expenses and with the adjustment of tax revenues for the effect of the business cycle, grew by 1.4 percent of GDP and reached a level of more than 3 percent of GDP. In addition to the permanent reduction of tax rates and the increase in government expenditure in 2017, the government announced long-term expenditure programs of various types during the course of the year and even added to them during the approval of the 2019 budget. The continuing expansion of public expenditure in parallel to the cutting of taxes, relying on one-off revenues, implies a future increase in the deficit. Furthermore, the government began to use revenues from land sales, which in the past were used to finance the deficit, for financing its off-balance sheet activity in construction and housing. This is expected over time to increase the need to raise sources from the capital market to finance the deficit. If this risk is realized, an adverse effect can be expected on the government bond market – an increase in yields on corporate bonds, which will weigh on the financing of the deficit.

2.1.2 The global environment

The global rate of growth continued to improve in recent quarters and according to IMF assessments many countries are currently growing at rates above their potential rate, a situation that is likely to accelerate the pace of increase in prices and the pace at which interest rates are raised.

In its last forecast for the global economy,[7] the IMF raised its forecast of the global rate of growth to 3.9 percent in both 2018 and 2019. The upward revision of the forecast varied across countries: forecasted growth in many advanced economies and developing economies is expected to be faster than the IMF's forecast in the previous year. Advanced economies are expected to grow by 2.5 percent in 2018 and by 2.2 percent in 2019, while developing economies are expected to grow by 4.9 percent in 2018 and by 5.1 percent in 2019. The largest revision in the IMF's forecast was for the US economy, which is expected to grow by 2.9 percent in 2018 and by 2.7 percent in 2019, as a result of the tax reform in the US. However, expected growth in the US in the medium term was in fact revised downward due to the IMF forecast that the rapid growth in government debt and the increase in the interest rate will significantly increase the cost of debt service and will negatively affect the government's ability to contribute to growth. The IMF made positive mention of the synchronized growth in almost all of the major economies in the world and also the accelerated growth in global trade as factors contributing to growth.

In recent months, global inflation has also increased and even though its rate is lower than the targets of the central banks in most of the advanced economies, the risk of disinflation has declined significantly.

The labor market's proximity to full employment and the increase in commodity prices (primarily energy) is expected to push prices up in advanced economies. The IMF estimates that average rates of inflation will be 2 percent in 2018 and 1.9 percent in 2019.

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5 See M. Graham and Y. Saadon (2013), "A Composite Index for Tracking Financial Markets in Israel", Bank of Israel Discussion Paper Series 2013.01.

6 It is reasonable to assume that the credit rating and the CDS level would have been even better in the absence of geopolitical risks.

7 World Economic Outlook, April 2018.

The IMF noted that although the risks in the short term are balanced overall, the risks in the medium term indicate that the growth forecasts "clearly lean to the downside". Among the main risks to the forecasts, the IMF includes the rapid tightening of financial conditions, trade wars (between the US and China), the increasing strength of populist and nationalist forces (which are liable to lead to protectionism and thus negatively impact world trade and the global economy), and increased geopolitical risk. Even if these risks are not realized, the slowed demographic growth, the excess productive capacity and the low rate of productive growth worldwide are expected to bring global growth rates down to levels significantly lower than during the GFC (the Global Financial Crisis in 2008).
Monetary policy worldwide remains highly accommodative, and in most advanced and emerging economies, interest rates are very low relative to the past. The US Federal Reserve, which was the first to introduce monetary tightening and since December 2015 has already raised the interest rate seven times—to 1.75–2 percent—is expected to continue its policy of caution and will raise its declared rate of interest at a slow pace and to levels lower than those prior to the GFC.

2.1.3 Global markets

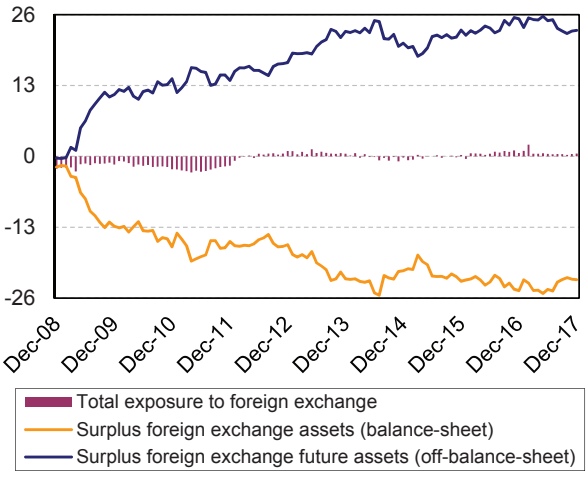
Following an extended period of almost monotonic increases in global equity prices—a period that was also characterized by very low yields on government bonds and low corporate bond spreads—trade since the end of January has been characterized by a relatively high level of volatility. Thus, the S&P and DAX indices declined by about 5 percent by the end of May and the equity index in China was particularly weak with declines of about 12 percent (which followed sharp increases at the beginning of the year and sharp declines at the beginning of February). The VIX index, which remained particularly low during 2017, rose to a high level at the beginning of February, relative to 2017, and since then has remained there. The yields on 10-year US government notes has risen since the beginning of the year by 50 basis points, to about 3 percent, and yields on two-year notes have risen by about 60 basis points, to about 2.5 percent. Yields in Europe have also risen, although by more moderate rates, a result of the continuing bond purchases by the ECB.

2.1.4 The connection between the global and domestic environments

Although the integration of the economy in globalization processes and the openness of the economy have facilitated the diversification of risk and a reduced dependence on domestic capital markets, they have also increased the economy's exposure to global developments and to global shocks in capital markets and foreign exchange markets. The exposure of the economy to abroad reflects the risk of a decline in the value of foreign assets held by Israeli residents (in shekels and in foreign currency). The exposure to the exchange rate relates to the economy's surplus of assets over liabilities in foreign currency in Israel and abroad, which is exposed to changes in the exchange rate of the shekel against other currencies.
In 2017, the economy's resilience to events abroad continued to improve, in parallel with the increased exposure of the nonbanking private sector to events abroad

The banking system's exposure to foreign exchange is negligible. There is a surplus of off-balance-sheet assets alongside a surplus of balance-sheet liabilities.

Figure 3
Surplus (+) of Banks' Balance-Sheet and Off-Balance-Sheet Assets in Foreign Exchange, and Total Exposure to Foreign Exchange, 2008–17
(based on unconsolidated reports, $ billion)

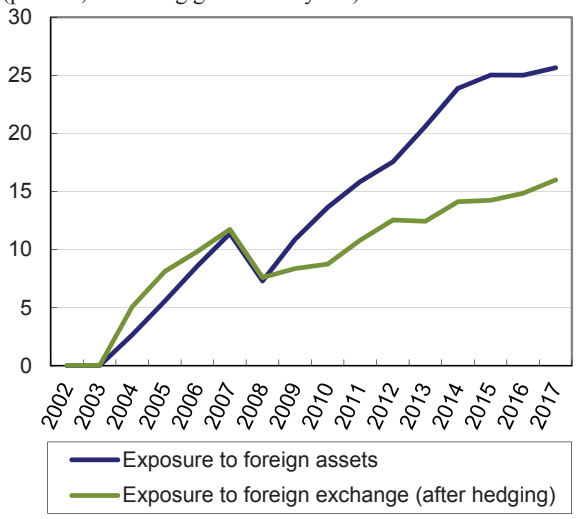


SOURCE: Based on the banks' nonconsolidated monthly balance sheet data.

and the appreciation of the shekel. This is in line with the trend during the past decade (as described in detail in Box 1).

Institutional investors are partly hedging their exposure to foreign exchange.

Figure 4
Rate of Institutional Investors' Exposure to Foreign Assets and Foregin Exposure
(percent, excluding guaranteed yield)



SOURCE: Bank of Israel.

The banking system's exposure to abroad and exposure to foreign currency

The banks' share of exposure to abroad within its total assets stands at 11 percent, similar to its level in the previous year (NIS 161 billion in 2017 as compared to NIS 167 billion in 2016). Most of the exposure to abroad is to the US and therefore the decline in exposure was largely due to the sharp appreciation of the shekel against the dollar during 2017. The decline in exposure to foreign countries was also the result of the drop in the balance-sheet exposure[8] of overseas branches. The exposure of the banks to foreign financial institutions remained low in 2017 (NIS 47 billion, compared to NIS 48.5 billion in 2016) at 3 percent of total assets, a level similar to that in the previous year. As in previous years, foreign financial institutions with a rating of A- or better accounted for most of the banks' activity with this type of institution.

The banking system has over time maintained low exposure to changes in the exchange rate. Nonetheless, starting in 2009 the composition of exposure to foreign currencies began to change markedly: a major increase in the banks' surplus of off-balance sheet assets in foreign currency (primarily futures contracts for the receipt of foreign currency), in parallel with a decrease in the surplus of their balance-sheet assets, primarily total credit denominated in, and indexed to, foreign currency. The overall rate of exposure of the banks to foreign currency also remained low in 2017 (Figure 3).

Financial institutions' exposure to abroad and exposure to foreign currency:[9]

Institutional investors' exposure to foreign assets at the end of 2017 was about 26 percent of their assets while their exposure to foreign currency (including their activity in shekel/foreign currency derivatives) stood at about 16 percent.

Since 2004, there has been a gradual and consistent increase in the share of foreign investments within the total assets managed by the institutional investors, and consequently, also in the share of exposure to foreign assets and foreign currency. Until 2007, institutional investors increased their exposure to foreign countries and in parallel their exposure to foreign currency. Starting in 2009, against the background of a prolonged trend of shekel appreciation, institutional investors began hedging part of their investment abroad using derivatives, and maintained a relatively low exposure to foreign currency. Starting in 2009, they increased their total foreign assets by about $94 billion, to about $115 billion at the end of 2017. This reflects an exposure to abroad of about 26 percent of the total assets of institutional investors. In contrast, total assets of institutional investors in foreign currency including activity in derivatives grew by about $55 billion, to a level of $72 billion, which reflects an exposure to foreign currency of only about 16 percent of total assets (Figure 4).

8 The net balance-sheet exposure less local liabilities of the bank's branches in a foreign country.

9 For further details, see "Measuring institutional investors' exposure to foreign exchange and to foreign assets", Statistical Bulletin for 2016 (Bank of Israel).

2.2 Asset markets in Israel

	2017:2	2018:1
Pricing of assets—equities, bonds, housing		
Mutual funds—investments and withdrawals		
The ETF reform		
The foreign exchange market		

In the first part of the first half of 2018, there were sharp declines in share prices (primarily due to abroad) and an increase in volatility. Subsequently, the trend reversed and corporate bond spreads rose (a correction of underpricing to some extent). On the real assets side, there was some decline in home prices. At the same time, and despite the changes during the half, bond spreads remain relatively low and home prices are still high historically. The reform of ETFs was approved, thus reducing the risk to financial stability. Based on a range of considerations, we assess that the assets markets' risk of exposure remains unchanged.

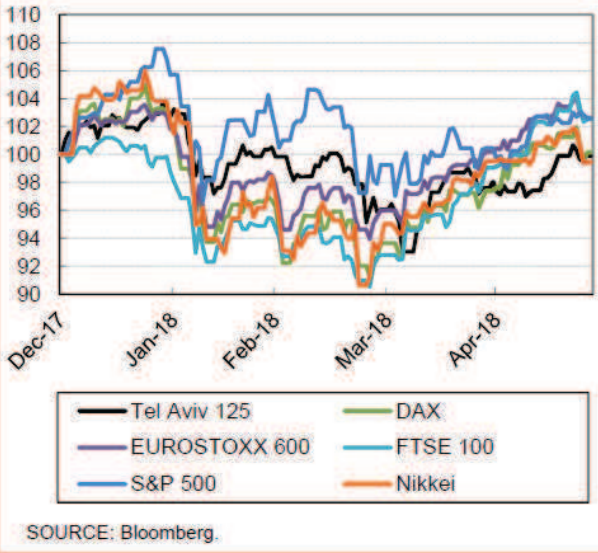
The gross value of the public's financial assets portfolio was NIS 3.6 trillion at the end of 2017. These assets are the public's savings for the future, and their value is the basis of the wealth effect, which among other things impacts on demand in the economy. At the same time, these assets serve as sources of credit and capital, collateral for loans, and more.

2.2.1 Financial assets

The equity market: Most of the equity indices of leading stock markets worldwide declined sharply during the first part of the period being reviewed, due to both a high level of selling following a long period of price increases and to increasing uncertainty regarding US trade moves. These effects were also felt in the leading indices in Israel: the Tel Aviv 125 Index declined by approximately 7 percent from the beginning of the year until the beginning of April and subsequently recovered, so that at the end of the period (June 14th) it had risen by 2.1 percent. However, the performance of the indices in Israel during the period being reviewed was lower than that of other equity indices worldwide (Figure 5), which followed a period of several months in which the indices underperformed relative to foreign ones due to financial difficulties of the pharmaceutical companies, which account for a significant share of the Israeli stock market. The price declines occurred even though the implied volatility in options on the Tel Aviv 35 Index was low, relative to similar indices in other stock markets. The correlation in share price movements[10]

Following almost constant increases in equity prices, volatility increased in the first half of the year, and there were sharp declines in the Israeli and global financial markets in the first part of the year, but the trend reversed thereafter.

Figure 5
International Comparison of Equity Markets (in Domestic Currency Terms), December 2017 to May 2018 (index: Dec.31/17=100)

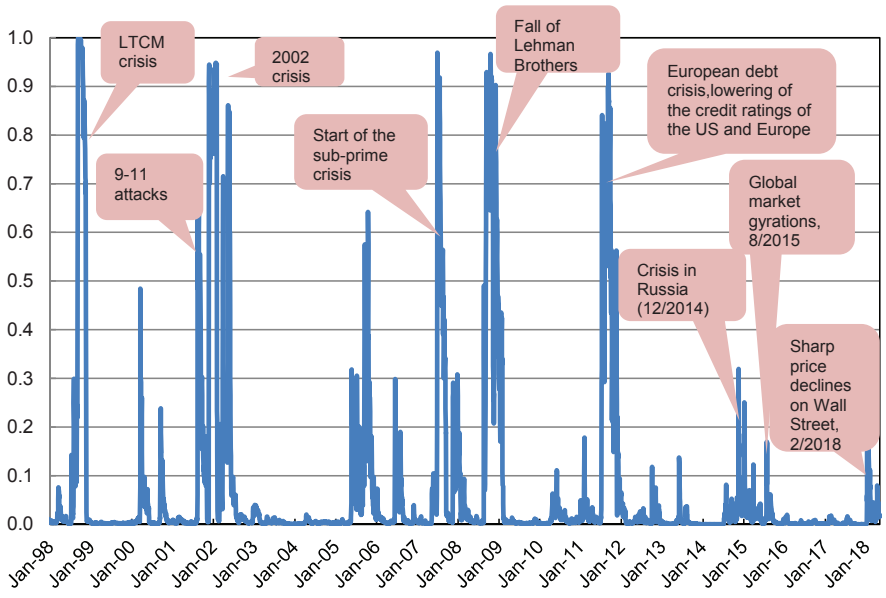


SOURCE: Bloomberg.

[10] For further details, see Figure 3 in Chapter 1 of the Financial Stability Report for the first half of 2016.

There was a marked increase in the Financial Stress Index since the sharp declines in February, after two "calm" years.

Figure 6
Financial Stress Index, January 1998 to May 2018



SOURCE: Bank of Israel calculations.

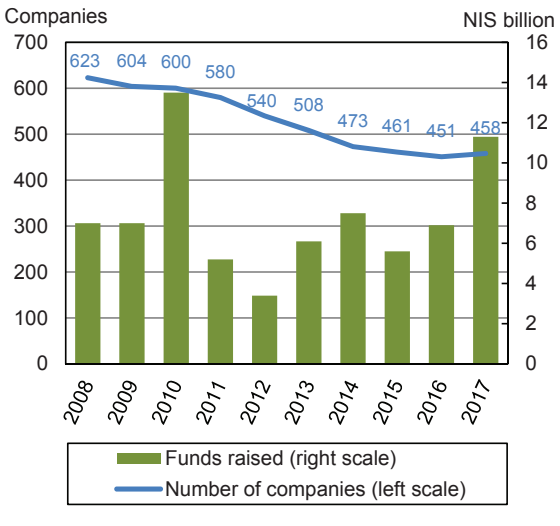
indicates that the price declines were systemic, rather than concentrated in any particular industry. Nonetheless, an examination by industry shows larger declines in the trade and services industry and the construction and real estate industry, perhaps as a result of the specific circumstances in those industries (an increase in competition in the former and a slowdown in the housing market in the latter).

The Financial Stress Index[11] (Figure 6), which is based on numerous series taken from a number of markets, reached high levels in February. The shock encompassed the equity market, the bond markets and the foreign exchange market, and occurred in a relatively correlated manner which contributed further to the rise in the Index.

Due to the erosion in market value as a result of the declines in the equity market, most of the market multipliers (the equity multiplier, the asset multiplier, etc.) in most of the industries declined and they are close to their long-term average.[12] Against this background, the technology industry is especially notable—the levels of most of its multipliers have risen gradually over a long period and are above their long-term average.

For the first time since 2008, the number of companies listed on the Tel Aviv Stock Exchange has increased.

Figure 7
Number of Publicly Traded Companies and Funds Raised, 2008–17



SOURCE: Tel Aviv Stock Exchange.

[11] See M. Graham and Y. Saadon (2013), "A Composite Index for Tracking Financial Markets in Israel", Bank of Israel Discussion Paper Series 2013.01 as well as Chapter 6 in the Financial Stability Report for the second half of 2016.

[12] Based on the financial statements for the last quarter of 2017 and the statements published for the first quarter of 2018.

The upward trend in activity on the TASE, which began in 2017, continued into 2018. For the first time since 2008, the number of listed public companies increased, following a prolonged decline of about 28 percent since then (Figure 7). The positive trend in the raising of capital also continued: in the first quarter of 2018, NIS 1.6 billion was raised on the TASE, in contrast to NIS 1.3 billion in the same quarter last year. In an examination by industry, the real estate industry stood out, with the issue of shares to the public during the last two quarters (the first quarter of 2018 and the fourth quarter of 2017) totaling about NIS 1.9 billion, about half of the total raised during this six month period (which totaled approximately NIS 3.8 billion). It should be noted that NIS 0.8 billion was raised by foreign real estate companies, which is over 40 percent of total capital raised by the industry during this period.

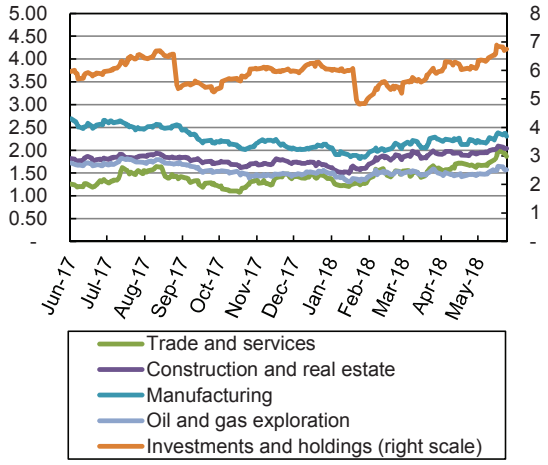
The bond market: Since the beginning of the year (up to June 14th), corporate bond prices (excluding banks and insurance companies) have fallen. Spreads also increased but only somewhat and the average today is 2.3 percent. As in the equity market, the increase in spreads was particularly noticeable in the trade and services industry and the construction and real estate industry[13] (Figure 8) and it characterized all of the ratings, but in particular bonds rated BBB. The spread of these bonds rose steeply, by 2.9 percentage points. Thus, the gap in spread between the BBB rated bonds and the A rated bonds rose to 3.9 percentage points, which more accurately reflects the differences in risk between the various bonds.

Spreads on foreign bonds, almost all of which belong to the construction and real estate industry, have risen since the beginning of the year (and up until the end of May) more than bond spreads on domestic companies in this industry. The gap between the spread of the two bond types currently is approximately 3.1 percentage points, compared to a level of less than 1 percentage point in the past. This is an indication of the internalization of unique risks that are implicit in the foreign bonds and in particular the risk of a low recovery rate. The share of foreign bonds within total bonds is increasing continuously and currently is 20 percent of the total bonds of the construction and real estate industry.

From the beginning of the year through the end of April, foreign investors have purchased about $700 million of equities and have sold government bonds and *makam* in the amount of about 1 billion shekels. The main buying and selling activity of

Bond spreads have increased since the beginning of the year, following prolonged declines, but they remain low.

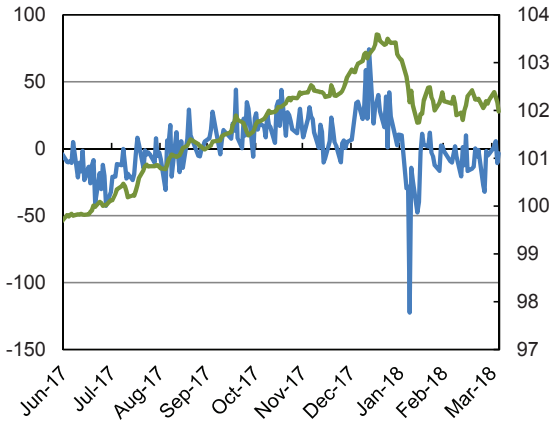
Figure 8
Weighted Average of Spreads Between Yields on CPI-Indexed Corporate Bonds and Yields on Parallel Government Bonds, by Industry, June 2017 to May 2018 (percent)



SOURCE: Bank of Israel calculations.

In parallel with declines on the financial markets, there was negative net new investment in the equity-oriented mutual funds and those specializing in corporate bonds.

Figure 9
Net New Investments in Mutual Funds Specializing in Corporate Bonds, and the Average Spread of Corporate Bonds, June 2017 to April 2018



SOURCE: Bank of Israel calculations.

[13] The graph also shows the increase in the investment and holdings industry, which was primarily the result of the sharp increase in spread on the bonds of one company, which is in the process of debt restructuring.

foreign investors was during the month of January, in parallel to the significant increase in the global willingness to take on financial risk, following the approval of the tax reform in the US. During the rest of the period being reviewed, there was relatively low activity by foreign investors.

In parallel to the declines in the markets, there were also net withdrawals in mutual funds, primarily in funds specializing in corporate bonds and in general bond funds (most of which are invested in corporate bonds), and in equities. Since the beginning of February (until April 4th), redemptions from these funds totaled NIS 3.4 billion. The correlation among the various indices in their accumulation and movement, and in particular since the beginning of 2018, emphasize the close and simultaneous connection between the markets, a connection that is likely to serve as a catalyst for sharper price declines in the case of a more serious shock (Figure 9).

Some of the factors that adversely affected the financial assets market during the period being reviewed have begun to materialize and have contributed to the changes described above. The global environment is expected to continue to be the main risk factor in the financial assets market.

The ETF reform: In the beginning of May, the Knesset's Finance Committee approved the ETF reform, which essentially transforms them from exchange traded notes into mutual funds called ETFs. As a result of the reform, 700 products, valued at about NIS 100 billion, will become mutual funds supervised by the Israel Securities Authority. The reform exempts the product managers from meeting obligations derived from the tracking of a base asset, and therefore reduces the risk originating from those companies to financial stability and the effects of distress in one of them on the risk of the entire financial system.[14] The reform will go into effect in October and will be implemented gradually by the end of the year.

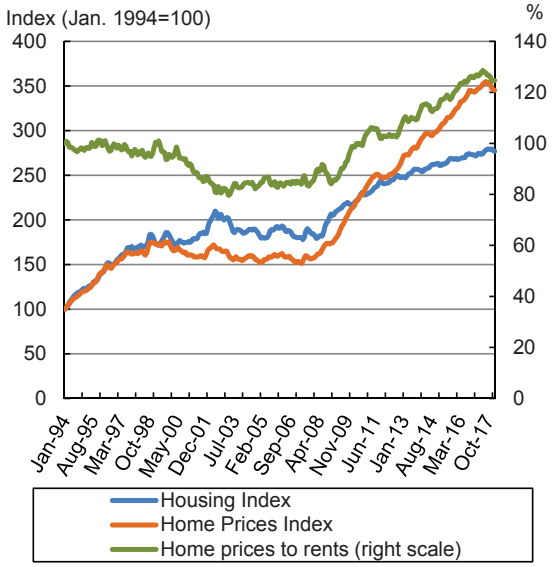
2.2.2 The housing market

The gap between the Home Prices Index and the Housing Index narrowed as a result of a more moderate increase in home prices.

Following a decade of increases in home prices, indications of a downward trend appeared at the end of 2017. According to Central Bureau of Statistics data, home prices declined from September 2017 until March 2018 (according to preliminary figures) by a cumulative 2.3 percent. As a result, an annual rate of decrease in home prices was recorded in March 2018 of 0.2 percent, in contrast to an annual rate of increase of 5.6 percent at the beginning of 2017. The annual rate of increase of the housing index (which is based on rents and is part of the CPI) was 1.8 percent in March 2018, so that the gap between home prices and the housing index narrowed (Figure 10). This indicator can be used to track the explosive behavior of the housing market.[15] Although it is at a high level from a long-term perspective, it has recently returned to the non-explosive range.[16]

In what follows, we present some of the quantitative developments in the housing market, which are likely to affect developments in this market later on. According to Central Bureau of Statistics data, the number of new homes sold

Figure 10
The Housing Index, the Home Prices Index, and the Ratio Between Home Prices and Rents, January 1994 to March 2018



SOURCE: Bank of Israel.

[14] For further details on the risk implicit in the current structure of ETNs, see Box 2 in the Financial Stability Report for the first half of 2014.

[15] The indicator is based on the ratio between the Home Price Index and the housing index (rent). For an explanation, see I. Caspi (2015), "Testing for a Housing Bubble at the National and Regional Levels: The Case of Israel", Discussion Paper Series 2015.05 (Bank of Israel).

[16] At a confidence level of 5 percent. See the article cited in footnote 15.

during 2017 was 17 percent less than in 2016 and the slowing in new home sales continued in January–March 2018. Similarly, the number of home purchase transactions (not only new homes) declined by about 10 percent. According to Central Bureau of Statistics data on unsold homes whose construction was initiated by private contractors,[17] the stock of unsold new homes in March 2018 totaled about 23,200, compared to about 24,400 at the beginning of 2017. However, without knowing the geographic distribution of this inventory, it is difficult to draw conclusions about its effect on prices, since it may be that a large proportion are to be found in areas characterized by low demand. The limited reduction in the stock of homes for sale, in view of the slowdown in sales, apparently derives from the drop in building starts. In 2017, construction was started on 48,200 homes, a drop of 12.5 percent compared to 2016. The decrease was seen in all the districts, apart from Tel Aviv. The decline in building starts is apparently the direct result of slower sales, since most contractors start building a new project or stage only after they have sold a certain percentage of the homes from the previous one. Similarly, it is reasonable to assume that lower cash flow will make it difficult for companies to shift resources to the new projects. (For further details, see an analysis of the resilience of the business sector in Section 3.3 and also Box 2 on residential construction in Israel.) Note that it is possible that when "Buyer's Price" projects on land already marketed to builders receive building permits and start to be built we will see an increase in building starts. However, the division of the housing market into a subsidized market and a free market is liable to create a situation in which a shortage of building starts in the free market will reduce supply beyond the drop in demand in this market, which is, as mentioned, influenced by the channeling of demand to the subsidized market.

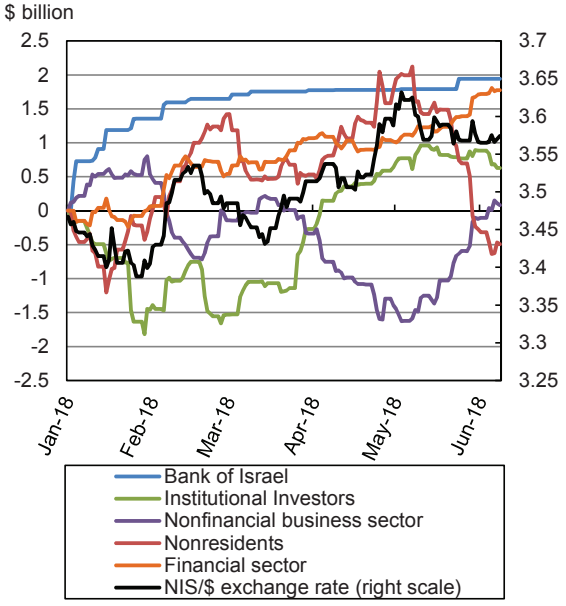
2.2.3 The foreign exchange market

Since the beginning of 2018, the dollar has strengthened somewhat against most currencies, which is a partial correction to its weakening of about 10 percent in DXY terms during 2017 (about half its rise in 2014). From the beginning of the year until June 8th, the shekel weakened by about 1 percent in nominal effective terms, a result of the strengthening of most of the major currencies—first and foremost the yen and the dollar—against the shekel, which was partially offset by the significant weakening of the Turkish lira, the ruble and the Brazilian real. The dollar strengthened against the shekel by about 3 percent. Nonetheless, it should be mentioned that the weakening of the shekel started only in February, in parallel with the increased volatility in the markets and the decline in the prices of risk assets; until then, the shekel had strengthened and traded at the end of January at particularly high levels in nominal effective terms.

The main participants in the foreign exchange market (Figure 11) during the aforementioned period were the Bank of Israel, which purchased about $2 billion during this period, most of it during January, and the financial sector, which purchased about $1.8 billion in foreign exchange, although their purchases (and also those of the institutional investors)

From the beginning of the year until the end of June, the Bank of Israel, the financial sector, and institutional investors purchased about $4.4 billion on the foreign exchange market, and nonresidents sold $0.5 billion.

Figure 11
Cumulative Foreign Exchange Purchases (+) of the Main Sectors, Since the Start of the Year, January 2018 to June 2018



SOURCE: Bank of Israel calculations.

[17] At the end of 2016, the CBS stopped publishing figures on the number of unsold new homes, but at the beginning of 2018 it returned to publishing the inventory of unsold homes whose construction was initiated by private contractors. The figures were retroactive to the beginning of 2017.

began only after the declines in the financial market at the end of January (previously they sold foreign exchange), and it appears that some of the buying was intended for purposes of supplementing collateral for investments abroad following a drop in their prices. Institutional investors purchased a total of about $600 billion (following the high level of selling in January) and nonresidents sold foreign exchange in the amount of about $500 billion, a result of the selling in an even greater amount in January and the subsequent buying. Some of the institutional investors, unlike in previous years, intend to reduce their hedging activity in the future (which is equivalent to the net purchase of foreign exchange), since it has become more expensive. The real sector exploited the weakness of the shekel and since February has sold about $400 million for local uses.

2.3 Credit[18]

	2017:2	2018:1
The business sector		
The household sector		
Characteristics of new bond issues		
The financial sector—credit risk		

The ratios of business sector and household sector debt to GDP hardly changed from 2016 to 2017. Household nonhousing debt continued to grow, but at a more moderate pace. There was an increase in bond issues, led by the construction industry and foreign companies. The quality of the issuing companies fell, though not notably. According to the array of considerations, we assess that the risk in the credit exposure channel remains unchanged at a medium level.

Total liabilities of the business and household sectors was about NIS 1.4 trillion at the end of 2017. This debt—of which 60 percent is that of the business sector—is an asset of the creditors (the public, directly or indirectly by means of the institutional investors, and the institutional investors themselves). In this section, we analyze credit according to its various components, its changes and its quality.[19]

2.3.1 Credit to the business sector and its quality

Credit to the business sector (excluding banks and insurance companies) grew by 3.8 percent during the first quarter of 2018, a higher rate than in 2017 as a whole (1.5 percent[20]). Within the total of NIS 888 billion, about 48 percent is bank credit and the rest is non-bank credit. As of the end of the first quarter of 2018, the ratio of business sector debt to business sector product grew by 3 percentage points relative to the end of 2017 (95 percent relative to 92 percent) and similarly the ratio of business sector debt to GDP rose to 70 percent from 68 percent; nonetheless, this is a low ratio by international standards.[21]

[18] This section presents an analysis of total credit (changes, levels, according to sector and according to industry), the quality of credit (according to indexes of quality, such as impaired/problematic credit relative to total credit according to sectors and industries), the quality of existing and issued bonds, and sources of credit.

[19] In Section 3, an additional perspective on the resilience of the business sector is presented, as well as the resilience of the household sector, which determines the abilities of these sectors to endure shocks.

[20] For further details, see Chapter 4 in the Bank of Israel Annual Report for 2017, in the section on "Liabilities of the business sector".

[21] According to the figures in World Development Indicators, the ratio of business sector debt to GDP in 2016 was higher in a wide variety of countries (the OECD average – 147 percent; the EU countries – 95 percent; Britain – 134 percent; and the US – 192 percent).

The main development in credit between the end of 2016 and the end of 2017, both in terms of percentages and totals, occurred in the construction industry and the communication and computer services industry. In the latter, credit fell (by NIS 13 billion or 24 percent) as a result of the drop in credit provided by foreign residents, while in the former there was an increase of NIS 13 billion (17 percent), the main part of which (NIS 12 billion) was credit provided by the banks. An examination of the breakdown of total credit according to sectors indicates that from the beginning of 2016 until February 2018, the share of micro and small businesses grew by almost two percentage points, in contrast to a decline of about half a percentage point in the proportion of large businesses. Within bank credit to the business sector, the proportion of large businesses rose, in contrast to the decrease in the proportion of micro and small businesses. This should be viewed against the background of large redemptions of credit, primarily by large businesses, during this period. The characteristics of bank credit—the interest rate and the term to redemption—remained relatively stable, except in the micro business sector, where the interest rate continued to climb, apparently due to the parallel rise in the term to redemption.

Bank credit to businesses

Bank credit to the business sector grew in the first quarter of 2018 by about 3 percent, similar to the rate during 2017. An analysis of the quality indicators for this type of credit[22] during the period 2015–17 (Table 4) shows that in most

Table 4
Quality indices of balance sheet credit to the business sector, by industry (CBS classification), the five large banking groups, 2015–17

	Credit to the industry as a share of total balance sheet credit to the business sector	Ratio of credit loss allowance to total balance sheet credit to the industry			Share of problem credit in total balance sheet credit to the industry			Share of impaired credit in total balance sheet credit to the industry		
		12/31/15	12/31/16	12/31/17	12/31/15	12/31/16	12/31/17	12/31/15	12/31/16	12/31/17
Trade	18.3	2.6	2.5	2.2	6.2	5.9	4.4	3.6	1.9	1.5
Construction	16.1	1.5	1.4	1.1	7.9	6.9	4.5	3.1	3.0	2.2
Real estate activity	13.8	2.0	1.4	1.2	5.8	3.7	2.7	3.5	2.7	2.1
Manufacturing	12.2	2.3	2.3	2.0	8.7	7.1	5.7	3.4	3.0	2.3
Financial services	11.9	1.2	1.2	1.0	1.5	4.4	1.3	1.4	2.8	0.8
Business services and	6.4	1.2	1.4	1.4	1.9	1.9	1.7	0.9	0.9	0.8
Storage and transport	5.0	0.8	0.8	0.9	4.0	2.3	3.0	3.0	1.4	1.1
Public and communal services	4.6	0.6	0.7	0.7	1.0	1.2	1.1	0.6	0.5	0.5
Hospitality, food and beverages services	3.8	1.0	1.0	1.0	4.8	5.4	5.1	4.0	3.5	3.0
Communication and computer services	2.7	3.9	3.5	3.0	16.8	12.2	7.7	13.7	10.9	6.0
Electricity, gas, and air conditioning supply	1.9	0.5	0.4	0.4	0.9	4.0	3.9	0.0	3.1	2.9
Agriculture	1.4	1.5	1.7	1.7	3.5	4.4	3.4	1.7	2.1	1.5
Water supply and sewage services	1.0	0.8	0.7	1.8	1.4	0.8	18.6	0.2	0.3	1.1
Mining and quarrying	0.9	0.3	2.2	0.7	0.2	4.7	0.7	0.0	4.0	0.7
Total trade	**100.0**	**1.8**	**1.7**	**1.4**	**5.6**	**5.1**	**3.8**	**3.1**	**2.6**	**1.8**

SOURCE: Based on reports to the Banking Supervision Department.

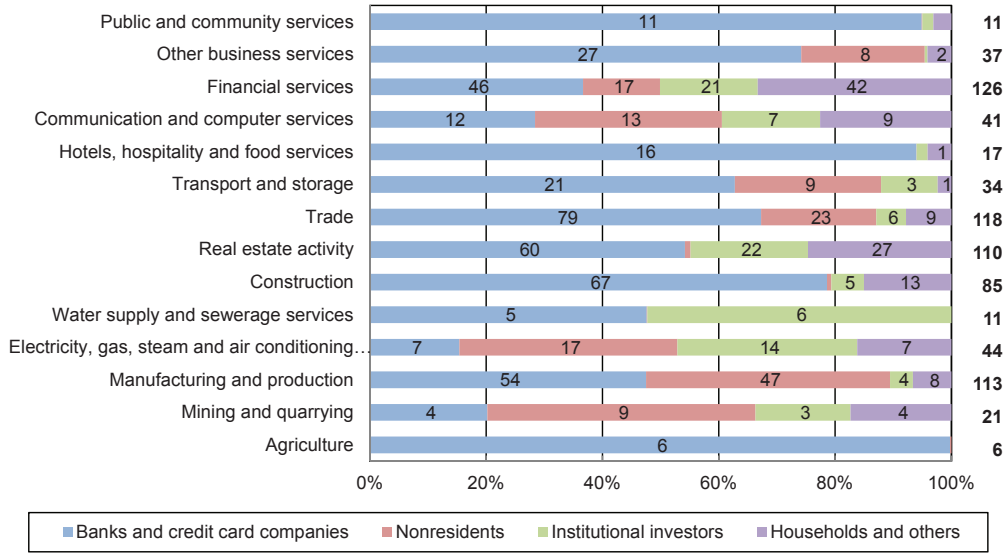
[22] For the purposes of the analysis, an examination was made of the following indicators: the ratio of the total provision for loan losses to total balance-sheet credit to the industry, the share of problem credit within total balance-sheet credit to the industry; and the share of impaired credit within total balance-sheet credit to the industry. Problem debt is debt that has been classified as impaired and debt that is not classified as impaired but payments on it are in arrears of more than 90 days. Impaired debt is commercial debt that a bank has evaluated on an individual basis and expects that it will not be able to collect all of the amounts owed to it according to the debt agreement. The provision for loan losses includes a specific provision for large commercial debts that have been identified as impaired and also a group provision for loan losses, which is calculated according to groups of debt with similar risk characteristics.

of the industries there was continuing improvement in credit to the business sector and the share of problematic credit within total balance-sheet credit to the business sector was about 3.8 percent in 2017 (which is 1.3 percentage points lower than in 2016). It is important to note that this analysis presents a broad picture of the companies that received credit (private and public, small, midsized and large)[23] and it can indicate which industries are greater sources of risk to the financial system.

In this context, the communication and computer services industry stands out. Despite the improvement during the past two years, the proportion of problematic and impaired credit within total credit to this industry remains high relative to other industries (7.7 percent and 6 percent, respectively). It should be mentioned that the share of the industry within total balance-sheet credit of the banks is low (2.7 percent) and that 28 percent of total credit to this industry is provided by the banks (Figure 12) and 32 percent by nonresidents.

About half of credit to the business sector is issued by the banks: The real estate and construction industry (construction and real estate activity) accounts for NIS 195 billion (23 percent) of credit to the entire economy.

Figure 12
Business Sector Debt[a] by Industry (Central Bureau of Statistics Classification) and by lender[b], December 2017



[a] The values in the columns refect the volume of debt in billions of shekels, specific to that lender, and the values to the right reflect the volume of debt for each industry.
[b] A total of about NIS 83 billion is unclassified by industry. Most of it (NIS 77 billion) was issued by institutional investors, and the rest by nonresidents.
SOURCE: Bank of Israel calculations.

Nonbank business credit

Nonbank credit to the business sector grew during the first quarter of 2018 by about 5 percent, after the total remained almost unchanged from the end of 2016 to the end of 2017. Debt to abroad grew by about NIS 8.5 billion relative to the end of 2017, which is primarily explained by the depreciation of the shekel. In addition, there was an increase of about NIS 10 billion in tradable corporate bonds, so that as of the end of the first quarter of 2018 the proportion of these bonds within credit to the business sector was about 22 percent, which is similar to its proportion at the end of 2017.

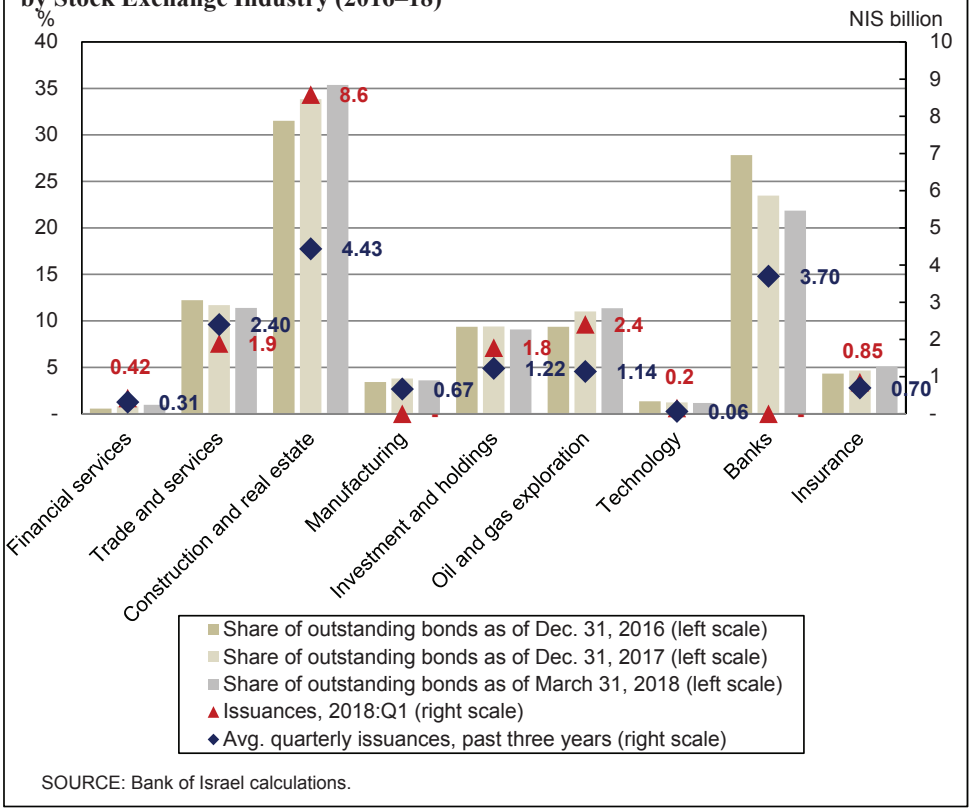
[23] With regard to the resilience of the banking system, see Section 3.1.

2.3.2 Corporate bond balances and issues

During the first quarter of 2018, a total of NIS 16 billion was raised by corporate bond issues (including the financial sector; excluding foreign bonds), an increase of about NIS 3 billion compared to the fourth quarter of 2017 and a direct continuation of the upward trend in issues of corporate bonds in recent years. As in the previous three years, the real estate industry was responsible in 2018 for more than one-half of the issues of the business sector (about NIS 8.6 billion). A prominent characteristic of the business sector's issues of bonds is the small proportion of the higher-rated group of companies (AA- and above) within total issues (from 48 percent during the previous 12 months and 69 percent in the 12 months before that to 41 percent in the last 12 months, i.e., April 2017–March 2018). It is possible that the explanation is related to the low volume of issues in the financial sector and in particular those of the banks, whose bonds are rated in the highest rating group. Similarly, it is possible that there was a decline in the quality of issued bonds.[24] With regard to the total stock of bonds (Figure 13), in most of the industries there has been no major change during the past three years apart from an increase in the construction and real estate industry and in parallel a decrease in the banking industry. As the markets continue to operate in a low interest rate environment, most of the amount raised in the business sector is intended for recycling of debt and only a small part for the expansion of companies' activity.

The construction and real estate industry's share of corporate bond issues and balances continues to increase, while the banks' share is declining.

Figure 13
Outstanding Bonds (as a Share of Total) of the Business Sector and Bond Issuances by Stock Exchange Industry (2016–18)



SOURCE: Bank of Israel calculations.

[24] For further details, see also "Evaluation of the quality of issued bonds" later in the chapter.

Bond issues by foreign companies

The year 2017 was a record year for issues by foreign companies on the TASE (about NIS 10 billion). Until recently, the phenomenon of issues by foreign companies was limited primarily to the real estate industry, while in the last quarter of 2017 it spread to other industries and continued also in the first quarter of 2018. In September 2017, for the first time, there was an issue—in the amount of NIS 280 million—by a foreign high tech company. Later, in November 2017 and January 2018, two financial companies issued—for the first time—bonds in the combined amount of NIS 900 million. The low interest rate environment, the awakening of the bond market in Israel and the relative underpricing of risk, as seen in the low level of spreads and the low gap between A-rated bonds and BBB-rated bonds, attracted foreign companies to issue in Israel. If the situation continues, additional foreign companies will likely also issue on the TASE.

2.3.3 Has the quality of bond issues changed over time?

The low interest rate in recent years, the search for yield and the underpricing of risk in the bond market are liable to reduce the quality of the companies issuing bonds, since the possibility of issuing debt at a low price is also available to relatively risky companies. In order to take a closer look at the quality of the issuing companies, we examined their characteristics over time. Since the breakdown of the issuing companies by industry changes monthly, we examined the various characteristics of the companies and of the bond issues relative to the characteristics of the rest of the companies and the bonds traded in that industry during the month previous to the issue.[25] The bonds we chose are those of domestic companies, excluding banks and insurance companies, CPI-indexed and unindexed with a fixed interest rate, which were issued between October 2005 and February 2018.

Following are the parameters we examined:

1. The spread and duration of the traded (not issued) bonds of the issuing company in the month preceding the issue;
2. Rating[26] of the issuing company[27] in the month preceding the issue;
3. Rating of the issued bond;
4. Market value, size of the company (total assets), leverage, return on equity, current ratio and the issuing company's interest coverage ratio in the month or quarter preceding the issue (according to market value).

We calculated the standard score for each of these parameters for each bond issue. We then calculated the weighted average of the standard scores (according to the weight of the value of the issued bond) in that month in order to get an aggregate picture of the quality of the issuing companies each month. We averaged over three months in order to smooth out the index. A standard score of more than zero indicates a parameter exceeding the average in that industry and vice versa. The scores are in terms of standard deviations.

Spreads and ratings – The average spread of the issuing companies is very close to the average of the relevant industry (Figure 14), which is reflected in the close proximity of the standard scores to zero. Therefore, there is no evidence that the situation of the issuing companies is different—from this perspective—than that of the industry in which they operate. In contrast, the absolute values of the ratings of the bond and of the company itself prior to the issue are high (thus indicating lower quality) relative to the industry, though not more than by half a standard deviation.

[25] From each characteristic, we subtracted the average of that characteristic in the industry and divided by its standard deviation. In this way, a standard score was obtained for the measured characteristic in terms of standard deviation.

[26] We translated the rating scale into a scale with a 1 to 10 rating, where 1 is the best rating (AAA).

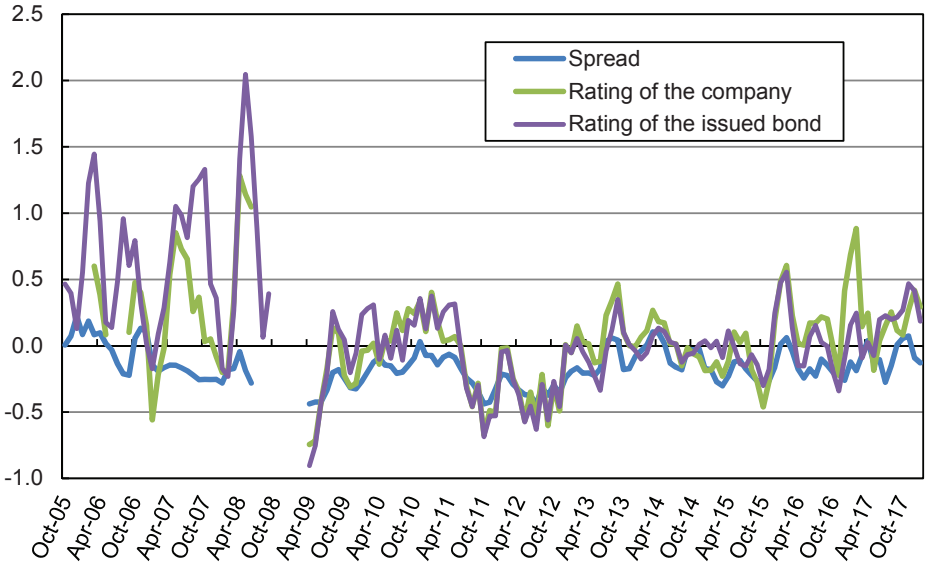
[27] The rating of the issuing company was calculated according to the average rating of all bonds of that company, weighted by market value for each bond.

Parameters based on accounting data – With respect to the size of the issuing companies (total assets), there is a clear downward trend in the standard score during the most recent period, which indicates that the size of the issuing companies is close to the average of their industry (Figure 15). This is in contrast to the situation in previous years when it was primarily large companies that issued bonds. The standard score for the leverage of the issuing companies (Figure 16) is relatively high, although it appears that this parameter is volatile and in any case the standard deviation is not large. A similar result is obtained when examining the interest coverage ratio, i.e., total profit divided by financing costs, an important parameter when examining the repayment ability of a company. Thus, although the standard score of the issuing companies is lower than that of the industry, the difference is relatively small.

From this perspective, some decline in several parameters of the issuing companies can be seen, though it is not significant. In any case, the question arises as to whether this decline, and in general the changes in the index of company quality, are correlated with the level of spreads in the market. An examination of the coefficient of correlation between the standard scores and the average spread in the business sector with a one-month lag shows a negative and strong correlation between spreads and ratings (in the vicinity of -0.6). In other words, lower spreads (in the previous month) are correlated with higher standard scores, i.e., with lower quality of the issuing companies. In contrast, the accounting standard scores are not correlated with the average spread.

It seems that in the past year, the ratings of companies and of issued bonds are lower than the industry averages, but not significantly so. The average spread of the issuing companies is very close to the industry average.

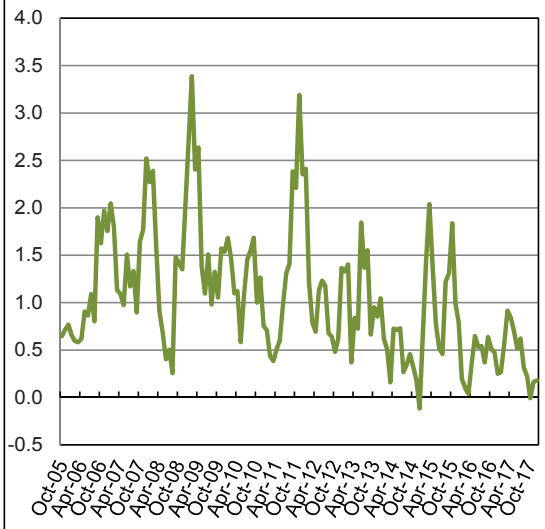
Figure 14
The Spread, Rating of the Issuing Company, and Rating of the Issued Bond, October 2005 to December 2017[a] (Nonweighted Average of Standard Scores of All Issuing Companies)



[a] The lines are not solid since there were months when there were no bond issuances.
SOURCE: Bank of Israel calculations.

There has been a marked downward trend over the years in the size of issuing companies. Large companies are the main issuers of debt during "crisis" periods.

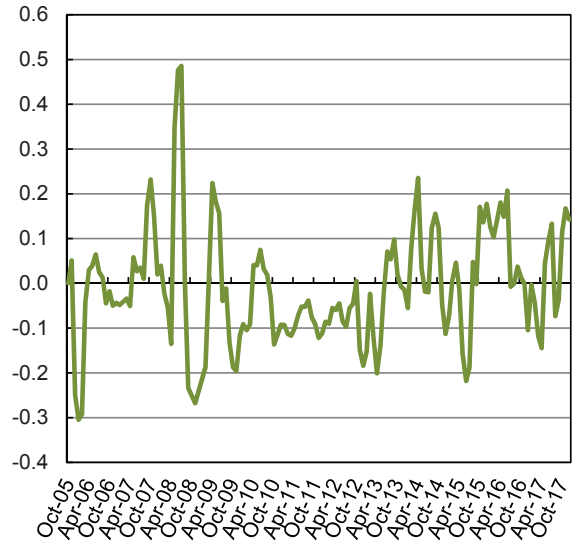
Figure 15
Size of Issuing Company, October 2005 to December 2017 (Nonweighted Average of the Standard Scores of the Issuing Companies)



SOURCE: Based on published financial statements.

The leverage of the issuing companies is volatile, and its standard score is close to zero.

Figure 16
Company Leverage, October 2005 to December 2017 (Nonweighted Average of the Standard Scores of the Issuing Companies)



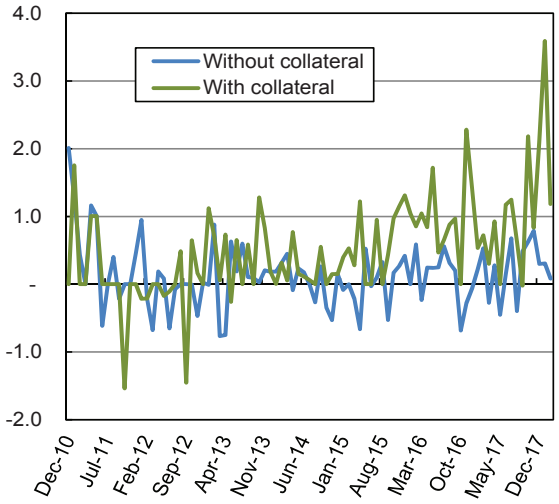
SOURCE: Based on published financial statements.

With regard to specific industries, we examined the construction and real estate industry in particular, which currently accounts for the lion's share of bond balances. We found that the characteristics of the bonds issued by the companies in this industry do not show any decline in quality in recent years.

Since the collaterals that accompany every bond are an important consideration for investors, we also examined the quality of the issued bonds according to the presence or absence of collateral (Figure 17).[28] It can be assumed that lower-quality companies must provide collateral in order to issue debt in the market. Indeed, during most of the period being reviewed, the companies issuing bonds with collaterals are differentiated by their quality from those that issued without. The spread of their traded bonds just prior to the issue is higher, their rating is lower, their market value is lower and their indebtedness is higher. Nonetheless, apart from the comparative dimension at each point in time, the market characteristics of the companies issuing bonds should be noted. Since mid-2017, the average spread of

Collateral makes it possible for companies with a relatively low rating to also issue bonds.

Figure 17
Rating of the Issuing Company, by Whether there is Collateral, December 2010 to February 2018 (Nonweighted Average of the Standard Scores of the Issuing Companies)



SOURCE: Bank of Israel calculations.

[28] The data on liens is available starting from 2010. Most of the issued bonds have a permanent lien or no lien. Of those with a lien, the most common are a first fixed lien and a negative lien.

these companies has risen and primarily their average rating has dropped (Figure 17). This is an indication that in the current situation of the market collateral makes it possible for companies with a relatively low rating to issue bonds. To summarize the findings, a low spread of traded corporate bonds is accompanied by lower-quality issues according to some of the parameters, but not to a great extent (this also applies to the construction and real estate industry). Nonetheless, when differentiating between bonds with collaterals and those without, it was found that companies issuing bonds with collaterals are of lower quality.

2.3.4 Household credit

The development of household debt[29]

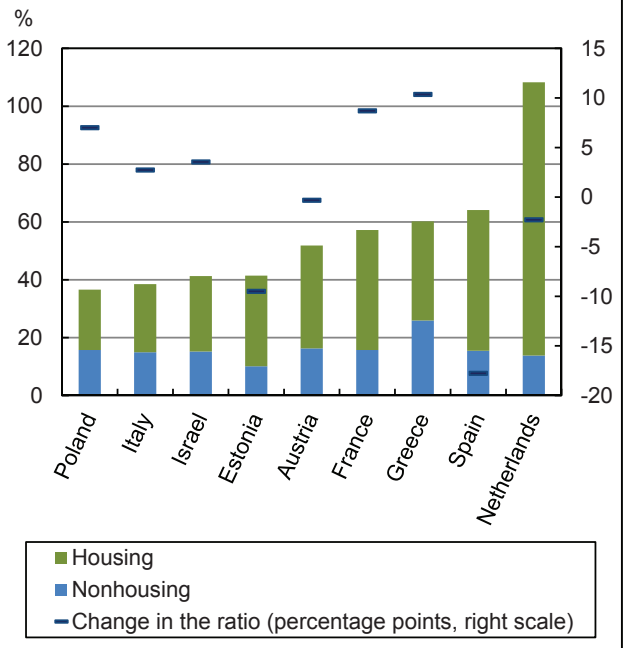
Total household debt reached about NIS 531 billion in December 2017.[30] This represents a rate of increase of 5.2 percent in 2017, a somewhat lower rate relative to previous years (6.1 percent in 2016 and 6.5 percent in 2015). The pace is mostly explained by a change in nonhousing credit, which increased by 3.8 percent in 2017, less than in previous years (6 percent in 2016 and 5.6 percent in 2015). Housing credit grew by 6 percent in 2017, which is similar to that in 2016 (6.2 percent) and lower than in 2015 (7.1 percent) (see Figure 19 and Table 5).

The ratio of household debt to GDP reached 42 percent in 2017 (an increase from 38 percent in 2008, after remaining unchanged during the previous decade); however, this ratio is still low compared to other countries (Figure 18). It is worth noting that while housing credit relative to GDP is lower than in the rest of the world, this is not the case for nonhousing credit (a ratio of 15 percent which is similar to the international average). A comparison of rates of growth in household debt to those of disposable income indicates that in recent years the debt has grown by a similar though slightly faster rate than disposable income.[31]

Household credit is obtained from four sources: the banks, the credit card companies, financial institutions and the government.[32] The banks provide a majority of household credit (89 percent: 85 percent on their own and 4 percent by way of credit cards with the bank's guarantee), both in the case of housing credit (94 percent) and non-housing credit (80 percent). Household credit provided by financial institutions remained at a low level in 2017 (4 percent of households' total credit), although it is growing at a fast

Household debt (NIS 530 billion) as a share of GDP (42 percent) is low by international comparison. Nonhousing credit as a share of GDP (15 percent) is closer to the ratio in other countries.

Figure 18
Household Debt to GDP Ratios, International Comparison, December 2016



SOURCE: Based on OECD.

[29] The development of household debt is described in detail in Chapter 4 of the Bank of Israel Annual Report for 2017.

[30] In March 2018, total household debt reached NIS 536 billion, an increase of 4.7 percent relative to March 2017.

[31] In 2017, the rate of growth in disposable income was relatively low due to the increased taxation of dividends and similarly the debt grew by a faster rate than disposable income (an increase of 5.3 percent in household debt as compared to only 1.4 percent in disposable income). For further details, see Chapter 2 and 6 in the Bank of Israel Annual Report for 2017.

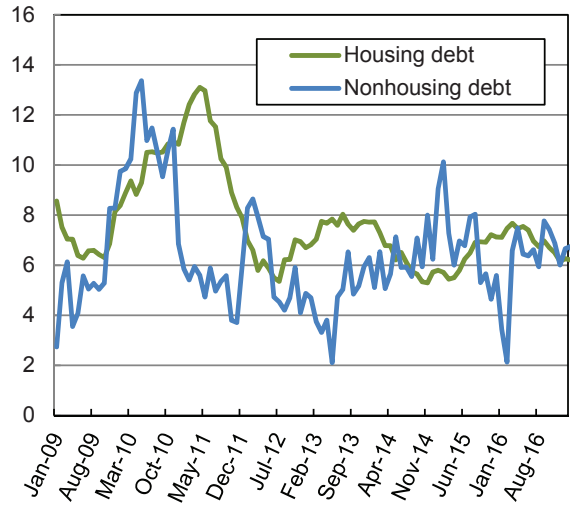
[32] In addition to what appears in the table, there is also credit provided by nonbank credit companies. Its scope is not currently known.

pace (40 percent in 2017, 52.4 percent in 2016 and 30.1 percent in 2015), similar to previous years. There is a similar trend in credit provided to households by the credit card companies (Figure 20).

The credit card companies' share of nonbank credit is larger than that of the financial institutions (including credit from credit card companies that is under the responsibility of the banks): about 8 percent of total credit to households in comparison to 4 percent provided by the financial institutions, although credit from the financial institutions is growing at a faster pace.

Outstanding household debt increased by 5.3 percent in 2017, slightly less than in previous years. Nonhousing credit increased by 3.9 percent, less than in previous years. Housing credit increased by 6 percent, similar to the 2016 rate and lower than 2015.

Figure 19
Household Credit: Rates of Change in the Past 12 Months, January 2009 to December 2017 (percent)



SOURCE: Bank of Israel calculations.

Table 5
The rate of change in household debt balances, December 2011 to March 2018
(percent, month-end)

	Dec-11	Dec-12	Dec-13	Dec-14	Dec-15	Dec-16	Dec-17	Mar-18	Mar-18
				Rate of change compared with the corresponding period of the previous year					Debt level (NIS billion)
Private disposable income				5.10	5.00	5.00	1.80		
Total household debt[1]	7.13	5.99	7.18	5.91	6.54	6.11	5.19	4.14	531.1
by source:	Rate of change compared with the corresponding period of the previous year								
Banks	9.41	7.48	8.54	6.47	7.58	5.18	4.03	3.75	474.2
of which: housing[2]	11.08	9.75	9.82	7.89	9.63	5.78	5.35	5.30	318.9
of which: nonhousing	6.84	3.86	6.38	3.97	3.86	4.03	1.45	0.74	155.3
Institutional investors	14.86	11.08	12.16	16.74	30.10	52.41	40.01	38.75	25.2
of which: housing	32.87	19.96	13.55	-4.84	19.01	131.66	58.76	54.47	12.4
of which: nonhousing	7.03	6.28	11.31	30.17	35.14	20.68	25.60	26.67	12.8
Credit card companies[3]	5.50	6.37	-0.02	18.37	18.60	19.05	16.86	16.25	19.2
Gov't: designated credit[4]	-11.32	-9.20	-10.01	-11.45	-25.65	-11.46	-12.27	-11.75	12.5
of which: housing	-11.04	-15.21	-11.97	-16.80	-30.86	-16.95	-11.74	-11.79	8.4
by use:									
Total housing credit	7.89	6.70	7.72	5.73	7.12	6.16	6.02	5.40	339.6
Total nonhousing credit	5.91	4.84	6.28	6.21	5.57	6.02	3.77	2.01	191.5

[1] Excluding credit from nonresidents, due to lack of data.

[2] Including loans extended that were not intended for home purchases but were secured by a home.

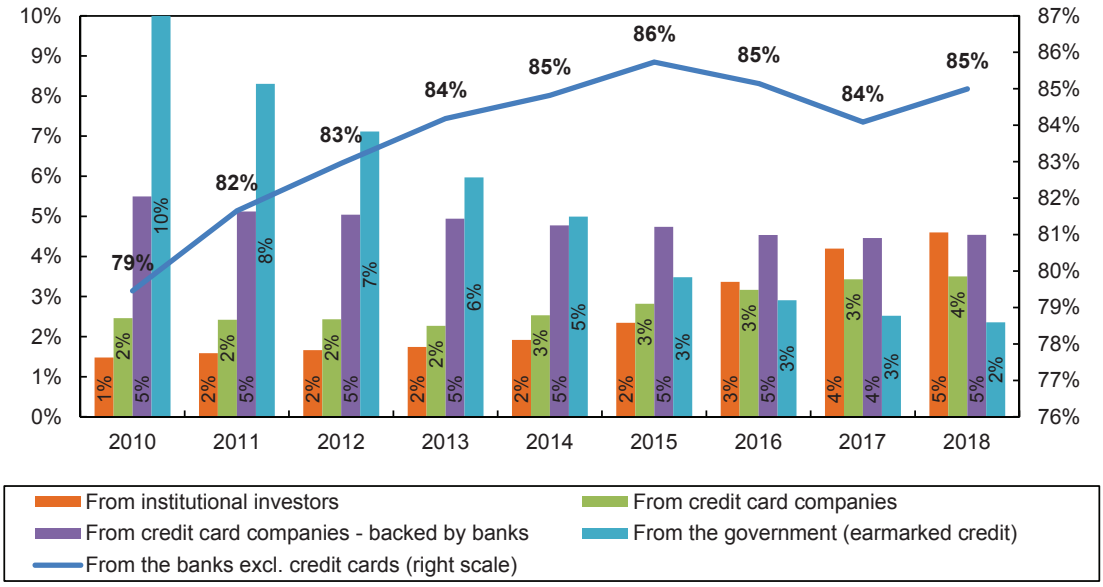
[3] Credit at the responsibility of the credit card companies. Credit at the resposibility and guaranteed by the banks is included in bank data.

[4] Credit designated for eligible borrowers is most of the amount, and the remainder is credit to students.

SOURCE: Bank of Israel.

The banks' share of household debt has declined, while institutional investors' share has increased.

Figure 20
Distribution of Credit to Households by Sources, December 2010 to February 2018 (percent)



SOURCE: Bank of Israel calculations.

Characteristics of household credit

As mentioned, the banks provide about 80 percent of **nonhousing credit**. The share of problem debt[33] at banks was 1.52 percent in December 2017 and the share of loan loss provisions was 0.97 percent (Figure 21). This represents some increase in the last two to three years. At the same time, the averages since 2013 are 1.49 percent and 1.17 percent, respectively. The average interest rate (5.9 percent) and the average redemption period (4.99 years) for bank credit to households are also at their average levels relative to previous years.

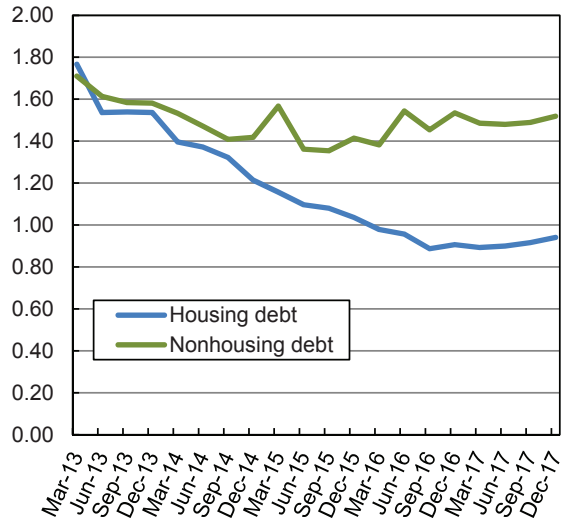
The credit card companies provide about 10 percent of total nonhousing credit. The average rate of interest charged by them for those loans was 8.2 percent in 2017, similar to the average for previous years. In addition to non-collateralized loans, the credit card companies provide loans secured by a vehicle (accounting for about 20 percent of their total credit, a rate that varies between the credit card companies) at a lower rate of interest. The proportion of loans secured by a vehicle within total credit provided by the credit card companies has fallen somewhat in recent years and in 2017 reached about 19 percent (as opposed to 21 percent in 2016 and 25 percent at the beginning of 2015).

The rate of problem debt among the credit card companies is 6.21 percent and the rate of loan loss provisions (within total credit) reached 2.5 percent, a relatively high rate relative to the historical average of 0.9 percent. The increase in the loan loss provisions signals an increased level of risk for credit provided by the credit card companies.

[33] Problematic debt is debt for which the management of the bank sees a need for closer observation and supervision, even though it does not foresee a loan loss.

Problematic debts as a share of nonhousing credit, and the rate of loan loss provisions, increased somewhat but the rate of increase is not exceptional relative to recent years.

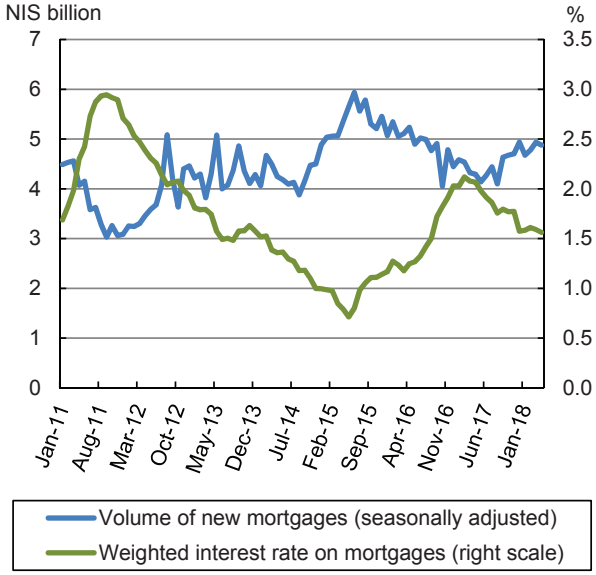
Figure 21
Problematic Debts as a Share of Total Bank Credit to Households, March 2014 to December 2017
(percent)



SOURCE: Bank of Israel calculations.

The volume of new mortgages is increasing in parallel with the decline in mortgage interest rates.

Figure 22
Volume of New Mortgages (Seasonally Adjusted) and Weighted Interest Rate on Mortgages, January 2011 to April 2018

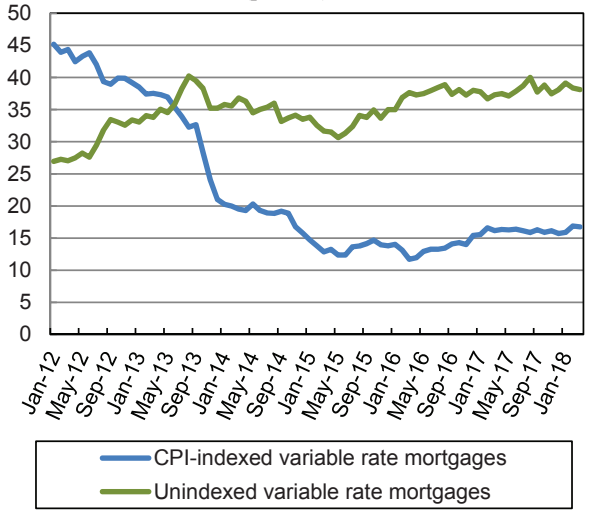


SOURCE: Bank of Israel calculations.

Housing credit is the main component of household debt (64 percent). Since the second quarter of 2015, there have been indications of a slowdown in the mortgage market, which is reflected in a decline in in new loan volume relative to previous years. This trend reversed in the third quarter of 2017 and since then total new mortgage volume has been characterized by an upward trend (Figure 22). The monthly average of housing loans provided in 2017 was about NIS 4.4 billion, in contrast to NIS 4.9 billion in 2016. In the first quarter of 2018, the monthly average was NIS 4.8 billion. With respect to prices, the average weighted real rate of interest[34] on mortgages is declining (from 2.06 percent at the beginning of 2017 to 1.59 percent at the beginning of March 2018), following an increase of 1.5 percent since mid-2015. The drop in the rate of interest during this period was recorded in all interest rate tracks (CPI-indexed and unindexed; fixed and variable). Pursuant to the analysis presented in the Bank of Israel Annual Report for 2017 (Chapter 4), one of the possible reasons for the drop in the rate of interest on mortgages is the lower real yields on

There is continued stability in the percentage of variable rate loans.

Figure 23
Variable Rate Mortgages as a Share of Total Mortgages Issued in the Current Month, January 2012 to March 2018 (percent)



SOURCE: Bank of Israel calculations.

[34] The real weighted rate of interest is calculated on the assumption of a 2 percent annual rate of inflation.

government bonds (which have fallen since the first quarter of 2017), a finding that indicates lower costs of raising capital. This is also reflected in the banks' bond yields, which declined in 2017.

The trend in the risk indicators of household debt

Since the end of the first quarter of 2015, there has been a downward trend in the percentage of housing loans provided with an unindexed variable interest rate, whose rate is directly dependent on the Bank of Israel interest rate (Figure 23). If the variable interest rate increases, monthly payments will grow, which is liable to make it more difficult to repay mortgages. In parallel, the public has extended the average redemption period on mortgages (from 19.6 years at the beginning of 2015 to 21.4 years at the end of 2017). An examination of the risk indicators shows that the average loan-to-value (LTV) ratio and the average payment-to-income (PTI) ratio are lower than historical averages. Similarly, the rate of loans in arrears of 90 days or more within total housing loans has been stable during the last two years (0.69 percent in March 2018 as opposed to 0.67 percent in October 2016) and it is low relative to the long-term average.

2.3.5 The increase in bankruptcy and receivership orders (individuals)

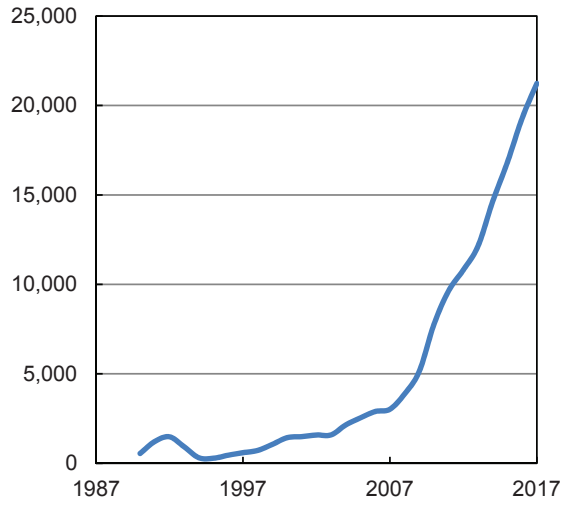
In recent years, there has been a noticeable deterioration in a number of parameters related to the repayment of debts by individuals. The number of bankruptcy requests, the number of requests for a receivership order, the number of receivership orders granted, the number of bankruptcy orders granted and the number of bankruptcy discharges have all increased. During the period 2012–16, the number of discharge requests doubled, the number of orders granted grew fourfold and the number of active files (after a receivership order) grew threefold. From a longer-term perspective, the increase in some of the parameters is even larger. For example, between 2008 and 2016 the number of receivership orders issued increased by fivefold. The percentage of discharge orders issued within the total number of open cases also increased. The main increase in receivership orders during the period 2013–16 was the result of orders issued at the request of the debtor (as opposed to orders issued at the request of the creditor).

It should be noted that the increase is unique to the parameters of bankruptcy (bankruptcy is defined for individuals and not for companies). There is no similar increase in the number of requests for liquidation of companies, nor in the number of liquidation orders issued. From 2013 to 2016, the number of liquidations orders issued grew (by about 20 percent) and their number is similar to the years prior to 2013.

Some of this increase can be attributed to the growth in consumer credit, although this requires a more in-depth examination. The data in our possession are based only on the number of cases and provide no information on amounts, the type of debtors (individuals or small businesses), etc., such that the analysis is only partial and a connection cannot be made between these trends and the trends in the share of problem debt at the banks (1.52 percent in December) and the share of loan loss provisions (0.97 percent).[35]

In recent years a number of parameters concerning individuals' debt repayment have worsened, apparently due to legal changes in the past decade.

Figure 24
Number of Bankruptcy Requests Opened During the Year, 1990–2017

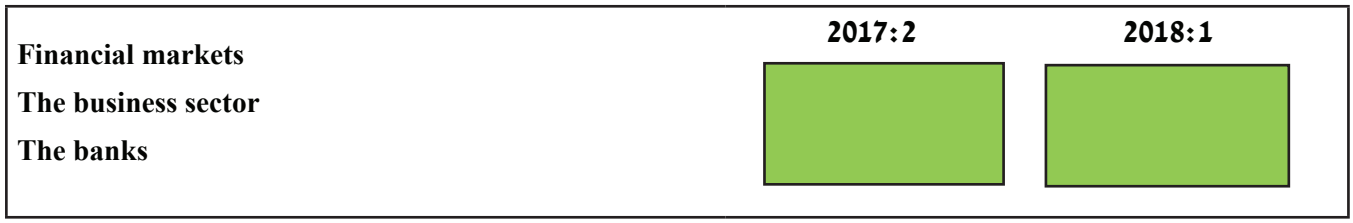


SOURCE: Ministry of Justice.

[35] The Annual Survey of Banking Supervision for 2017 cites the significant increase in credit to small and miniature businesses and the legislative changes in bankruptcy as background factors to the increase in the banks' loan loss provision.

It is possible that part of the increase in bankruptcy is explained by a number of structural legislative changes during the last decade, such as an exemption from the fee for opening a file and from payment of a deposit by debtors. In addition, the reform relating to the requests of the debtor went into effect in September 2013 with the goal of improving the efficiency of the bankruptcy procedure while providing the debtor with the possibility of rehabilitation. The main part of the reform involves the time limits placed on the bankruptcy procedure: discussion within 18 months, a payment schedule of about 3 years and total time of the proceedings not to exceed 4.5 years, at the end of which the debtor will receive a discharge.
The increase in bankruptcy figures is particularly interesting at this point in time, following the passing of the Bankruptcy and Economic Rehabilitation Law, 5778-2018, which was approved by the Knesset in March 2018. The law, among other things, relates to both individuals and corporations and changes the order of preferences of unsecured creditors. With the approval of the law, the period of payment in a bankruptcy proceeding is meant to be three years and at the end of that period the debtor will receive a discharge as a structured part of the process. Particularly distressed debtors will have an even shorter period. The declared goal of the law is the economic rehabilitation of the debtor (Section 1 (1) of the Law) and its effects should be monitored, in view of the increase in bankruptcy proceedings, particularly those initiated by the debtor.

2.4 Liquidity



The magnitude of liquidity risk is relatively low and remains unchanged.
Liquidity is the channel through which external and internal shocks can develop into a financial crisis. The higher the level of liquidity in the markets, the more assets can change hands while losing less value. The level of liquidity of the banks and the business sector therefore determines their ability to deal in the short term with shocks to their cash flow and to economic activity.

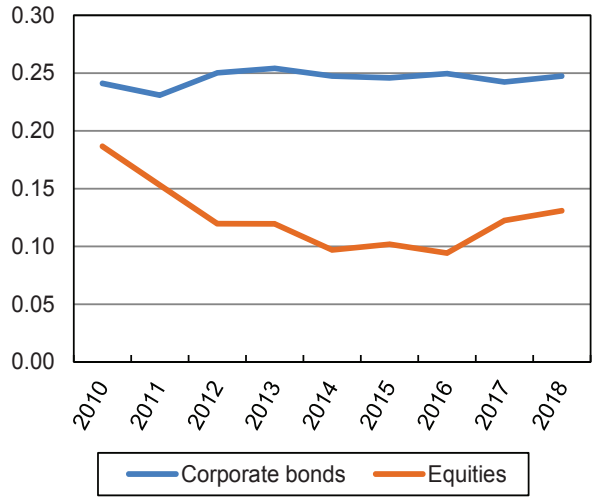
2.4.1 Liquidity in the markets

The trading volumes in corporate bonds and in equities continued to increase in the first half of 2018 and the daily average today is NIS 903 million in corporate bonds and NIS 960 million in equities. However, the liquidity of these markets is not measured only by trading volume but also by other indicators, such as the share of these volumes in the total market values of the assets traded in these markets (Figure 25). This indicator shows that while the bond market has maintained a constant level of liquidity since 2010, there has been an improvement in the equity market starting from 2016, following a number of years in which liquidity declined.
Other indicators of liquidity in the corporate bond market, which are based on intra-daily data (and in particular the bid-ask spread, which is declining; Figure 26), almost all indicate a continuing increase in liquidity in this market in recent years, despite the slight drop in recent months.[36] Nonetheless, the quoted quantity, which expresses the depth of the market, i.e., the ability to sell a large amount in a given time without any major effect on price (Figure 26), was at a relatively high level prior to the crisis in 2008, but since then has declined significantly, and is at a low level relative to before the crisis. This implies that a high level of selling is liable to generate a sharp drop in prices.

[36] See I. Gamrasni (2011), "Liquidity characteristics of the bond market in Israel during the crisis, 2008–10," Israel Economic Review 85. [Hebrew]

Liquidity (as measured by total trading turnover as a share of total market value) remained constant in the corporate bond market, while it increased slightly in the equity market in the past year.

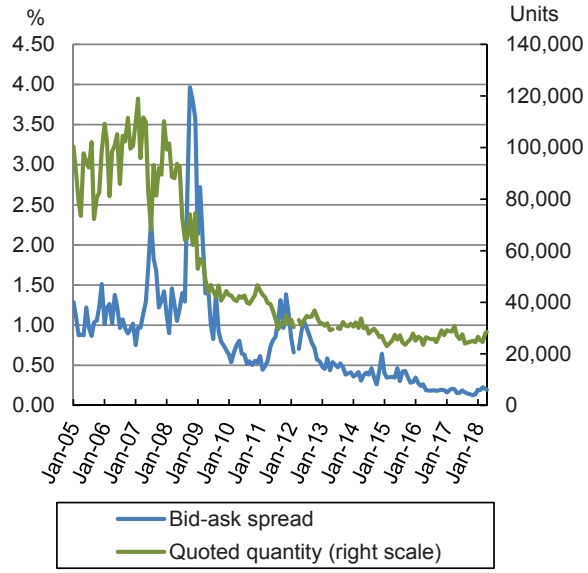
Figure 25
Ratio of Average Daily Trading Turnover to Average Market Value, Equities and Corporate Bonds in Israel, 2010–18 (percent)



SOURCE: Bank of Israel calculations.

The declines in bid-ask spreads in recent years attest to improved liquidity, but the quoted quantity is lower than in the past.

Figure 26
The Bid-Ask Spread on Corporate Bonds, and the Quoted Quantity in the Corporate Bond Market, Median, January 2005 to May 2018 (month-end)



SOURCE: Bank of Israel calculations.

2.4.2 Liquidity in the foreign exchange market

Trading volume since the beginning of the year has risen somewhat compared to volumes during the last two years (to an average level of about $1.7 billion per day). Nonresidents' share of volume is similar to that during the last two years with an average of about 32 percent (as compared to 31 percent during the past two years and 35 percent in 2015). The share of nonresidents in trading rose significantly during February, with the price declines in the financial markets. This can be explained by the assumption[37] that nonresident investors are more sensitive than domestic ones to the results of technical models and other types of models and are quick to sell local currency when volatility increases in the financial markets and investors are less willing to take on risk.

2.4.3 Firms' liquidity

A firm's liquidity reflects its ability to meet its commitments in the short term. Liquidity is measured by a number of indicators, including the current ratio (the ratio of total current assets to current liabilities), immediate liquidity (the ratio of cash and cash equivalents and short-term investments to current liabilities) and the ratio of cash flow to sales. The current ratio shows an improvement in most of the industries, apart from the oil and gas exploration industry and the high tech industries (biomed and technology), in which the ratio fell relative to the average for the last five years and relative to 2016. Immediate liquidity (Figure 27) remained low relative to previous years.[38] In contrast, the ratio of cash flow to sales has risen. It is possible that this development is an indication that the public companies are using

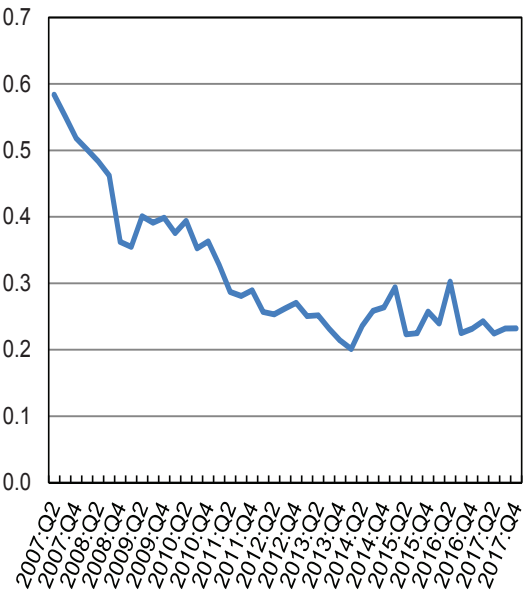
[37] This assumption is commonly made and is supported by market players around the world.

[38] This follows a continuous drop since 2007 due to the increase in current liabilities, apparently against the background of the low interest environment.

their revenues for investment in inventory and therefore the current account rises while the immediate liquidity, which does not include inventory, remains unchanged.[39] If so, it can be said that firms' liquidity has not changed significantly and their ability to produce relatively high revenues provides them with financial breathing space.

The immediate liquidity of public companies remained steady at a lower level than in previous years.

Figure 27
Immediate Liquidity[a] of Nonfinancial Companies, 2007:Q2–2017:Q4



[a] Immediate liquidity is the sum of cash, cash equivalents, and short-term investments, divided by current liabilities.

SOURCE: Based on published financial statements.

2.4.4 The banks' liquidity

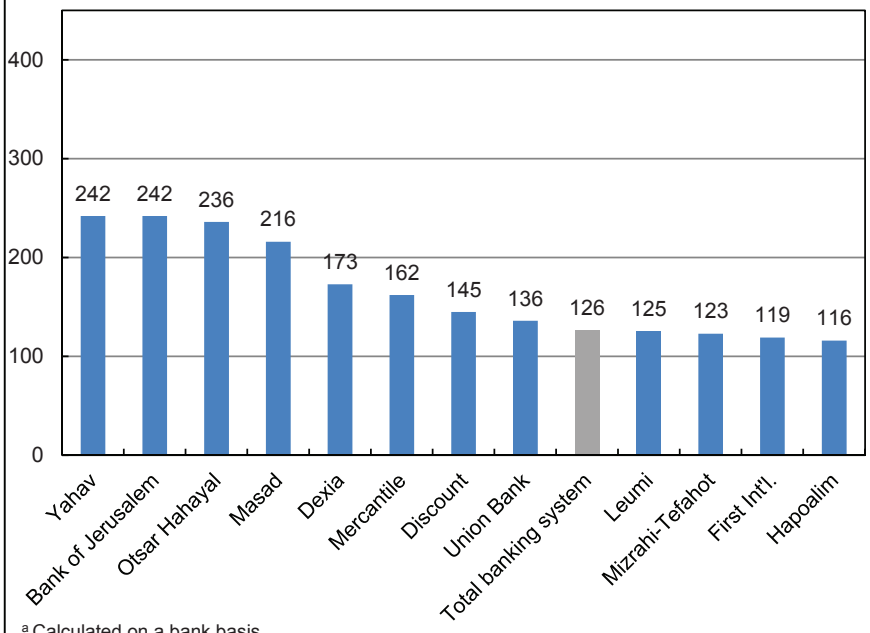
In recent years, the quality of the banks' liquidity has improved. Nonetheless, following a number of years in which the liquidity coverage ratio (LCR)[40] increased, it fell somewhat during 2017 and remained unchanged during the first quarter of 2018. The aggregate value of the ratio (on a bank basis) stood at 126 percent in the first quarter of the year (Figure 28), compared to about 127 percent in December 2017 and its historic high, recorded in December 2016 (about 138 percent), and in contrast to the average of 143 percent among the leading banks in the EU. The value exceeded 100 percent in all of the banks, the minimum requirement according to the full implementation of Banking Supervision Department directives, which went into effect in January 2017. An examination of the composition of the ratio shows that the erosion in its value this year was a result of the stability in the value of liquid assets (erosion during the first three quarters and accumulation in the final quarter) and the growth of net outgoing cash flow during the second half of the year (Figure 29).

[39] Support for this hypothesis can also be found in the fact that the quick ratio did not change in 2017. The numerator of this ratio is similar to that of the current ratio except for inventory and if this ratio—like immediate liquidity—did not change, then the companies' profits were in part channeled to investment in inventory (and as a result inventory increased).

[40] The LCR, developed by the Basel Committee to enhance the short-term resilience of banking corporations' liquidity profiles, indicates the quantity of HQLA (High Quality Liquid Assets) that corporations should hold in order to withstand a significant stress scenario that lasts thirty calendar days. The LCR is composed of two elements. The first, on the numerator side, is the inventory of HQLA (High Quality Liquid Assets), which is comprised of two levels of assets. Level 1 includes high quality assets that may be held in unlimited amounts, and Level 2 is composed of assets that are limited to a maximum aggregate holding of 40 percent of the HQLA inventory. (This level is divided into two sublevels: 2A and 2B. At the latter level, the share of assets that may be held is limited to 15 percent.) The second element, on the denominator side, is the total net cash outflow, i.e., the expected total cash outflow less the expected total cash inflow in the stress scenario. The expected total cash outflow is calculated by multiplying the balances of different categories or types of balance-sheet and off-balance-sheet liabilities by their expected runoff or drawdown rates. The total expected cash inflow is calculated by multiplying outstanding contractual receivables by the rates at which they are expected to be received in the scenario, up to a cumulative 75 percent of the predicted total cash outflow.

The average liquidity coverage ratio of the banks declined, but remained above the minimum requirement (100%).

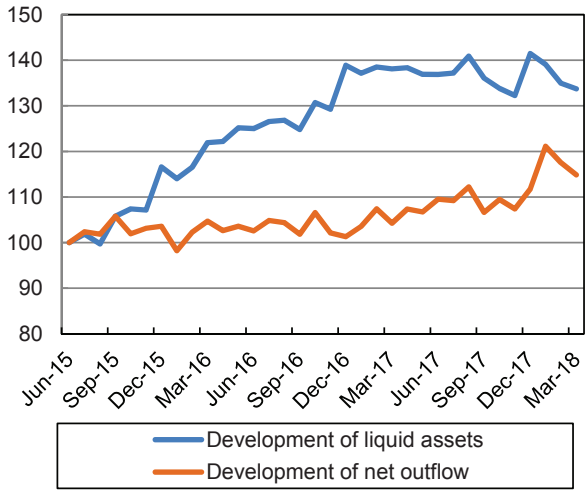
Figure 28
Liquidity Coverage Ratio (Total Activity), Total Banking System[a], March 2018 (percent)



[a] Calculated on a bank basis.
SOURCE: Based on reports to the Banking Supervision Department.

The liquidity coverage ratio has eroded, despite stability in the value of liquid assets.

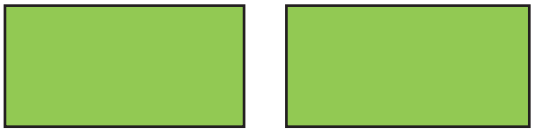
Figure 29
High-Quality Liquid Assets (HQLA)[a] and Net Outflow, Total Banking System, June 2015 to March 2018
(Index: June 2015=100)



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

2.5 Interconnectedness

	2017:2	2018:1
Exposure between institutions		
Overlapping portfolios		
Syndications		



The interconnectedness in the local financial system remained low. The decline in net indebtedness in respect of interbank loans continued. The exposure of the banking system to financial institutions continued to decline. In contrast, the exposure of the financial institutions to the banking system increased somewhat and in addition the overlap between the banks' loan portfolios increased.

2.5.1 Interconnectedness in the financial system

The interconnectedness in the financial system is a structural channel of exposure to risk that exists to a moderate extent also in the Israeli economy.

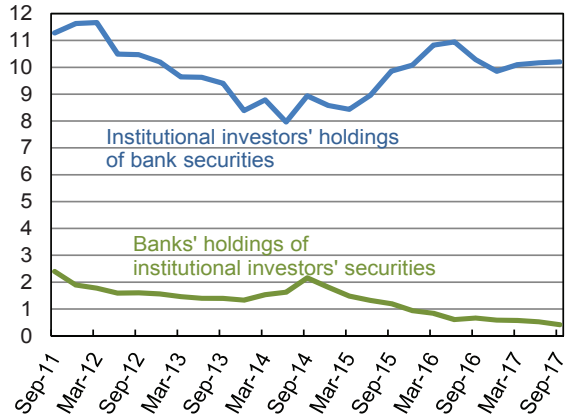
The interconnectedness between the various financial institutions is a channel through which risk may be conveyed and a shock to a specific institution can become a systemic shock. Interconnectedness can be created directly or indirectly. The direct channel includes direct exposure of one institution to another. The first exposure of this type is created by interbank loans. The decline in this type of exposure, which began in mid-2011, is continuing and it stands at a total net liability of less than NIS 11 billion. The direct exposure of the banking system to financial institutions by way of their holdings of securities also declined and stands at only 0.4 percent of their total securities portfolio. In contrast, the exposure of nonbank financial institutions to the banking system by way of their holdings of securities rose somewhat and stands at 10.2 percent of total assets (Figure 30).

The indirect exposure between financial institutions continued to rise, due the involvement of the banks in syndication deals with the financial institutions and the sale of loan portfolios. The inventory of syndication deals for which the bank provides service stood at NIS 73.4 billion at the end of 2017, a slight drop since the previous year. At the same time, there was an increase in total credit risk that the banks sold and for which they provide service, from NIS 9.7 billion at the end of 2016 to NIS 12.3 billion at the end of 2017. Another channel of indirect exposure is by way of the corporations that borrow from more than one bank, which creates a correlation between the banks' asset portfolios.[41] Following a long period of decline in the correlation, the trend was halted and as of the third quarter of 2017 it was similar to that at the end of 2016 (Figure 31).

[41] The index is calculated in the following stages: 1. For each bank in each quarter, the correlation coefficient between its credit portfolio and that of each of the six other banks is calculated. 2. The average weighted correlation coefficient is calculated for each bank, weighted by the assets of the other bank. 3. The correlation coefficient is calculated for the whole system by calculating an average weighted by the weights of the banks' assets of the average correlation coefficient for each bank.
In mid-2011, an additional requirement was introduced to report the total exposure between the banks and therefore a break was created in the series. Therefore, we present the services that include the banks as borrowers alongside the series that does not include them (a series without a break).

The banking system's direct exposure to financial institutions through holdings of their securities declined, while nonbank institutional investors' exposure to the banking system through holdings of their securities increased.

Figure 30
Institutional Investors'[a] Holdings of Israeli Bank Securities (As A Share of Total Institutional Holdings), and Banks' Holdings of Institutional Investors' Securities (As A Share of Total Banks' Holdings), September 2011 to September 2017
(percent)

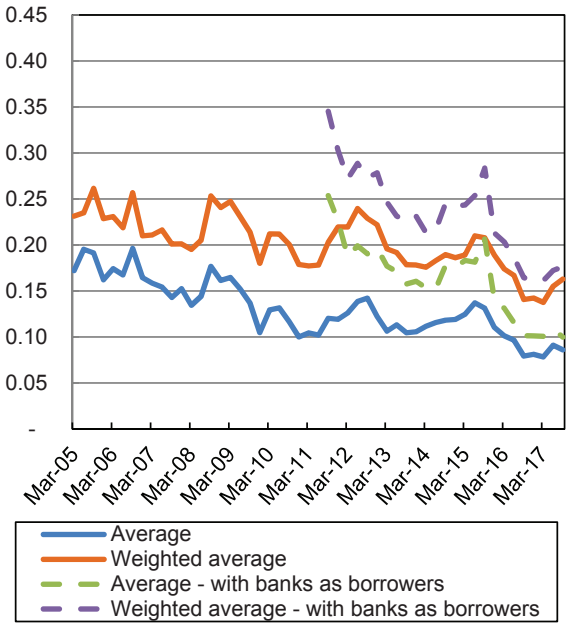


[a] Insurance companies, pension funds, provident funds and advanced training funds.

SOURCE: Based on Praedicta and Banking Supervision Department.

The downward trend in the correlation coefficient between the banks' credit portfolios has been halted, and the coefficient has even increased slightly.

Figure 31
The Average Correlation Coefficient in the Entire Banking System, 2005–2017



SOURCE: Bank of Israel calculations.

3. Resilience by institution, sector and infrastructure

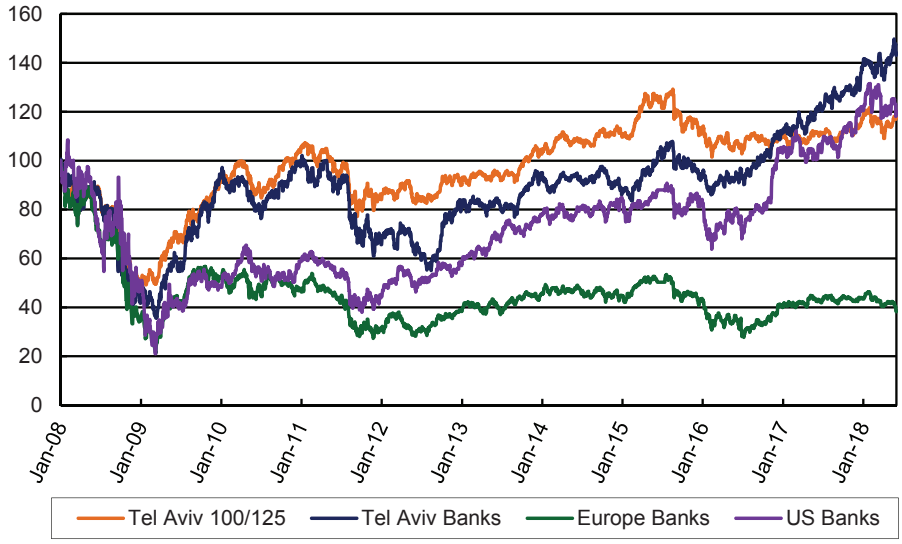
3.1 The banking system

In 2017, the banking system in Israel continued to maintain its resilience and to enhance its stability, with the continuation of the trend toward greater efficiency that began in recent years, and the assimilation of technology in the interface with customers and within the banks. This is in addition to the old and new local and global challenges they face, including the revision of the business model to fit a more technological and competitive world, preparation for the separation of the credit card companies, and preparation for major regulatory projects, including the creation of the Central Credit Register, "open banking", etc. The increased stability of the banking system was reflected this year in the continued accumulation of capital and the improvement in its composition, the maintenance of an adequate level of profitability and the maintenance of the high level of the credit portfolio's quality and of the Liquidity Coverage Ratio. Another expression of the improvement is the increase in the Bank Shares Index from the beginning of 2017 until the end of May 2018 (29 percent), in contrast to the more moderate increase (about 7 percent) in the Tel Aviv 125 Index (Figure 32). In addition, the cumulative growth in total equity in recent years and the improvement in the core capital ratio represent a challenge to some of the banks to allocate their accumulated capital surpluses correctly and in a balanced manner. During the period being reviewed, the banks continued to expand their credit portfolio while maintaining balanced growth between the business sector and the household sector (both housing and nonhousing credit). Nonetheless, the continuing increase in the exposure of the banks to

housing credit (which grew by about 4 percent in 2017) and to the construction and real estate industry (its credit grew by about 10.5 percent in 2017), the correlation between these types of credit and the their large share in the total credit portfolio of the banks (45 percent) all continue to constitute a major focal point of risk for borrowers and the banking system.

The domestic banks' shares performed particularly well compared with other domestic shares and with bank shares in the US and Europe.

Figure 32
Tel Aviv 125 Index, the Israeli Bank Shares Index, the Bank Shares Index in Europe, and the Bank Shares Index in the US, January 1, 2008 to May 31, 2018[a]
(Index: 01/01/08=100)



[a] On days when there was no trading, the previous day's figure was used.
SOURCE: Based on Tel Aviv Stock Exchange.

3.1.1 The risks

With the changes in the business environment in recent years, additional risks to the banking system have developed that originate from technological developments, the accelerated pace of regulation and legislation both in Israel and worldwide, global changes in banking and changes in consumer preferences and behavior. Thus, in addition to the variety of risks that the system has been exposed to for many years—including **credit risk, market risk, liquidity risk and operational risk**—additional risks have intensified. Due to the unique characteristics of these risks, it is difficult to fully characterize them and in particular to quantify and assess the effect of their realization. The risks arising from the new business environment create a major challenge to the banks and call for the modification of risk management and the tools used by both banks and policy makers.

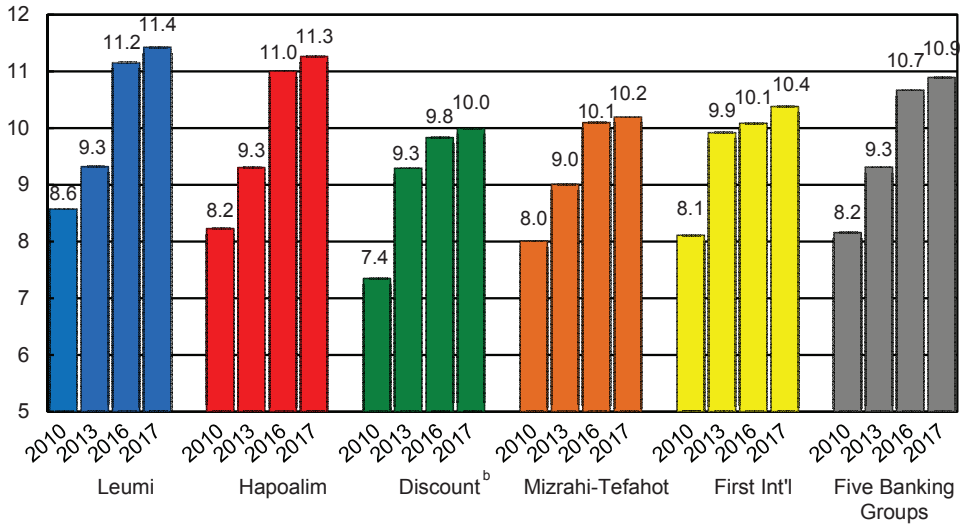
The emerging risks, which are gaining strength, include the following: business model risk, regulatory risk, technological risk, conduct risk and cross-border activity risk. The Banking Supervision Department is working to promote optimal management in order to minimize the various risks and to reinforce the ability of the banks to deal with them if they are realized. For further discussion of these risks, see the section entitled “Main focal points of vulnerability”.

3.1.2 Capital adequacy and profitability

During the year, the banks continued to increase their capital. The Common Equity Tier 1 Capital Ratio of the five largest banks stood at 10.9 percent in December 2017, as compared to 10.7 percent in December 2016 (Figure 33). The five banking groups have exceeded the regulatory capital requirements (9 percent for small and mid-sized banks and 10 percent for the two largest banks, as well as a capital buffer against housing loans that applies to all of them). The increase in equity was also reflected in the improvement of the leverage ratio (6.7 percent as compared to 6.6 percent in December 2016), which is at an adequate level and is even high by international standards. Reaching the regulatory capital requirements and the continuing accumulation of profits creates a challenge for some of the banks, namely how to use the capital surplus and how to achieve a balanced allocation between the various possibilities.
The banks achieved adequate profitability this year, particularly in view of the low interest rates in the economy. The return on equity was about 8.8 percent (compared to about 8.3 percent in 2016) which is similar to the average in recent years. The improvement in the banks' results was reflected in increased revenues from core profit sources and in reduced reliance on one-off revenues, such as extensive collection of past debts and the realization of assets in the securities portfolio, which characterized recent years.

The Common Equity Tier 1 Capital Ratio continued to increase.

Figure 33
Common Equity Tier 1 Capital Ratios[a], the Five Banking Groups, December 2010 to December 2017 (percent)



[a] Data for 2010 and 2013 are in Basel II terms (Core Tier 1 capital ratio). Data from 2016 onwards are in Basel III terms (Common Equity Tier 1 capital ratio) in accordance with the transition directives.
[b] The Core Tier 1 capital ratio of the Discount Group in Basel II terms does not include the deduction in respect of the Group's investment in the First International Group.
SOURCE: Based on published financial statements.

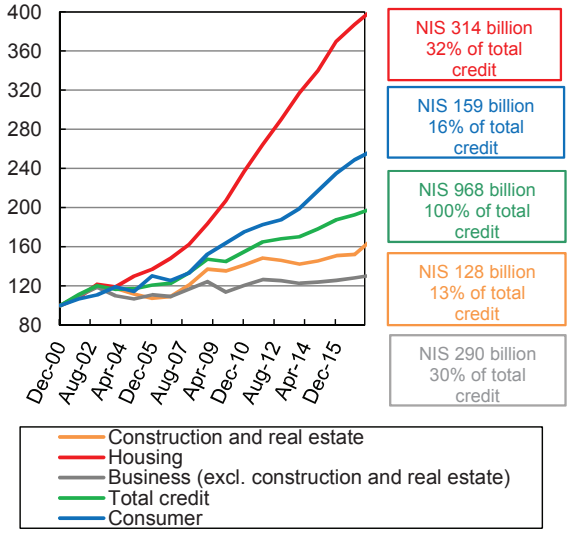
3.1.3 Credit risk

Total balance-sheet credit of the five banking groups grew by 3.5 percent in 2017 and totaled NIS 968 billion at the end of the year. Most of the growth in the banks' credit portfolio was the result of an increase in credit provided by the midsized banks, which increased their share of the market at the expense of the two largest banks.
The exposure of the banks to the construction and real estate industry and the housing market continues to constitute a major focus of risk (Figure 34). Although credit risk remained at a low level in 2017, it rose somewhat relative to 2016. Indices of credit risk continue to indicate a high level of quality for the portfolio, although in comparison to the

previous year there has been somewhat of an increase in the risk of credit to the small and micro business sector and also credit to consumers in some of the banks. With respect to the concentration of the credit portfolio, during the past decade the banks have significantly reduced their exposure to large borrowers, particularly large and leveraged borrower groups, and have improved risk management. The share of the 100 largest lenders in the credit portfolio has dropped from about 17 percent in 2007 to about 10 percent in 2017.

The banks' exposure to housing credit and to the construction and real estate industry increased.

Figure 34
Index of the Development of Balance-Sheet Credit in the Principal Industries Relative to the Base Year, the Five Banking Groups, 2000–17
(Index: Dec.2000=100)



SOURCE: Based on published financial statements.

3.2 The insurance companies[42]

- As of the end of 2017, all of the insurance companies met the capital adequacy targets specified in the transitional directives contained in the circular on the implementation of an economic solvency regime based on the Solvency II directive; however, only some of them comply with the final capital targets established by the directive. The market risk of the insurance companies remains at a low to medium level and most of the investments in their nostro portfolios are concentrated in assets with relatively low risk.

- The aggregate profit of the insurance companies increased sharply during the period being reviewed (by about 100 percent) relative to the previous year. The increase can be attributed to the large increase in profits from investment in 2017, as well as the relatively low level of profitability in 2016, which was due to the allowances recorded as part of the implementation of the Winograd Committee recommendations.

- Against the background of high profits and the raising of capital, the ratio of recognized capital to the capital required by the capital regulations rose significantly, from 149 percent in 2016 to 168 percent in 2017.

- The aggregate profit of the insurance companies increased sharply in 2017 to about NIS 2.6 billion, twice the figure for 2016. The increase in total profit was reflected in the sharp rise in the return on equity from 6.4 percent in 2016 to 9.8 percent in 2017 (Figure 35).

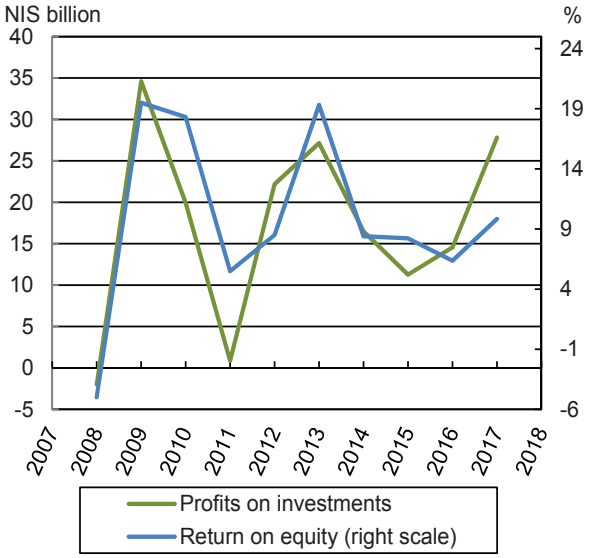
The increase in profitability was primarily the result of the sharp increase in equity and bond prices in foreign capital markets and more moderate increases in the domestic capital markets (Figure 36). These increases led to a high rate of growth (about 91 percent) in profits from investments in 2017. The price increases in the markets also contributed to growth of about 30 percent[43] in the revenues of the insurance companies from management fees. The insurance companies' profit from investment is subject to fluctuations and its level depends to a large extent on macroeconomic conditions.

[42] The data and analyses in this section relate to the five largest insurance companies in the economy and are for December 2017, unless stated otherwise.

[43] For the management of assets in profit-sharing policies, which were issued during the period 1991–2003, the insurance companies are permitted to collect fixed management fees of up to 0.5 percent per month on the accumulated assets, as well as variable management fees at a rate of up to 15 percent of the real yield obtained after deducting the fixed management fees. In the case of a loss, the insurance company is not permitted to collect variable management fees, up to coverage of the cumulative loss.

Profits from investments and the return on equity increased sharply in 2017.

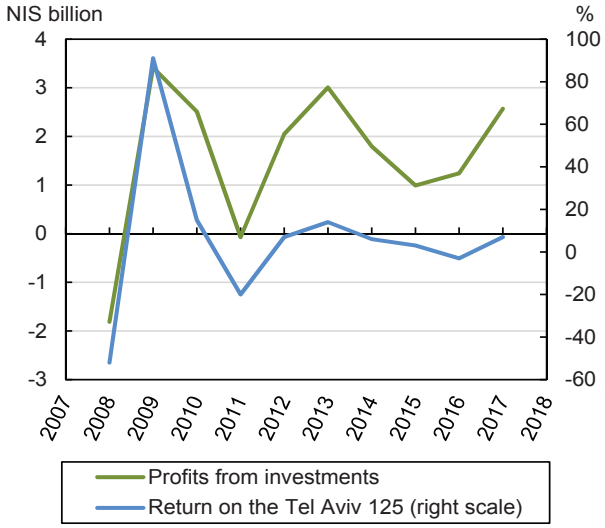
Figure 35
The Insurance Companies' Return on Equity and Profit from Investments, 2007–17 (annual data)



SOURCE: Based on the insurance companies' financial statements.

Insurance companies' profits from investments grew in 2017, due to price increases in the financial markets in Israel and abroad.

Figure 36
Insurance Companies' Profits from Investments, and the Return on the Tel Aviv 125 Index, 2008–17
(annual data)



SOURCE: Based on the insurance companies' financial statements.

An examination of the insurance company results in underwriting activity indicates some improvement, reflected in the decrease in the combined ratio of the insurance industry, from 102 percent in 2016 to 99 percent in 2017. Nonetheless, some of the decline in the combined ratio[44] is explained by the deviation, in 2016, from the long-term average, primarily due to the one-off allowances recorded in accordance with the Winograd Committee recommendations.

In addition to the high level of profitability in investment activity, the companies recognized provisions in the life insurance segment and the general insurance segment in 2017, which were the result of an increase in the present value of liabilities due to the shift downward in the interest rate curve during the period being reviewed.[45] The additional losses were created as a result of the provisions recorded by the companies in accordance with the Winograd Committee recommendations.[46]

[44] The combined ratio in the general insurance segment is calculated as the ratio of the sum of payments and the change in gross liabilities due to gross insurance contracts and investment contracts and operating expenses to the gross amount of premiums earned. Operating costs are defined as the sum of fees, marketing costs and other selling costs and the general and administrative expenses in the insurance companies' profit and loss statements. We note that the combined ratio is primarily relevant to segments with a "short tail", i.e., in which a major portion of the insurance claims are made in the same year as when the premiums were paid.

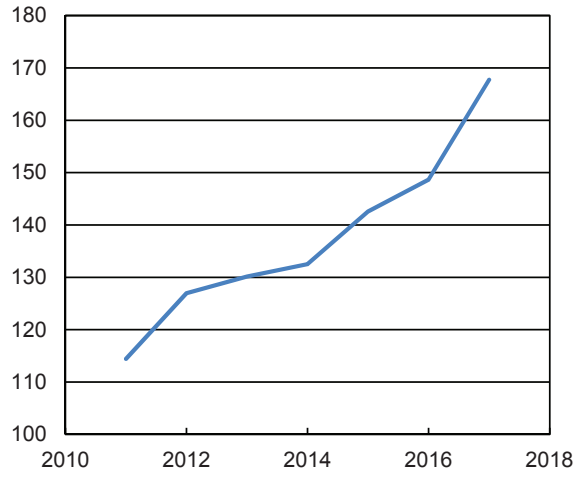
[45] For further details on the increase in insurance-related liabilities as a result of the shift downward in the riskless interest rate curve, see the Financial Stability Report from December 2015.

[46] The Winograd Committee recommended updating the life expectancy tables and the interest rate used to discount the compensation for work accidents according to the directives of the National Insurance Institute. The Committee recommended that the rate of interest used to discount the compensation be reduced from 3 percent to 2 percent and that the mortality tables and discount rate on compensation be updated once every four years. The National Insurance Institute can claim the payments made to work accident victims from the insurance companies and therefore the increase in these payments as a result of the Winograd Committee recommendations led to an increase in the insurance companies' liabilities.

The solvency ratio of the insurance companies, which is calculated as the ratio of their total capital to required capital, has increased sharply, from 149 percent in 2016 to 168 percent in 2017 (Figure 37). The background to the increase is the capital raised by some of the insurance companies in order to meet the capital adequacy targets established in the circular on the implementation of Solvency II,[47] as well as the high profits recorded during the period being reviewed. In June 2017, the Commissioner of the Capital Market announced an easing of the restrictions on dividend distribution by the insurance companies, such that the solvency ratio that an insurance company is required to maintain after a dividend payment decreased from 130 percent of required capital to 100 percent. The increase in the solvency ratio and the easing of restrictions on dividends is contributing to the ability of the insurance companies to distribute dividends.

The ratio of the insurance companies' recognized capital to required capital increased in 2017, due to capital issuances and high profits during the year.

Figure 37
The Ratio of the Insurance Companies' Recognized Capital to Required Capital, 2011–17
(annual data, percent)



SOURCE: Based on the insurance companies' financial statements.

On June 1st, 2017, the Commissioner of the Capital Market published a circular that included directives for implementation of a solvency regime for the insurance companies based on the Solvency II Directive. This circular includes instructions that go beyond the implementation of the Directive's instructions, according to which the companies must gradually increase the ratio of recognized capital to required capital in coming years according to milestones. Starting from December 31st, 2024, the companies will have to meet a target ratio of at least 100 percent. As of the end of 2017, all of the insurance companies had met the interim instructions of the Solvency II bulletin, although only some of them had met the Directive's final targets.

Market risk is a major type of risk originating in the activity of the insurance companies, and in particular the risk that cannot be diversified away by holding a diverse portfolio of assets. The realization of market risk is liable to adversely affect revenue from management fees that the insurance companies collect on profit-sharing policies and also to reduce the profit from their investments. An analysis that we carried out indicates that about 55 percent of the insurance companies' investments in their nostro portfolio are concentrated in relatively low-risk assets (government bonds, deposits and current accounts).

The insurance companies are exposed in their activity to catastrophe risk, the realization of which would require them to pay out to many beneficiaries simultaneously. The international reinsurers that the insurance companies work with are meant to compensate them for part of the liabilities that will be created if a catastrophe occurs. However, the insurance companies are exposed to the reinsurers' credit risk, a situation that will prevent the reinsurer from meeting its obligations to them. An examination of the exposure of insurance companies in Israel to reinsurers shows that most of the exposure is to companies with a relatively high rating (99 percent of the total exposure is to reinsurers rated A- or higher and 63 to reinsurers rated AA- and higher).

The concentration among reinsurers that provide insurance services to the local insurance companies is not negligible. The two largest ones insure 28 percent of the domestic companies' exposure and the three largest insure 38 percent. Nonetheless, the credit rating of the large reinsurers is AA- or higher.

47 For further details on Solvency II, see the Financial Stability Report from December 2015.

The first quarter of 2018

In the first quarter of 2018, the aggregate profit of the five largest insurance companies stood at NIS 28 million as compared to NIS 932 million in the corresponding period of the previous year. Two main factors affected aggregate profit in the first quarter of 2018: the fall in prices in the capital market, which led to a decrease in profit from investments, and also a drop in revenue from management fees; and the downward shift in the interest rate curve, which led to an increase in the insurance reserves of the insurance companies.

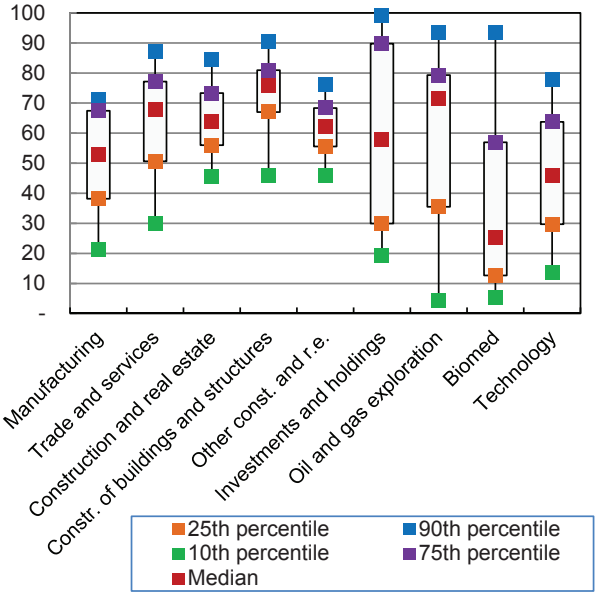
3.3 The resilience of the business sector

Business sector product grew in 2017 by a rate of 3.5 percent, which is less than in the previous year (4.3 percent) and less than the average for the last five years (3.8 percent). Nonetheless, this represents a continuation of the growth trend in business output in recent years.

The various financial ratios and indicators that were examined on the industry level point to the financial stability of the public companies, and there has been a noticeable improvement in financial resilience in most of the industries relative to 2016 and the average for the last five years (Table 6). Nonetheless, it is worth examining the construction and real estate industry and in particular the construction companies. These companies are in general characterized by high leverage and although the main development in 2017—namely, the drop in the ratio of cash flow to financing expenses which followed the slowdown in the housing market—did not undermine their stability, if the trend continues for an extended period their debt service ability may be threatened.

Leverage in the construction industry is higher than in the other industries.

Figure 38
Distribution of Leverage by Industry, 2017:Q4
(percent)



SOURCE: Based on published financial statements.

The industries with the highest leverage, according to a weighted average of leverage (Table 6b), are construction and real estate, investment and holding companies and trade and services (average leverage of about 80 percent). Nonetheless, an analysis of the distribution of the leverage ratio shows that the distribution is dispersed (Figure 38) and the risk from leveraging is not evenly distributed throughout the industry, except in construction and real estate, where the majority of companies, and in particular construction companies, are leveraged at a relatively high rate. Between the fourth quarter of 2016 and the fourth quarter of 2017, there was no increase in leverage in most of the industries (apart from technology) and leverage in the construction industry even improved throughout the distribution of the leverage ratio. However, it is possible that the improvement is a result of the change in accounting methods as part of the implementation—for the first time—of the new International Financial Reporting Standard 15—Revenue from Contracts with Customers. A comparison with the end of 2010 shows that most industries in the business sector have increased their leverage (Table 6b) against the background of the low interest rate in recent years, apart from the investment and holdings industry and the construction and real estate industry in which leverage has decreased. However, in these industries, it may be that the decrease in leverage was the result of another accounting element, particularly in the construction and real estate industry. Thus, if we separate the construction companies from this industry, it becomes clear that the main change in leverage occurred among the real estate companies, apparently due to the rise in the value of real estate assets.

The income-yielding real estate companies are required to value their investment in real estate assets according to fair value using International Accounting Standard 40—Investment Property, while in the construction industry the standard does not apply since their real estate assets are presented in the balance sheet as inventory. Investment and holding companies also benefit from the increase in value of the real estate assets owned by the real estate companies that they hold. Therefore, the drop in leverage is not the result of a decrease in the debt of the real estate companies or of the investment and holding companies, but rather is mainly the result of the increase in value of real estate in Israel in recent years.

Figure 6a
Weighted (by assets) average of financial ratios in various industries

	The current ratio			The interest coverage ratio			The operating cash flow to financing expenses ratio		
TASE industry	5-year average	2016	2017	5-year average	2016	2017	5-year average	2016	2017
Manufacturing	1.67	1.98	**1.69**	7.66	9.55	**6.43**	9.02	10.33	**6.20**
Trade and services	1.00	1.00	**1.13**	3.54	4.33	**2.83**	4.57	3.79	**4.83**
Technology	1.80	1.75	**1.66**	4.73	4.90	**5.88**	5.65	5.59	**7.67**
Financial services	1.10	1.15	**1.17**	4.15	5.32	**7.24**	1.66	5.06	**-2.02**
Biomed	4.61	1.20	**1.12**	-12.73	-0.09	**-16.97**	-2.40	3.79	**3.21**
Investment and holding	1.19	1.10	**1.38**	2.70	3.06	**3.79**	3.59	4.41	**0.74**
Oil and gas exploration	1.61	2.16	**1.22**	3.79	3.66	**5.50**	4.17	4.76	**4.29**
Construction of buildings	1.09	1.22	**1.15**	3.54	3.96	**4.38**	1.21	3.21	**-0.05**
Remaining construction and real estate industr	1.12	1.63	**1.15**	3.92	4.01	**5.38**	1.71	2.24	**1.77**

Legend:
- Improvement compared to the past 5 years' average, and compared to 2016
- Improvement compared to the past 5 years' average, but deterioration compared to 2016
- Deterioration compared to the past 5 years' average, but improvement compared to 2016
- Deterioration compared to the past 5 years' average, and deterioration compared to 2016

Figure 6b
Weighted (by assets) average of financial leverage in various industries, 2010 and 2017

TASE industry	2010	2017
Manufacturing	0.53	0.60
Trade and services	0.71	0.81
Technology[1]	0.59	0.56
Financial services	0.92	0.92
Biomed[1]	0.28	0.68
Investment and holding	0.84	0.79
Oil and gas exploration	0.44	0.73
Construction of buildings	0.81	0.77
Remaining construction and real estate industr	0.71	0.62

[1] For the Technology and Biomed industries, comparative data for financial leverage from 2012 was taken, because up to 2011 companies in these industries were classified under the manufacturing industry.

SOURCE: Bank of Israel.

The **current ratio**, which is calculated as the ratio of a company's total current assets to total current liabilities, is an indicator of the short-term resilience of a corporation or industry, namely its ability to redeem its current liabilities from its current assets. The positive trend in this ratio is an indication of the improved situation of the industry and therefore it can be concluded that, apart from the high tech industries (biomed and technology) and the oil and gas exploration industry, the ability of the business sector to cover its current liabilities from its current assets has improved.

Other **liquidity ratios**, as presented in the section on liquidity, show improvement in a number of indicators, alongside maintenance of the existing level in others, such that in this context there has been some improvement, or at least no deterioration.

The **interest coverage ratio** is calculated as the ratio of a company's operating profit during the last four quarters to its net financing expenses during that period and is an indicator of the company's or industry's repayment ability. Thus, the higher is the ratio, the greater is the company's or industry's financial resilience. Table 6a shows an improvement in the interest coverage ratio in 2017 in all industries, apart from manufacturing, trade and services and biomed, both relative to 2016 and relative to the average of the past five years. Nonetheless, it is worth mentioning that operating profit does not necessarily reflect revenues on a cash basis and the profit is also sensitive to accounting measurement, as reflected in the implementation of the new international accounting standard for recognizing income, as explained above.

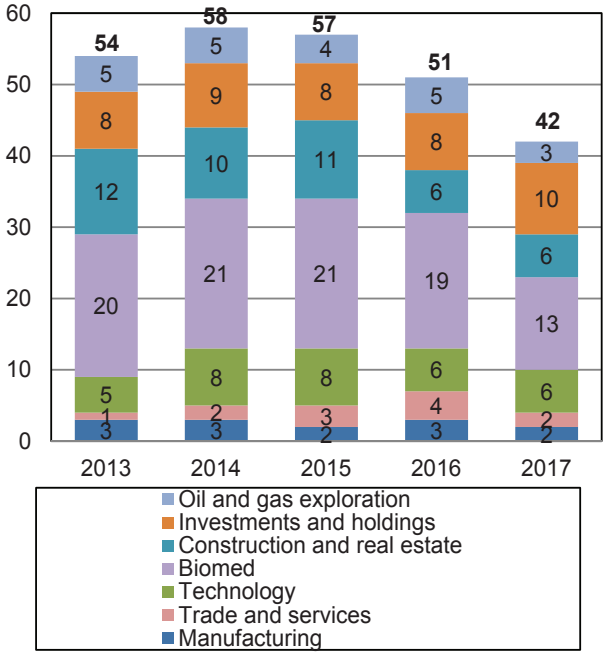
Another indicator of a company's or industry's financial resilience is the **ratio of cash flow to financing expenses**, which is calculated as the ratio of net operating cash flow during the previous four quarters to its net financing expenses in that same period. According to this indicator, there was a noticeable worsening of the ratio in the construction industry in 2017. Thus, the average ratio calculated on the industry level is negative. This is also the case in the financial services industry, although its character is not necessarily indicative of a particular problem in the same way as in the case of the interest coverage ratio. In the investment and holding industry, there was somewhat of a worsening relative to 2016 and the average of the past five years, but this is primarily attributable to one company. The worsening of the situation in manufacturing, which affected the industry's interest coverage ratio, was also reflected in the cash flow to financing expenses ratio.

Another indicator of the financial resilience of the public companies is the number of companies that have a **going-concern explanatory paragraph** in their financial statements. At the end of 2017, there were 42 such companies, which is consistent with the downward trend since 2014 (Figure 39). From this perspective, the high tech industry (biomed and technology) stands out. Thus, about 45 percent of the companies that have a going-concern explanatory paragraph in their financial statements belong to this industry.

Although the number of public companies with a going-concern explanatory paragraph is quite high (about 9 percent of all public companies), these are primarily small companies and the proportion of their assets within the assets of the industry (Table 7) shows that in most cases the proportions are very low. In other words, despite the relatively high number of such companies, the proportion is negligible from the perspective of their size, in that there is no effect on the business sector's financial stability. This conclusion is also supported by an examination of the default probability for public companies, as can be seen in the EDF indicator, which remained at a low level in all the industries (Figure 40).

The decline in the number of firms with a "going concern" explanatory paragraph is continuing.

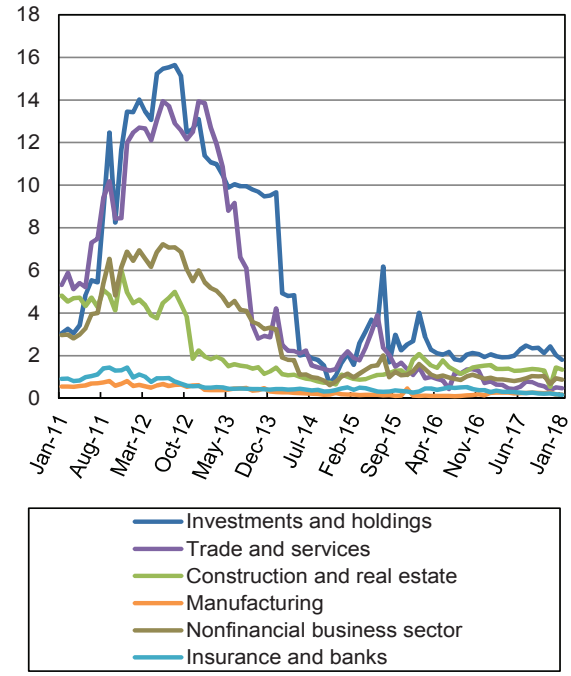
Figure 39
The Number of Firms with a "Going Concern" Explanatory Paragraph in their Financial Statements, by Stock Exchange Industry, 2013–17
(excl. the financial sector)



SOURCE: Published financial statements.

The expected default frequency remained low in all industries.

Figure 40
Expected Default Frequency (EDF) in Selected Industries, Weighted Average, 2011 to January 2018 (percent)



SOURCE: Bank of Israel.

Table 7

Share of assets of companies with an explanatory paragraph out of total assets in the industry, by stock exchange industries (excluding the financial sector), percent, 2013–2017

Year	Manufacturing	Trade and services	Technology	Biomed	Real estate and construction[1]	Investment and holdings[2]	Oil and gas exploration
2013	0.63	0.42	0.16	4.17	1.19	0.15	0.44
2014	0.47	0.09	0.14	3.33	0.95	12.33	0.08
2015	0.22	0.11	0.13	2.40	4.70	10.43	0.05
2016	2.41	0.14	0.07	0.05	2.85	0.79	0.54
2017	1.13	0.14	0.14	0.08	2.98	1.25	0.51

[1] The high rate beginning from 2015 derives mainly from Africa Israel Investments Ltd., whose assets make up about 3 percent of the total assets in the industry.
[2] The high rate in 2014 and 2015 derives mainly from IDB Development Corporation Ltd., whose assets make up about 10 percent of the total assets in the industry.

SOURCE: Based on financial reports to the public.

Recently, several fashion chains (private companies) in Israel collapsed and according to CofaceBdi[48] there are another 80 fashion companies that are also in danger. This is primarily the result of changes that have occurred in buying habits in recent years as a result of technological progress, which has encouraged online buying. This is also indicated in a survey by Moody's of the retail industry.[49] An examination of public companies in the industry, which together have taken out about one billion shekels of credit, and an analysis of selected financial ratios (leverage, profitability and inventory days) over a number of years did not reveal any deterioration in the situation of these companies during the last two years or any threat to their financial stability. It is also worth mentioning that the total bank credit (balance sheet and non-balance sheet) of the companies in the industry, whether public or private, is relatively low (about NIS 2.2 billion). Thus, at this stage, we do not identify a systemic risk that might be caused by a slowdown in the activity of the companies in the industry.

3.4 The resilience of the household sector

The balance sheet of households for 2016 shows low levels of leverage.

In order to examine the financial stability of households and evaluate the systemic risk it generates, it is common practice to examine their balance sheet of assets and liabilities (Table 8). The balance sheet presents the real and financial assets with which households cover their liabilities and thus it is possible to examine the leverage of this sector. The balance sheet data show that households have a low level of leverage: a debt to financial assets ratio of 0.18 (compared to 0.2 in the US and 0.33 in the eurozone) and a mortgage debt to value of real estate ratio of 0.1 (as compared to 0.43 in the US and 0.17 in the eurozone).

An analysis of the composition of assets shows that the value of real estate is more than 50 percent of the value of all household assets and that the second largest component (after real estate) is pension savings.[50] These two items are characterized by low liquidity and it will be difficult to sell them if that becomes necessary. However, the ratio of total debt relative to liquid assets (which are defined as all assets apart from real estate and pension savings) is 31 percent, which is low relative to 2012 when it was 35 percent. Nonetheless, it should be remembered that these are aggregate figures that do not reflect the distribution of income and assets among households, and that the leveraging of the lower deciles is known to be higher than the average.[51]

In comparison to other countries (Figure 41)[52], the proportion of borrowers at lower income levels in Israel is higher than in Europe while the proportion at higher income levels is similar to that in Europe. Thus, for example, the proportion of debt held by the lowest four income deciles in Israel is 12 percent as compared to 5 percent in Europe. The analysis shows that the proportion of households in Israel that are financially vulnerable is similar to their proportion in Europe and the proportion of households that are vulnerable according to the "debt to income" indicator is 11 percent in Israel and 16 percent in Europe.[53] The variance of leverage in the lowest decile in Israel is particularly high. The overall conclusion is that the expected effect of a failure among households on the potential credit losses of the banking system is limited, though such an event will harm the households themselves.

48 From a review of "The Crisis in the Fashion Industry" published by CofaceBdi in March 2018.

49 Published on May 17th, 2018.

50 Presented in "insurance reserves" in households' balance sheet of assets and liabilities.

51 See the Financial Stability Report from December 2017.

52 See the box "Households' participation in the loans market and their financial vulnerability" in Israel's Banking System – Annual Survey 2017. The analysis is based on financial growth data that is used in the CBS long-term survey.

53 For a threshold of 400 percent. It should be emphasized that this threshold for vulnerability is higher than that set for Israel (which is 350 percent) and therefore it could have been expected that the proportion of households identified as vulnerable would have been lower. Nonetheless, the opposite result is obtained, which implies that the situation in Israel is more favorable than in Europe.

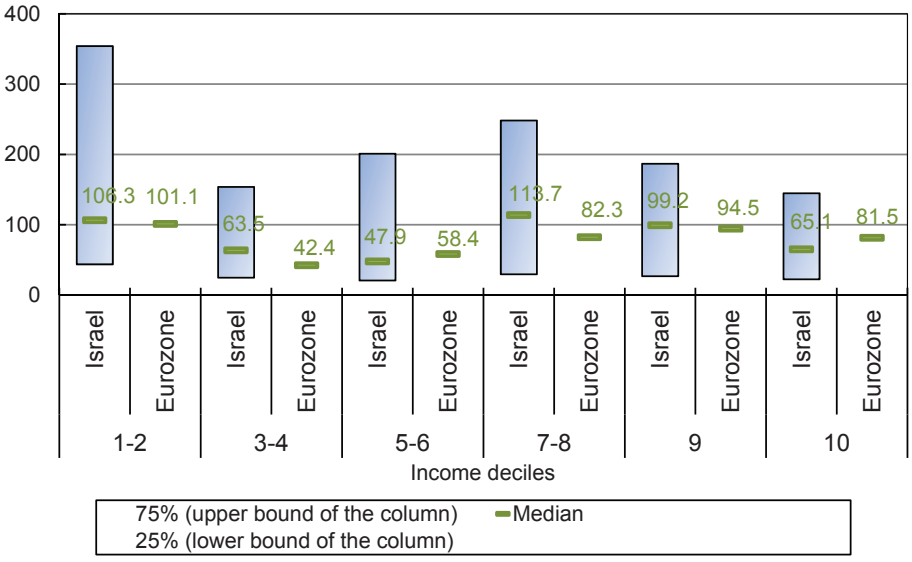
Table 8
Israeli households' aggregate balance sheet, 2016

Real assets	NIS billion	Percent of total assets	Household liabilities and net worth	NIS billion	Percent of total liabilities and net worth
Real estate	3,311	53.04	Mortgages	318	5.10
Vehicle	112	1.79	Consumer credit	186	2.97
Total real assets	**3,423**	54.83	**Total liabilities**	**504**	8.07
Financial assets	NIS billion	Percent of total assets			
Cash and deposits	593	9.49			
Securities excluding equities	255	4.08			
Equities	315	5.04			
Mutual funds	191	3.06			
Insurance reserves[1]	1,317	21.10			
Various payables/receivables	149	2.39			
Total financial assets	**2,820**	45.17	Capital	5,739	91.93
Total assets	**6,243**	100.00	**Total liabilities and capital**	**6,243**	100.00

[1] Includes life insurance, provident funds, pension funds, and advanced training funds.
SOURCE: Based on Central Bureau of Statistics.

Household leverage in the two lowest income deciles is higher than in the others.

Figure 41
Debt to Income Ratio[a] by Income Deciles, Israel and the Eurozone Countries[b]
(percentage of income)



[a] The debt to income ratio equals the ratio between a household's total liabilities and its total income.
[b] Eurozone countries excluding Lithuania, plus Poland and Hungary. Data on European countries are for 2013–15; data for Israel are for 2016.
SOURCE: Eurozone - Eurosystem Household Finance and Consumption Survey, Second Wave, ECB. Israel - Based on Central Bureau of Statistics. Taken from the Annual Survey of Israel's Banking System, 2017.

3.5 The payment and settlement system

3.5.1 Background

In Israel, there are several payment and settlement systems: (a) The Zahav system (the Hebrew acronym for RTGS—real time gross settlement), which is operated by the Bank of Israel. This system is used for final settlement and is used by all of the payments and settlement systems in Israel. (b) The Paper-based (Checks) Clearing House, which is also operated by the Bank of Israel. This clearing house deals with checks, manual drafts and collection vouchers. (c) The Credits, Debits and Payment Transfer System operated by Masav (the Banks' Clearing House), which is an electronic system that carries out interbank transfers in shekels (standing orders to debit an account, payment of salaries, payment of taxes, etc.). (d) The Payment Card Services System which is operated by Shva (the Hebrew acronym for Automated Banking Services). This system handles the approval, gathering and processing of payment card transactions in Israel. (e) The ATM system which is also operated by Shaba. This system deals with the ATM switching network for the withdrawal of cash. (f) The Stock Exchange Clearing Houses (the Securities Clearing House and the Maof Clearing House) which deal with the results of trading on the stock market. (g) CLS (Continuous Linked Settlement), an international clearinghouse for the conversion of foreign currency. This system provides multi-currency settlement services in a mechanism that ensures payment in one currency against payment in another. The shekel joined the system in 2008, which currently settles 18 currencies.

3.5.2 The Zahav (RTGS) system

The Zahav (RTGS) system), which is operated by the Bank of Israel, serves as the final and exclusive clearing house for all of the payments and settlement systems in Israel. Zahav has systemic importance for the Israeli economy and therefore it is essential to ensure its stability through the monitoring of the risks implicit within it, including liquidity risk, credit risk and legal, systemic and operational risks. The Bank of Israel evaluates its stability using various indices, including the liquidity balances in the system, availability and concentration.

Liquidity balances[54] in Zahav reflect a situation in which there is surplus liquidity in the current account and in the credit line provided by the Bank of Israel to the participants against collateral. This surplus allows the participants to transfer payments independently of the credits that will be transferred to their accounts and therefore high liquidity balances reduce the system's liquidity risk. The liquidity balances in the RTGS system are high and characterized by an upward trend (Figure 42). This trend began in mid-2008, with the shift from monetary loans to monetary deposits.

The availability of the RTGS system[55] has been high since its inception. This reflects the stability of the system and its ability to ensure business continuity. The availability of the system was 99.9 percent in 2017, which is similar to its level in 2016 and the levels common in other advanced economies.

The level of concentration of the RTGS participants reflects the scope of interbank activity among the five most active participants, and as it has increased so has systemic risk. The financial concentration ratio in the Zahav system stood at 83.1 percent in 2017, an increase of 2.1 percent relative to the previous year.[56] The level of concentration in Israel is high relative to other countries (Figure 43).

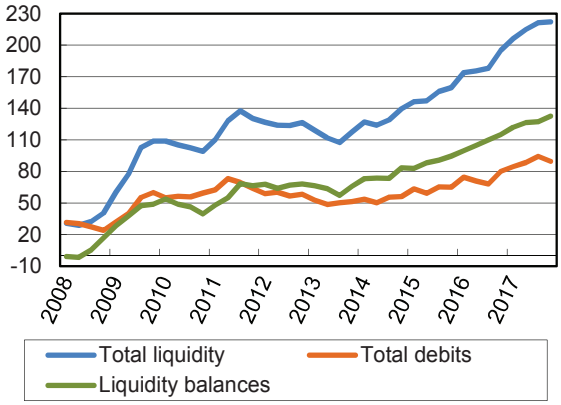
[54] The liquidity balance is the total liquidity in the RTGS system less total interbank debits, calculated as a daily average.

[55] The level of availability is estimated by the number of hours in which the system is available during the year being reviewed divided by the hours of operation in that year.

[56] In 2015 and 2016, the concentration ratio was corrected statistically, due to the merger between banks during those years.

There are high liquidity balances in the Zahav system, and they are in an upward trend.

Figure 42
The Zahav System—Total Liquidity Relative to Total Debits, 2008–17 (daily average per quarter, NIS billion)

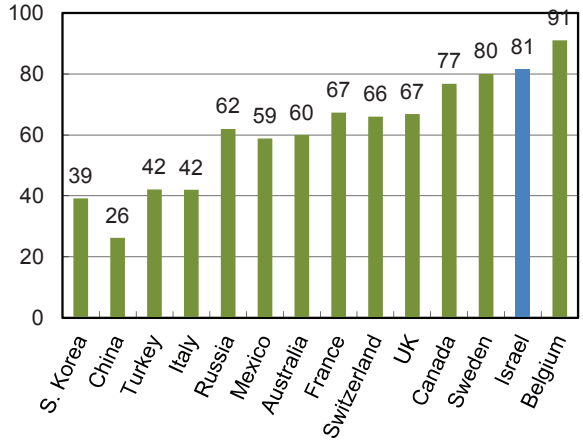


[a] The liquidity balances are equal to total liquidity in the Zahav system minus total interbank debits.

SOURCE: Bank of Israel.

The RTGS system in Israel is highly concentrated relative to systems in other countries.

Figure 43
Concentration Ratio in the RTGS Systems Globally[a], 2016 (percent, in amount terms)



[a] In 2017, the concentration ratio in the Israeli RTGS system was about 83%.

SOURCE: Bank for International Settlements.

4. Economic risk scenarios and main focal points of vulnerability

The risk scenarios presented in the report were chosen on the basis of the probability of their realization and the damage they are liable to cause to the economy, considering their unique characteristics and the fact that Israel's economy is small and open. During the six months being reviewed, we selected four risk scenarios that are similar to those we identified in the Financial Stability Report for the second half of 2017, though the chances of their realization had changed. The four risk scenarios emphasized in this report are the following: 1) the risk deriving from a deterioration in financial conditions, as part of the exit process from global accommodative monetary policy; 2) the risk implicit in a sharp reversal in the trend of global financial markets; 3) the risk from a reversal in the trend in real economic activity as a result of a shock from abroad or a geopolitical shock; and 4) the risk implicit in a rapid decline in home prices.

The main focal points of vulnerability presented in the report were chosen on the basis of their scope and according to the importance of the transmission channels that are exposed to them. The four focal points of vulnerability that we identified in the Israeli economy are: 1) the housing market; 2) the assets market; 3) household debt; and 4) the environment in which the banking system operates.

Table 3 (at the beginning of the report) summarizes our assessment of the environment in which the financial system operates, the main focal points of vulnerability and the risk scenarios that threaten the financial system. During the first half of the year, there were no changes in the exposure of the transmission mechanisms to the financial system relative to the previous six months and accordingly, vulnerability at the main focal points we have identified has not changed either. Nonetheless, in three of the four scenarios the probability of their realization has increased.

4.1 Main economic risk scenarios

In this section, we present the main economic risk scenarios that, in our assessment, can adversely affect the financial system in Israel. The selection of the risk scenarios and the assessment of the change in their probability of realization

are based on the following: (a) a subjective evaluation by the Finance Division at the Bank of Israel on the basis of economic developments, the fundamentals of the economy, the background conditions in which the financial system operates and the level of vulnerability in the case of realization; (b) forecasts of developments in the short and medium terms; and (c) surveys and reports issued by international organizations such as the IMF.
As will be presented below, our assessment is that the probability of realization of three of the four risk scenarios has risen. At the same time, each of these scenarios is on the extreme end of a broad spectrum of much less dangerous scenarios in the same category. Although the probabilities of realization for each of the three stress scenarios have risen, they are not believed to be very high. According to the conclusions of the analysis, the resilience of the financial system is relatively high and continues to improve. In our opinion, on average, there is a low probability of a major threat to the stability of the financial system.

4.1.1 Deterioration in financial conditions as part of the exit process from accommodative monetary policy[57]

The main risk to the global economy and global financial stability continues to be deterioration in global financial conditions. In its most recent Global Financial Stability Report, the IMF's assessment is that the risks to global financial stability in the short term have risen somewhat. The title for its report is "Bumpy Road Ahead" and indeed the process of returning monetary policy to normal, which began in the US and is expected to spread later in the year to other countries, is liable to be complicated and characterized by potential pitfalls and risks. According to the IMF and the credit rating companies, many years of highly accommodative monetary policy and particularly convenient financial conditions have led to risk taking and an increase in leverage among nonfinancial companies, primarily among relatively weak ones, which continue to exist thanks to the negligible costs of debt servicing. The transition of the main central banks from highly accommodative monetary policy to a more contractionary monetary policy involves numerous risks, and the fact that global growth still relies partly on very accommodative monetary policy only intensifies these risks. Although the IMF stated that the interest rate increases in the US since the end of 2015 have not so far led to a tightening of financial conditions and praised the gradual and measured process that is preparing the markets for each step taken by the Fed, it added that as with the process of monetary accommodation, whose main effect was at its start before the large excesses of liquidity were created, it is possible that the monetary contraction will have a larger effect only down the line, after liquidity surpluses have shrunk. It could also be that the US has benefited from the unusually accommodative monetary policy of other large central banks, such that the liquidity in the global markets has continued to grow (global QE) throughout this period. This situation is expected to change at the end of 2018, when the ECB ends its purchases of bonds, as announced by the ECB President at the press conference following the June interest rate decision. In this situation, the aggregate activity of the main central banks will become contractionary and financial conditions will worsen. A rapid increase in inflation may accelerate the process.
The assessment[57] is that the probability of this risk being realized has risen.

4.1.2 A sharp reversal in trend in the global financial markets[57] and as a result in domestic financial markets as well

Another risk scenario, which is not unrelated to the scenario presented above, involves steep price declines in the financial markets. An increase in interest rates by central banks, accompanied by a widening of spreads (as usually occurs during the later stages of the financial cycle), is expected to raise the cost of debt service for weak companies

[57] Based largely on the Global Financial Stability Report of the IMF – April 2018 and the international reports of the credit rating companies and foreign investment houses.

and for weak emerging economies and this is likely to lead to an increase in bankruptcies and a negative dynamic in the financial markets, which have enjoyed many years of rising prices. However, declines in the market can also have other reasons and in general it can be said that the main change in the markets since the previous Financial Stability Report is that the calm witnessed in the financial market during the last two years, including almost monotonic increases in the prices of risk assets and negligible volatility, has ended and the markets are now starting to react to risk.

The IMF has reported a number of additional factors that increase risk, including the high valuation of assets and the underpricing of risk, the fact that the financial cycle and the business cycle are both in advanced stages, the significant increase in the proportion of ETFs and in algorithmic trading and strategies that tend to reinforce overall trends in trading. To these can be added the growing proportion of weak companies among borrowers. Thus, for example, the share of companies in the US rated B or lower within total new loans rose from about 25 percent in 2007 to about 65 percent in 2017.

Up to this point, the high level of liquidity has moderated this risk, but as mentioned the situation has changed and therefore this risk and others are liable to act as a trigger to undermine investor confidence in the financial markets. It appears that in recent months, this risk has begun to be realized (primarily, but not only, in emerging markets), in view of the rise in yields on government bonds, the widened LOIS spread (the spread the banks pay above the Fed interest rate), the increased correlation between various assets and various asset classes (risk of contagion) and the rise in volatility with a tendency toward price declines at a time when the pricing of volatility is very low.

The assessment[57] is that the probability of a realization of this risk has risen and that realization is expected to affect the markets in Israel, since the correlations between the markets tends to increase in a period of crisis.

4.1.3 A reversal of the trend in real domestic activity as the result of a shock from abroad or a geopolitical event

There have recently been fears that a trade war between the US and China and between the US and other countries would harm global trade. As of now, the actual scope of the **trade war** is relatively limited and its effect on the global economy has been minor.[58] Nonetheless, the fear of escalation is creating uncertainty and risk which is being taken seriously by many.[59] The continuing uncertainty even without an actual deterioration in the situation is liable on its own to adversely affect investment and economic activity, although at this stage there is no real evidence that this is occurring. An escalation of the trade war between the US and China and between the US and other countries is liable to reduce world trade and global growth and the effect will be more serious to the extent that additional countries are pulled into the whirlpool of measure and countermeasure that will lead to increasingly closed economies. In view of the size of the aforementioned economies, even if the trade war does not expand, it may have significantly adverse effects on the rest of the world.

The geopolitical risks, and in particular the tension between the US and Russia and the US and Iran, have also increased and the risks associated with the increasing strength of anti-establishment forces worldwide, the growing political polarization in the US and the crisis in the Chinese credit market have not passed. Thus, there is increased tension with China over trade agreements and with Russia over Syria and Russian involvement in the Middle East. The main scenario remains one of calm but the risk of a policy mistake has risen.

[58] In 2017, there was a sharp drop in direct foreign investment by China in the US, but this was the result of policy measures in China and the US that are not directly related to recent developments in the trade war. National Committee on US-China Relations, Update 2018: Two-Way Street, www.neuscr.org/fdi, pp. 1-2.

[59] According to the minutes of the meeting of the Fed (FOMC) on March 20-21, some of its participants felt that the tariffs that have been imposed so far on steel and aluminum are having no significant effect on the US economy. Nonetheless, an escalation in the trade war represents a risk to the economy.

The assessment is that during the period being reviewed the probability of a realization of this scenario rose. It should be noted that the Israeli economy has in recent years enjoyed a positive business cycle which is perhaps at its peak. Although this fact puts the economy in a strong position to endure shocks, a major shock may constitute the trigger for a downturn in the business cycle.

4.1.4 A sharp and rapid decline in home prices

Home prices declined from September 2017 until March 2018 by 2.3 percent (according to CBS data that are not final). As a result, the annual rate of increase has moderated and during the period from April 2017 to March 2018 there was a decline of 0.2 percent. This is in contrast to the annual rate of increase of 5.6 percent in January 2017. The annual rate of increase in the housing index (measured by rents) was 1.8 percent in March 2018, such that the gap between home prices and the housing index has narrowed. As a result, the indicator used to monitor the explosive behavior of the housing market has returned to the non-explosive range. During 2015–16, building starts rose and crossed the threshold of 50,000 units per year and thus conditions were created to halt the rise in home prices. In addition, steps were taken to cool off demand, and in particular the taxation on home investors. As such, it appears that the cooling off in the housing market is the combined result of increased supply and the cooling off of demand in certain sectors. After 10 years of price increases, in which home prices almost doubled in real terms, and in view of the current high level of prices, the question arises as to whether the drop in prices recorded in recent months is the forerunner of a steep drop in home prices. This question should be examined against the background of the following phenomena: (1) building starts in the free market have declined; (2) there is a lack of certainty regarding the continuation of government policy regarding home investors; (3) the "Buyer's Price" program will continue to affect supply and demand in both the free and the subsidized markets; (4) it appears that the strongest construction companies are trying to avoid selling their inventory of housing when prices are falling, which is made possible by their ability to diversify their activity and by their relatively low costs of financing.
We assess that the probability of a sharp decline in home prices remains unchanged.

4.2 Main focal points of vulnerability

In this section, we present the **main** focal points of vulnerability in the Israeli economy, which expose the financial system to risk. The choice of these focal points is based primarily on a subjective assessment by the Bank of Israel on the basis of economic developments, the economy's fundamentals, the economic background conditions in which the financial system operates and the level of vulnerability in the case that a risk scenario is realized.

4.2.1 The housing market

The housing market continues to constitute a major focal point of vulnerability and its level of vulnerability during the period being reviewed remained high.
The housing market continues to constitute a major source of the economy's exposure to risk, due to the imbalances in this market and the high level of exposure to it in the financial system. The housing market has been subject in recent years to numerous interventions by way of the tax system (changes in the purchase tax and the real estate capital gains tax, the "zero VAT" program, which although not implemented had an effect on the behavior of potential buyers by way of expectations, and a multiple dwelling tax which in the end was cancelled by the Supreme Court) and subsidies to young couples ("Buyer's Price"). The banks and the financial institutions are exposed to developments in the housing market through households (i.e., by way of housing credit), the activity of builders in the construction industry (business credit), and the correlation between the value of collateral held by the financial institutions and home prices. The risk is even greater in view of the exposure of the financial system to nonhousing

consumer credit, due to the high correlation between it and housing credit.[60] The exposure of the banks to mortgages and to the construction and real estate industry has reached about 45 percent of total bank credit.

The level of exposure to the housing market through **households** remains unchanged. About 32 percent of bank credit goes to housing (about 27 percent of GDP). These levels have remained stable in recent years. Risk indices for housing credit (the LTV ratio and the PTI ratio) remained relatively low. The level of exposure of this credit to changes in the interest rate, as manifested in variable-rate mortgages, remains stable and is less than 40 percent of total housing loans.

The housing market's level of exposure through the **construction and real estate companies** has increased. In 2017, bank credit to the construction and real estate industry rose by 10.5 percent, while the credit to the construction companies alone rose by 21.6 percent, and that to the real estate companies remained almost unchanged. The growth in credit to the construction and real estate industry is mainly the result of the change introduced by the Banking Supervision Department in September 2016 regarding the limitation on indebtedness to the industry, whereby the measurement of the limitation allows the banks to recognize the sale of credit risk, which in turn allows them to increase the supply of credit to this industry. The growth in credit to the industry has also contributed to the increase in credit to projects that are part of the "Buyer's Price" program. The companies in the construction and real estate industry are exposed to a slowdown in the housing market[61] and a drop in asset prices through two main channels: (a) Difficulty in selling homes due to a slowdown in the housing market—in such a situation, their cash flow will be negative and the companies will find it difficult to both service their debt and pay vendors and subcontractors; (b) A marked decline in home prices—in such a situation the companies will record losses due a loss in value, which will lead to a rise in leverage. This will also result in violations of the covenants that obligate them with respect to lenders, which may cause lenders to demand immediate redemption of the company's liabilities toward them and even the forfeitures of collateral. As of December 2017, the construction industry accounted for 6.7 percent of bank credit (NIS 69 billion from the five largest banks), and the construction and real estate industry accounts for 37 percent of corporate bonds (about NIS 130 billion). These rates remained stable. The aforementioned risks are increasing since most of the public companies in this industry have a high level of leverage.[62]

The exposure of the banks deriving from credit to the construction and real estate industry and housing credit continues to constitute a major focal point of risk.

Real activity is also exposed to the housing market. As of the end of 2017, the construction industry (residential and commercial) produced about 8 percent of business sector output and therefore this exposure is significant to the entire economy. According to the financial balance, real estate accounts for about one-half of household assets. Therefore, a drop in the value of real estate assets is liable to reduce **total consumption** by households by way of the wealth effect. The effect on GDP may be significant, since in recent years private consumption has driven economic growth.

Taking into consideration all of the factors, in our opinion, the exposure to the housing market remains unchanged at a high level.

4.2.2 The financial assets market

The financial assets market continues to be a focal point of vulnerability. The vulnerability remains unchanged at a medium level.

In Israel and other countries, the low yield and low interest rate environment, the high level of liquidity and the search for yield are supporting the increase in asset prices in general and those of financial assets in particular. The

[60] Which is apparently because homebuyers taking out a mortgage also take out consumer loans in order to supplement their equity capital.

[61] For further details, see Chapter 9 of the Bank of Israel Annual Report for 2017.

[62] For further details, see Box 2. We would also mention that the box analyzes public companies only, twelve of them in depth.

gross value of the financial assets portfolio of the public stood at NIS 3.6 trillion (an increase of 5 percent relative to the end of the previous year). These assets constitute the public's savings for the future and their value forms the base for the sense of wealth which, among other things, affects demand in the economy. At the same time, these assets are also sources of credit, sources of capital, collateral for loans, etc. The public in Israel[63] holds about 80 percent (NIS 492 billion) of the value of equities traded in Israel and close to 100 percent of the value of corporate bonds of Israeli companies (NIS 335 billion, as of February 2018). Thus, the public is highly exposed to risk assets and is sensitive to declines in their prices. The first channel through which the financial system is affected in the case of a realization of one of the risk scenarios is the assets market. If there is indeed a decline in prices, it is expected to become more difficult to raise capital and issue debt; there is expected to be a negative wealth effect which will affect demand in the economy; etc. The response of asset prices is dependent on, among other things, the composition of holdings and primarily the share held by entities that invest for the short term. Included in this definition are households and businesses, as well as mutual funds, provident funds, and liquid advanced study funds. This group holds about 77 percent of the value of the corporate bond market—following a long upward trend that started in mid-2012—and 67 percent of equities' market value. In the case of a shock that leads to steep price declines, these savers are liable to respond by selling on a large scale and thus to enhance the price declines. During the first half of the year (until the beginning of April) there were moderate declines in share prices (following those abroad) and some correction to the underpricing of corporate bonds, and there were net redemptions from mutual funds specializing in equities and those specializing in corporate bonds. In contrast, and despite the changes during the first half of the year, most corporate bonds are held by mutual funds and bond spreads are still relatively low.

Taking into account all of the factors, the exposure to the financial assets market remains unchanged,[64] in our assessment, at a medium level.

4.2.3 Household debt

Household debt continues to be a focal point of vulnerability. The level of vulnerability during the period being reviewed remains medium.

The access to credit and the option of increasing debt improves the situation of households by making it possible for them to smooth their consumption and thus to increase private consumption (and therefore demand in the economy). However, if households' indebtedness reaches high levels, it increases risk and intensifies the vulnerability of households. A high indebtedness level may lead to a sharp drop in consumption as a result of an unexpected shock and thus will have a broad effect on the economy. Another risk implicit in a high level of debt is the difficulty in repaying it. The financial system is exposed to this risk.

An examination of the situation of households shows that there has been no major change since the previous Financial Stability Report and the situation remains stable. The debt to GDP ratio is 42 percent, similar to its level in the previous period and low in international terms. The debt of households is composed of two parts: housing debt (27 percent of GDP) and non-housing debt (15 percent of GDP). The housing debt is supervised and characterized by defined indicators of risk (LTV, PTI, period to maturity, etc.). Non-housing debt is not characterized by any quantitative restrictions (such as LTV and PTI) and is provided by financial institutions according to their level of risk appetite and their internal models for risk management. Most of the nonhousing credit is provided by the banks, but in parallel there is growing activity among other financial institutions (credit card companies and non-bank financial entities) that provide non-bank credit. If credit risk is not priced correctly by lenders, the accessibility of consumer credit is liable to increase the risk of default among households.

63 Households, businesses, mutual funds, provident funds, study funds and pension funds and insurance companies (nostro and profit-sharing life insurance policies)

64 It is important to emphasize that this assessment relates to exposure only and not to future increases or decreases in the prices of financial assets.

An aggregate analysis of the household balance sheet of assets and liabilities shows that their level of leverage overall is relatively low. However, an analysis[65] of the distribution of the ratio of debt to annual income by income decile shows that leverage is not uniform across deciles. Thus, the lowest two deciles are characterized by a very high ratio of debt to income and a higher variance (within the decile) than the other deciles and as a result they are more vulnerable.

Taking into consideration all of the factors, the exposure to household debt remains, in our assessment, unchanged at a medium level.

4.2.4 The environment of the banking system

The banking system is by nature exposed to a variety of risks, including credit risk, market risk, liquidity risk and operational risk. In recent years, as the business environment has changed, additional risks have emerged as a result of technological progress, an accelerated pace of new regulation and legislation both in Israel and worldwide, changes in global banking and changes in consumer preferences and behavior. In view of the unique characteristics of these risks, it is difficult to fully characterize them and in particular to quantify and assess the damage they might do.

Following are some of the new and emerging risks:

- **Changes in the business environment:** The changes in the business environment include structural changes in the competitive and technological environment (including the entry of new nonbank players), the removal of technological barriers to the promotion of competition, the development of innovative financial products and services and technologies that change customer behavior, increasing competition from nonbank financial entities and a high level of public and political involvement. To these can be added a low interest rate environment, which constitutes a challenge to the banks' efforts to maintain profitability both in Israel and worldwide.
- **Regulatory changes:** In recent years, many legislative initiatives have been promoted in banking and finance. The activity of a number of different regulators, the large number of measures they are introducing within a short time and the complexity of the measures is making it difficult to assimilate them. This creates risk for the banks and customers due to the major changes they lead to in the business environment and they are even liable to harm the ability to achieve the new targets established by the legislation and regulation. The lack of regulatory certainty has implications for the entry of new players into the market, the development of products, the creation of new interfaces in banking and more.
- **Changes in the technological environment:** Technological progress and the growth of e-banking in Israel and worldwide bring opportunities with them, but also inherent risks, including increased exposure to the risk of fraud and the leakage of information; embezzlement and fraud; business continuity risk; and risks resulting from reliance on technologies and infrastructures of a third party (outsourcing).
- **Risk arising from activity abroad:** The increasing enforcement efforts by supervisory authorities in various countries worldwide against financial institutions in the areas of noncompliance by customers, tax evasion by customers, money laundering and financial crime require the banks to adopt proactive measures, including the identification of activity and customers that are liable to expose them to investigation and fines in the areas of compliance and requirements for documentation.
- Taking into consideration all of the factors, the exposure of the banking system to changes in the environment in which it operates remains, in our assessment, unchanged at a low level.

[65] See the box entitled "Households' participation in the loans market and their financial vulnerability" in Israel's Banking System – Annual Survey 2017.

Box 1: Financial Resilience of the Economy to Abroad

During the past decade, the financial resilience of the economy to abroad has improved significantly in several respects:

- **The marked improvement in liquidity in foreign currency**—The share of short-term debt assets has increased, as well as their coverage ratio relative to short-term debt.
- **The decline in the burden of external debt—**The ratio of gross external debt to GDP is low, even by international standards.
- **The decline in the dependence of the economy on external financing—**The economy is a net lender to the rest of the world (negative net external debt).
- **Improvement in the indicators of the perception of the economy's risk among foreign residents—** The economy's credit rating has been raised and its risk premium has declined.

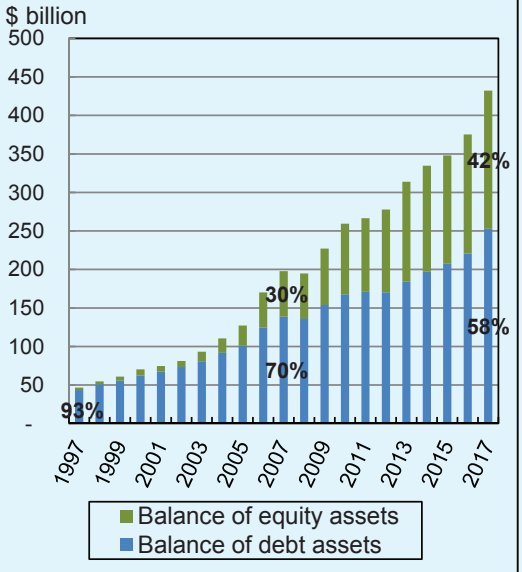
The balance of assets and liabilities vis-à-vis abroad reflects the total investment of Israeli residents in foreign assets relative to the investments of nonresidents in Israeli assets.
The level of the economy's assets and liabilities vis-à-vis abroad in regard to GDP, the degree of their liquidity as reflected in their terms to maturity, the composition of debt and equity and the characteristics of the economy's external debt are all important parameters in evaluating the financial resilience to foreign influences and the ability to withstand global shocks.

1. The economy's assets vis-à-vis abroad

During the past decade, the economy's assets abroad increased substantially, from $198 billion in 2007 to $432 billion at the end of 2017 (an increase of about 120 percent). The share of short-term debt assets within total assets has also grown, primarily as a result of the significant increase in the Bank of Israel's foreign exchange reserves, which have increased the economy's liquidity in foreign currency. The increase in assets abroad and the integration of the economy into globalization processes have enabled the public to diversify its assets, to reduce the dependence on domestic capital markets and in general to reduce the risk of the public's asset portfolio. In contrast, the integration of Israel into the global economy has increased its exposure to global shocks.
The exposure to global capital markets and to fluctuations in exchange rates and its effect on the public's asset portfolio was demonstrated during the financial crisis of 2008, when the economy's portfolio of assets abroad dropped in value by tens of percent.[1]

The balance of assets abroad increased, as did their share in equity assets.

Figure 1
The Balance of Assets vis-à-vis Abroad, 1997–2017



SOURCE: Bank of Israel.

[1] For further details on the risk of contagion and other risks, see the box on "Basic concepts in the field of financial stability" in the Financial Stability Report from December 2015.

The changes in the composition of the foreign asset portfolio show that during the last two decades, the share of equity assets (stocks) within the total portfolio has increased at the expense of the share of debt assets (bonds, deposits and credit), which has declined.

Such an asset composition increases the exposure of the economy to market risk since debt assets are considered to be safer, as there is an obligation to repay the debt even in a period of crisis. In contrast, equity assets lose value and the economy loses capital in foreign currency (Figure 1).

2. The economy's liabilities to abroad

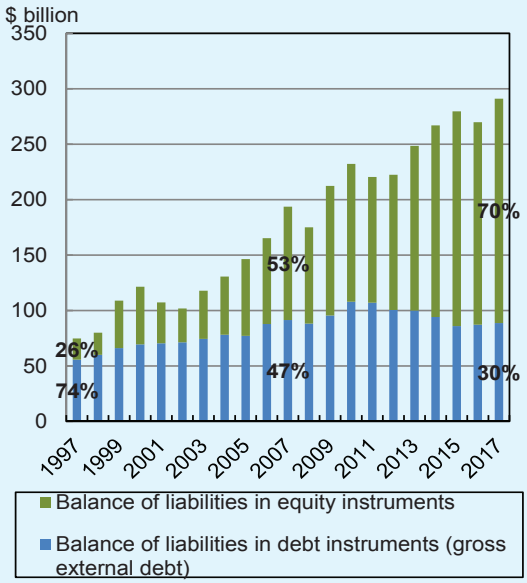
The economy's gross liabilities to abroad reflect, among other things, its dependence on external financing, which continued to increase during the past decade, although at a more moderate pace than in the decade preceding it. Like the change in the composition of the economy's assets, the debt component within total liabilities has declined and the equities component has increased. The change in the composition of liabilities is contributing to the financial strength of the economy, since in a crisis the economy is affected only by its external debt burden and not by the equity liabilities to foreign residents, which lose value.

The increase in total liabilities during the past decade has been the result of an increase in equity instruments only, while total debt instruments—which constitute the economy's gross debt to abroad—remained unchanged (Figure 2).

This development, and with it the increase in GDP, have led to a substantial decline (of about 20 percentage points) in the ratio of the gross external debt to GDP during the last decade, to a level of 24 percent. In other words, there has been an improvement in the economy's debt burden. A low level of external debt enables the economy to reduce its costs of raising capital and contributes to resilience during financial crises, by for example giving it greater flexibility to increase the debt during a crisis (Figure 3).

The balance of gross external debt (liabilitiies in debt instruments) is stable.

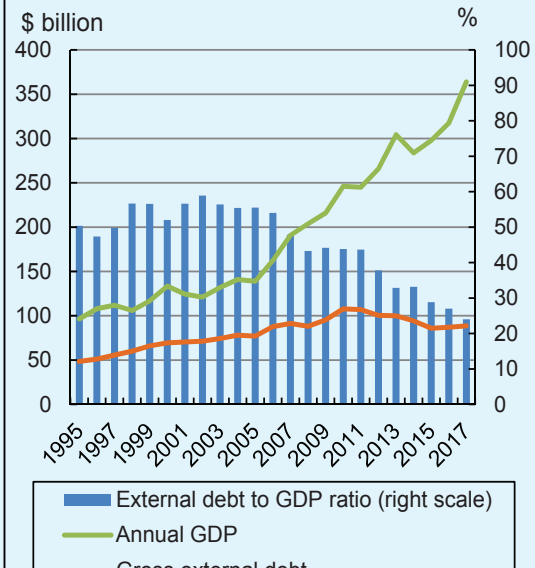
Figure 2
The Balance of Liabilities vis-à-vis Abroad, 1997–2017



SOURCE: Bank of Israel.

The gross external debt to GDP ratio declined—implying an easing of the debt burden.

Figure 3
Gross External Debt and Its Share of GDP, 1995-2017

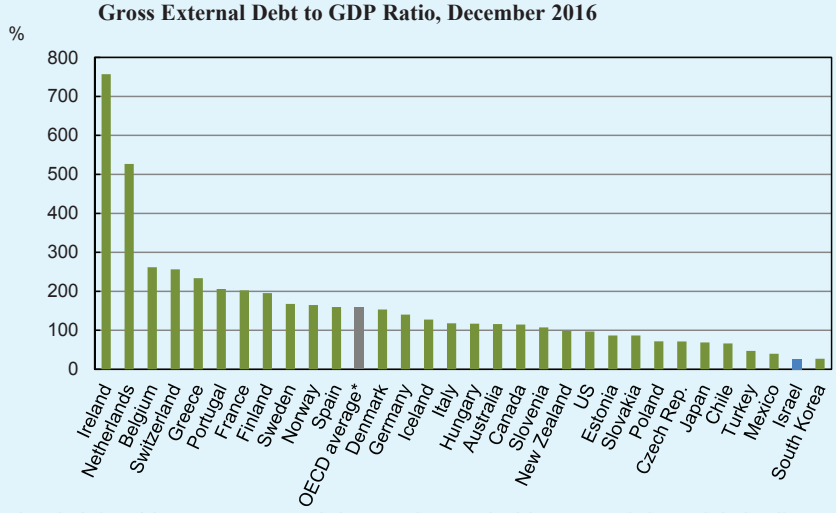


SOURCE: Based on Central Bureau of Statistics.

The ratio of Israel's gross external debt to GDP is significantly lower than that of most OECD countries. The average ratio of the OECD at the end of 2016 stood at 159 percent (Figure 4).

The gross external debt to GDP ratio in Israel is low in international comparison.

Figure 4
Gross External Debt to GDP Ratio, December 2016



* The calculation of the OECD average excludes Luxembourg, as its debt to GDP ratio is a statistical outlier.
SOURCE: Based on Bloomberg.

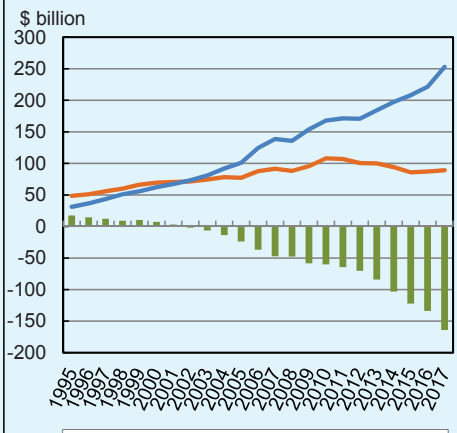
3. The net external debt – the surplus of assets over liabilities in debt instruments

Negative net external debt: The economy is a net lender to abroad.

The economy's net debt to abroad reflects its dependence on external financing, its degree of vulnerability to financial crises and its financial resilience in general.

In 2002, the economy switched from being a net borrower (surplus of liabilities over assets in debt instruments) to a net lender (surplus of assets over liabilities in debt instruments). Since then, there has been an almost uninterrupted increase in the surplus of assets over liabilities in debt instruments (i.e., the negative external debt) to a level of about $165 billion at the end of 2017 (Figure 5).

Figure 5
Net External Debt*, (-): Economy is a Net Lender to Abroad, 1995-2017



*Net external debt: The external debt less the economy's assets held abroad in debt (not equity) instruments.
SOURCE: Bank of Israel.

The situation of the economy as a net lender represents a major improvement in its global position and reduces the cost of raising capital in foreign currency, though at the same time it is liable to expose Israel to other risks, such as credit risk and interest risk.

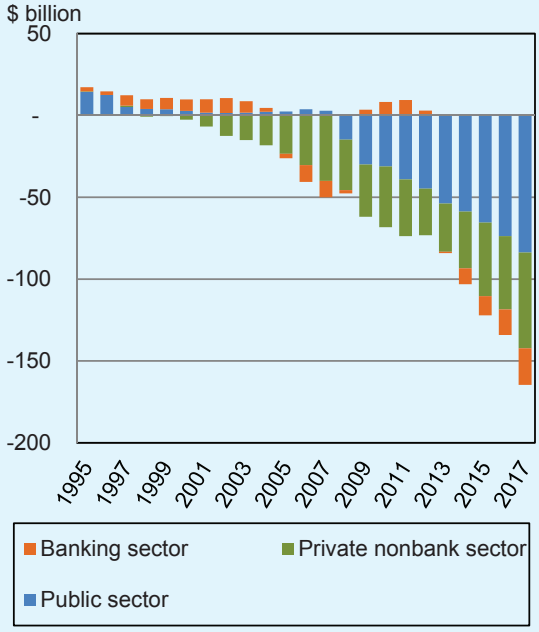
The increase in the negative external debt is particularly noticeable in the public sector, as a result of the substantial increase in foreign exchange reserves. The private nonbanking sector also increased its surplus of debt assets during the last two decades, through the increase in the total foreign bonds

held by the business sector and households and through the increase in total vendor credit that the business sector extends to nonresidents (Figure 6).

The increase in the negative net external debt reflects a rapid increase in the coverage ratio of the gross short-term external debt by short-term debt assets, a development that reflects an improvement in the foreign currency liquidity of the economy in emergencies (Figure 7).

The main lenders to abroad are the public sector and the private nonbank sector.

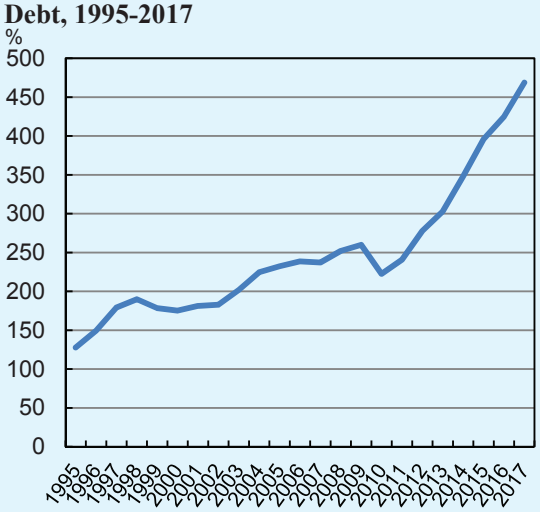
Figure 6
Net External Debt Balance, by Sector, 1995-2017



SOURCE: Bank of Israel.

The coverage ratio of short term debt assets to short term debt rose - an increase in liquidity in foreign currency.

Figure 7
The Coverage Ratio between Short Term Debt Assets and Short Term Gross External Debt, 1995-2017



SOURCE: Bank of Israel.

Summary table: Economy's resilience vis-à-vis abroad				
Parameter	**1997**	**2007**	**2017**	**Significance**
Gross assets to GDP ratio	0.42	1.04	1.19	Increased liquidity in foreign currency, diversification of asset portfolio
Gross external debt to GDP ratio	0.50	0.48	0.24	Decline in economy's dependence on abroad
Net external debt to GDP ratio	0.11	-0.25	-0.45	Switch to negative external debt, the economy is a net lender to abroad, decline in dependence on abroad
Short term assets to short term liabilities ratio	1.79	2.37	4.68	Marked increase in short-term liquidity, resilience in crisis

4. The perception of the economy's risk among nonresidents

The significant increase in the economy's liquidity in foreign currency, alongside the continuing decline in net external debt and Israel's transition from borrower to lender, have led to an improvement in the perception of Israel among nonresidents.

This improvement is reflected in the raising of Israel's credit rating among all of the rating agencies during the last decade.

The State of Israel's risk premium, which is measured by the yield spread between Israel's dollar-denominated government bonds and US bonds with similar characteristics, has declined substantially during the past decade. The spread in yields between shekel-denominated government bonds and US government bonds has been negative for an extended period (and is of course also affected by the negative interest rate gap). The values of the CDS, which measures the economy's risk, are also at historic lows.

Indicators of the perception of the economy's risk by nonresidents		
	2007	2017
Credit rating		
Standard & Poor's	A	A+
Moody's	A2	A1
Fitch	A-	A+
Spreads (basis points)		
Spread on 10-year dollar-denominated government bonds	116	51
Spread on 10-year shekel-denominated government bonds	214	-74

Box 2: Analysis of the financial stability of public companies in the residential construction industry[1]

- Data from the 2017 year-end financial statements of the public companies in the residential construction industry in Israel indicate that the slowing in the housing market has had an effect on these companies. Most of them have shown weaker operating cash flows, and a resulting impairment of repayment ability ratios relative to previous years. Nonetheless, at the industry level,[2] the leverage and liquidity ratios have not been adversely affected and even show some improvement.

- Among the public companies, 12 of the largest companies in the construction industry, which account for about one-third of the credit to the industry, were examined. The slowing in the housing market is reflected prominently in their financial statements, with a decrease in total sales and an increase in the stock of unsold dwellings.

- According to sensitivity tests carried out on these 12 companies, there was a significant impact on the companies' financial leverage and immediate liquidity only for the extreme values of the scenarios, while for the lower values the effect was not dramatic. This shows the resilience of the public companies in the industry their ability to survive short-term periods of downturn.

- Despite the slowdown in the sale of new homes and the deterioration in cash flow from current activities, there was no major impairment of the financial resilience of the 12 companies and most of them are managing to finance their activity also from other sources. Therefore, most of the companies are not under pressure to unload their stock of dwellings by lowering prices.

- **At this stage**, we do not see any significant impairment to the financial stability of the **public** companies in the residential construction industry. However, if the downturn in activity continues for a long period and the companies do not make the necessary adjustments, their ability to service their debts may be impaired.

1. The residential construction industry in Israel

1.1 Background

The financial stability of the companies in the residential construction industry is analyzed against the background of their exposure to the housing market, which has recently been characterized by uncertainty.[3]

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1 According to the 2011 industry classification of the CBS, residential construction companies are classified in Industry 41 "Construction of Structures and Building", which belongs to the general industry category of "Construction". In this survey, we relate to "Construction" (in the discussion of bank credit and credit in the economy) or the "Construction of Structures and Buildings" (in the discussion of corporate bonds), since it was not possible to isolate the figures for residential construction companies. From the general category of "Construction", we removed the "Civil Engineering Projects" (companies involved in infrastructure construction) and therefore we were left with data that primarily relates to companies in residential construction. See also Figure 2 in the appendix.

2 The industry level was examined using a calculated average weighted by assets. It should be mentioned that in this calculation, for two of the companies, whose total assets are significantly larger than the rest of the companies in the industry and whose main activity (at least 50 percent) is not residential construction in Israel, we carried out the weighting according to the assets of the specific sector, as it appears in the notes on areas of activity in their financial statements. This weighting was done in all cases for which we calculated a weighted average according to assets.

3 For further details, see Chapter 9 of the Bank of Israel Annual Report for 2017.

The activity of the companies in the industry is characterized by high leverage and their share of credit in the economy is significant, which is in addition to their relatively high level of interconnectedness[4] and a notable share of business sector product. Therefore, any extended slowdown in the companies' activity or a cash flow crisis is liable to increase the probability of materialization of direct and indirect risks and will affect a wide range of creditors (lenders, vendors and subcontractors). Therefore, this is liable to have implications for the stability of the entire financial system.

The residential construction area is broad and diverse.[5] There are a large number of companies of various sizes, from small businesses that carry out individual projects with a small number of housing units up to huge companies that carry out a large number of projects, which include hundreds and even thousands of housing units. Nonetheless, the companies' methods of operation are similar and systematic: the companies identify opportunities for investment, raise the necessary capital or locate investment partners, obtain the necessary building permits and finally implement the project, either independently, by means of subsidiary companies or by means of third parties. In order to carry out projects, the companies usually partner with one of the banks which provides project financing (specific financing). The public companies also tend to raise capital for a project by issuing bonds on the stock exchange as specific financing or for any other need as part of their operations.

1.2 The exposures and the focal points of risk in the industry

According to the figures for December 2017, the construction industry accounts for about 15 percent (NIS 63 billion) of total bank credit[6] to the business sector (activity in Israel) and about 6.2 percent of total credit (activity in Israel). The residential construction industry's share of total corporate bonds is about 5 percent (NIS 17 billion). An additional exposure of the financial system, which will be adversely affected by a real crisis in the industry, is the off-balance-sheet credit risk of the banking system, which is composed primarily of Sales Law guarantees to home buyers.[7] The construction industry accounted for 38 percent (NIS 95 billion) of off-balance-sheet credit to the business sector (activity in Israel) in December 2017 and 25 percent of total off-balance-sheet credit (activity in Israel). Total banking credit risk—both balance sheet and off balance sheet—of the construction industry accounted for about 23 percent of credit to the business sector (activity in Israel) and 11 percent of total credit (activity in Israel).

Factors such as a slowdown in the housing market and a drop in asset prices expose the companies to two main risks. First, there is the risk that the companies will not manage to sell homes as a result of a prolonged slowdown in the housing market. As a result, they will suffer from negative cash flow and will have difficulty both servicing their debt and paying vendors and subcontractors. Second, if home prices drop significantly, the companies will record losses from a decline in value, which will lead to a decrease in their equity capital and an increase in leverage. This will in turn threaten the covenants by which they are committed to lenders, which may induce the lender to demand immediate redemption of the company's obligations or may lead to a worsening of loan conditions (such as asking for higher rates of interest on an existing loan).

4 For further details, see "Box 2: Estimated industry interconnectedness", in the Financial Stability Report for the first half of 2014.

5 According to a survey by the Chief Economist of the Ministry of Finance for the third quarter of 2017, the market share of the 100 largest builders was 42.4 percent and the market share of the 30 largest builders was 27.5 percent. (This indicates that the remaining market share is dispersed among a large number of builders.) Furthermore, the report on the residential construction industry published by the Chief Economist of the Ministry of Finance in May 2018 stated that there are 1,100 construction companies that were active in both 2015 and 2017, which is also an indication of the diversity of companies in the industry.

6 According to the five largest banks.

7 A Sales Law guarantee is a bank guarantee from the builder, which serves as insurance for home buyers if the project is not completed due to economic circumstances or fraud.

Another focal point of risk that is liable to undermine the financial stability of the companies is an increase in the interest rate, since some of the projects are accompanied by bank financing at a variable interest rate (prime+). If the interest rate increases, the company's financing expenses will grow and as a result their equity will decline and their cash flow will shrink.

1.3 Analysis of indicators of financial stability for the public companies

In order to examine the financial stability of the companies in the industry, we looked at selected financial ratios of the public companies that are involved in residential construction in Israel. However, first we will discuss the profitability of the companies in the industry, which is an important factor underlying their stability. Figure 3 in the appendix shows that the aggregate gross profit of the companies in the industry has been increasing since 2007 and that it is highly correlated with the Home Prices Index. Nonetheless, a long-term perspective shows that gross profit as a percentage of revenue (Figure 4 in the appendix) has remained relatively constant (at a long-term average of 21 percent with a standard deviation of 1.9 percent). This means that the aggregate cost of goods sold and aggregate revenues grew at a similar rate during this period. Thus, it is possible to conclude that the companies have over the years maintained relatively constant gross profit margins.

The slowing in activity at companies in the residential construction industry impacted in 2017 mainly on repayment capacity ratios. The leverage and liquidity ratios remained stable and some even improved.

Table1
Selected financial ratios, the public companies in the residential construction industry, 2010-17

		Weighted (by asset) average								Median							
		2010	2011	2012	2013	2014	2015	2016	2017	2010	2011	2012	2013	2014	2015	2016	2017
Leverage ratios	Leverage ratio	0.82	0.81	0.80	0.80	0.79	0.78	0.74	0.71	0.82	0.83	0.83	0.82	0.81	0.81	0.77	0.76
	Financial debt to CAP	0.73	0.73	0.70	0.69	0.69	0.67	0.64	0.63	0.71	0.75	0.71	0.70	0.69	0.69	0.65	0.68
	Net financial debt to net CAP	0.69	0.69	0.68	0.65	0.65	0.64	0.57	0.57	0.68	0.73	0.69	0.64	0.67	0.66	0.63	0.64
Repayment capacity ratios	Operating cash flow to financing expenses	0.17	-1.42	2.79	0.33	-7.78	2.35	5.42	-5.32	0.72	-2.08	0.45	0.12	-0.91	1.84	2.42	-2.39
	Interest coverage ratio	2.66	3.15	4.17	4.50	2.01	6.17	5.68	5.36	2.05	2.13	2.32	4.02	1.50	3.56	2.88	3.83
	Operating cash flow to current liabilities[1]	0.01	-0.06	0.10	0.05	-0.02	0.06	0.17	-0.01	0.05	-0.08	0.08	0.00	-0.05	0.07	0.10	-0.02
Liquidity ratios	The quick ratio[1]	0.59	0.47	0.51	0.60	0.57	0.63	0.73	0.73	0.57	0.28	0.38	0.49	0.39	0.40	0.58	0.54
	Immediate liquidity[1]	0.31	0.16	0.16	0.23	0.25	0.22	0.32	0.31	0.20	0.09	0.09	0.14	0.11	0.12	0.15	0.17
	Operating cash flow to total sales	0.04	-0.13	0.26	-0.03	-0.17	0.04	0.20	-0.34	0.10	-0.17	0.18	0.01	-0.08	0.09	0.13	-0.04

[1] Net of advances by customers.
SOURCE: Bank of Israel.

Table 1 shows the major financial ratios. Dark red represents the worst ratio during the period of 8 years that was examined while dark green represents the best ratio.

Table 1 shows that there was a weakening of the ratios in 2017, primarily in the repayment ability ratios, according to the weighted average and the median. This is particularly noticeable in the ratio of operating cash flow to financing expenses. A similar picture is obtained for both 2014, in which there was a drop in the sales of new homes due to buyers' anticipation of the "zero VAT" program, and 2011, in the wake of the social protest, a year in which most of the financial ratios showed weakness in the industry.

Despite the slowdown in activity and weak cash flow, the companies' leverage ratio in fact improved in 2017, although it is possible that this was the result of a change in accounting methods (following the implementation

of the new International Financial Reporting Standard 15—Revenue from Contracts with Customers.[8] Nonetheless, the liquidity ratios (the quick ratio and the immediate ratio) remained basically unchanged in 2017 and therefore they are at a stable level historically. This is evidence of the companies' ability to deal with a slowdown in activity in the short run. However, an examination of the ratio of operating cash flow to total income shows a decline during 2017, as in the two years mentioned above—2011 and 2014.

From a long-term perspective, most of the financial ratios indicate that 2016 was the peak year in the sample period (2010–16) while 2011 was the weakest year. In 2017, the slowdown in the housing market was primarily reflected in a drop in the coverage ratios due to weak operating cash flow, although the liquidity ratios indicate that at this stage the companies in the industry are stable in the short run. This is in parallel to the stability of the leverage ratios relative to previous years.

2. In-depth analysis of 12 of the largest public companies in the industry

2.1 Background

As of the end of 2017, there were about 30 public companies in the residential construction industry in Israel. The following analysis is based primarily on 12 of them, which account for the largest share of the market among the companies active in the industry. The data on them that is available to the public makes it possible to analyze them. According to the sales figures of the 12 companies in the sample (in terms of housing units) during the last three years (2015–17), they have a market share of about 17 percent on average, where the market share of all public companies in the industry is estimated[9] at 25 percent. The bank and non-bank credit to the 12 companies constituted about 34 percent (NIS 27 billion out of NIS 79 billion) of the credit to the construction industry at the end of 2017 and the credit to the 30 companies constituted about 46 percent (NIS 36.5 billion).

It is important to mention that although the 12 companies are among the largest in the economy, they apparently are not representative of the industry as a whole, since some of them enjoy economies of scale and are more able to weather periods of downturn in economic activity (and they have weathered similar periods in the past). Nonetheless, the analysis below has several strong points: the companies account for about one-third of the credit to this industry; they have a large market share (17 percent); and their behavior and situation have a significant effect on the entire housing market.

2.2 Indicators of a slowdown in activity and its possible effects

According to the figures of the CBS, in 2017 there was a drop of 18 percent in new home sales and according to the figures of the Chief Economist of the Ministry of Finance[10] the drop in sales of new homes "at market

[8] Under the accounting treatment of recognition of income from the sale of homes prior to the new standard, recognition of revenues was deferred until the handover of the home to the buyer. Therefore, the cash received from buyers prior to this was recorded as "down payments from homebuyers". Thus, revenues essentially reflected the revenues from homes delivered in that year. According to the new accounting standard, revenues are recognized according to the pace of progress in construction and are recorded against the cash account or the customers account. Although the adoption of the standard was set for January 2018, many companies already adopted it in their earlier financial statements and this was done according to the method of partial retroactive adoption (according to which the cumulative effect of the change in the accounting standard will be reflected in the opening balance of surpluses, without any retroactive adoption in previous reporting periods).
The change in accounting standard for the recognition of income, the difference in the date of adoption between one company and another and the effect on financial statements on the date of adoption make it more difficult to accurately analyze the financial ratios or to compare accounts (for example, income, inventory and equity capital) across companies and between periods.

[9] According to the total of the sampled companies within the revenue of all the public companies in the industry.

[10] *Economic Review*, Feb. 11, 2018.

prices" (homes that are not part of the government programs) was even larger (about 27 percent) and reached its lowest level since 2011. The downtrend in the housing market continued in 2018 and was manifested in both a drop in building starts and a decline in new home sales (according to the figures of the CBS, there was a drop of about 27 percent in new home sales in the first quarter of 2018 relative to the corresponding quarter in 2017 and a drop of 4.4 percent relative to the previous quarter).

The significant slowdown in the housing market can also be seen among the 12 sampled companies. In 2016, they together reported sales of 5,491 housing units[11] while in 2017 they reported only 4,324,[12] a decline of about 21 percent.

The slowdown in the sales of new homes by these companies is also felt in the growth of the stock of unsold homes, which includes homes under construction and those that are already completed but not yet sold. As of the end of 2017, the number of housing units for which a binding sales contract had not been signed (for projects under construction) totaled 6,130, as compared to 5,849 in 2016, an increase of about 5 percent. An examination of the proportion of units for which an obligatory sales contract has not been signed within the total number of units in the projects under construction can provide a broader picture of the effect of the slowdown in the housing market on the companies. Thus, in 2017, the number of total units in the projects under construction by these companies was about 13,615, as compared to 14,945 in 2016, a share of 45 percent in 2017 in contrast to 39 percent in 2016. This implies that despite a drop of about 9 percent in the supply of homes[13] in projects under construction relative to 2016, the proportion of the unsold inventory of homes has grown, which reinforces the assessment of a slowdown in activity.

The drop in home sales and the accumulation of unsold inventory are reducing the companies' cash flow and if the slowdown continues for an extended period of time there will be a direct negative impact no the ability of the companies to service their debt to the banks and to vendors. In addition, there will be an effect on the ratios of the leverage that the companies need. The possible implications may lead to an undermining of the financial system, due to the high interconnectedness of the companies in the industry, alongside their high leverage. On the other hand, and as can be seen in Table 1, the companies' resilience is stable, as is their ability to weather a period of slowdown in activity, which has been put to the test in years such as 2011 and 2014 when demand was low in the industry.

2.3 Sensitivity tests

In order to test the resilience of the companies in the industry and their ability to endure a period of slowdown in activity, we examined the effect of three scenarios with a relatively high chance of being realized: a further slowdown in home sales, a drop in home prices and an increase in the interest rate. We examined three selected financial ratios that serve as indicators of the companies' resilience: the leverage ratio,[14] the immediate liquidity ratio and the ratio of operating cash flow to financing expenses.

[11] Housing units sold by the companies include the share of partners in the projects.

[12] The companies' figures for the first quarter of 2018 show sales of 1188 housing units (in comparison to 880 during the same period in 2017), of which 375 were sold by one of the companies as part of the "Buyer's Price" program.

[13] The drop in the companies' supply of housing is apparently related to the government decision that most of the land in the country will be marketed as part of the government programs (such as "Buyer's Price").

[14] In addition to the standard leverage ratio, we looked at the financial debt to capitalization ratio (the more generally accepted leverage ratio in this industry), which is more sensitive to changes in equity than the standard leverage ratio. For further details, see Table 5 and Table 6 in the appendix to the box.

In order to test the scenarios, we assumed a static picture of the companies as of December 31, 2017 and from there we derived the various scenarios[15] according to the following assumptions:

- The interest rate is raised – We made use of the sensitivity analyses of the companies as presented in the notes to their financial statements and from there we derived the effect on equity for various levels of the interest rate.

- A drop in home prices – We used the expected costs and income from every project of every company (taken from the business descriptions in the companies' financial statements) and assumed that a drop in value would be recorded only when the expected revenue is lower than the expected cost.[16] We multiplied the expected drop in value of the project by the average extent of completion of the projects under construction and for the completed projects we took into account the entire drop in value.

- Slower sales of new homes – We used the number of housing units sold by the company in 2017 (according to its share) and assumed that the drop in the number of housing units sold occurred as a proportion of this number. The effect on capital is obtained by multiplying the calculated sale of housing units by the average gross profit rate (weighted according to the expected revenue from the project) and the average revenue from a housing unit. In order to test the effect on cash flow, we used the same calculation except that instead of the gross profit rate we used the weighted average of the rate of completion as an estimate of the pace at which revenue is received from the sale of housing units in the projects.

Table 2[17] summarizes the effect of the three scenarios, in different combinations, on the companies' average level of leverage (weighted according to assets). The table indicates that these scenarios impact on the companies' leverage to only a limited extent and only at the extreme values (for example, a drop of 30 percent in the price of homes and a slowdown of 50 percent in the number of housing units sold during 2017) did the leverage ratio reach high levels (81 percent), though they are less than the highest level which was recorded in 2011 (Table 4 in the appendix). Following are the main reasons for the finding that the effect of the scenarios on leverage is significant only for the extreme values: (1) The effect of a hike in the interest rate on the companies is limited since most of them also issue bonds on the stock exchange to finance projects or obtain bank loans that are not indexed to the prime rate (rather they are indexed to the LIBOR, to the CPI or to the exchange rate) and therefore the interest payments are in general not affected when the interest rate is raised.[18] (2) The effect of a drop in home prices is significant only at high rates (20 percent or more) since in most of the companies,

[15] The working assumption in testing the scenarios is "What would happen if during 2017, i.e., up until Dec. 31, 2017, the scenario would have been realized", with all other factors being fixed. The goal was to obtain an indication of the companies' resilience. We ignored the effect of taxes.

[16] According to International Accounting Standard 2—Inventories, inventory will be presented according to the lower between cost and sale value (the sale price less selling costs and finishing costs). In this scenario, we adopted a simplifying assumption, due to information constraints, and ignored the sale value of each project. Therefore, the recognition of a loss will only occur when the value of the inventory in the company's balance sheet is lower than its cost.

[17] The colors in the table, for each scenario, were calibrated together with the leverage ratio of the 12 companies in the sample for the period 2010-17 (see Table 4 in the appendix). This means that the leverage ratios calculated in these scenarios were examined relative to the leverage ratios over the last 8 years.

[18] It may be that the effect of the interest rate on leverage is even lower, due to the accounting treatment of the discounting of credit costs (IAS 23) for inventory.

the gross profit rate is high (19 percent on average[19] with a standard deviation of 4.4 percent) and there are projects for which the gross profit rates can be even higher. It should be mentioned that only recognizing losses from a drop in value from when the value of the inventory falls to below its cost is a simplifying assumption. It may be that the sale value is lower[20] even before the value of the inventory in the financial statements reaches its cost. Therefore, we examined an additional scenario in which it is assumed that already in 2017 housing units were sold at prices that were lower by various percentages (Table 3). This provided an indication that although the effect on leverage is manifested also in less extreme scenarios, the effect is still not significant, and only at extreme values do the levels of leverage come close to those that prevailed in the industry's most difficult years (82–83 percent). (3) The slowdown in the sale of homes and the accumulation of inventory act to reduce equity primarily through the gross profit rate and the main effect of the accumulation of the inventory of homes is on cash receipts, as can be seen in Figure 1.

Figure 1 summarizes the possible effect of a slowdown in new home sales on the two financial ratios that represent repayment ability and the level of liquidity. The effect on liquidity is notable but only at extreme values. Thus, only starting from a drop of 40 percent in new home sales does the

The scenarios' impact on the leverage ratio was reflected mainly in the extreme values.

Table 2
The effect of various scenarios on the leverage ratio, weighted (by assets) average

An increase in interest rates and a slowing in new home sales

Rate of decline in new home sales	Increase in interest rate						
	0.0	0.5	1.0	2.0	3.0	4.0	5.0
0.0	75.7	75.8	75.9	76.1	76.3	76.5	76.7
5.0	75.9	76.0	76.1	76.3	76.5	76.7	76.8
10.0	76.0	76.1	76.2	76.4	76.6	76.8	77.0
20.0	76.4	76.4	76.5	76.7	76.9	77.1	77.3
30.0	76.7	76.8	76.9	77.1	77.3	77.5	77.6
40.0	77.0	77.1	77.2	77.4	77.6	77.8	78.0
50.0	77.3	77.4	77.5	77.7	77.9	78.1	78.3

An increase in interest rates and a decrease in prices

Rate of decline in home prices	Increase in interest rate						
	0.0	0.5	1.0	2.0	3.0	4.0	5.0
0.0	75.7	75.8	75.9	76.1	76.3	76.5	76.7
5.0	75.8	75.9	75.9	76.1	76.3	76.5	76.7
10.0	75.8	75.9	76.0	76.2	76.4	76.6	76.8
20.0	76.1	76.2	76.3	76.5	76.7	76.9	77.1
30.0	76.8	76.9	77.0	77.2	77.4	77.6	77.8
40.0	77.9	78.0	78.1	78.3	78.5	78.7	78.9
50.0	79.4	79.5	79.6	79.8	80.0	80.2	80.4

A decrease in prices and a slowing in new home sales

Rate of decline in home prices	Rate of decline in home sales						
	0.0	0.5	1.0	2.0	3.0	4.0	5.0
0.0	75.7	75.9	76.0	76.4	76.7	77.0	77.3
5.0	75.8	75.9	76.1	76.4	76.7	77.0	77.3
10.0	75.8	76.0	76.2	76.5	76.8	77.1	77.4
20.0	76.1	76.2	76.4	76.7	77.0	77.4	77.7
30.0	76.8	77.0	77.1	77.4	77.8	78.1	78.4
40.0	77.9	78.1	78.3	78.6	79.0	79.3	79.6
50.0	79.4	79.6	79.8	80.1	80.5	80.8	81.2

SOURCE: Bank of Israel.

[19] A simple average was calculated for the companies using the weighted average of the gross profit rates according to expected income from each company's projects.

[20] According to the International Accounting Standard 2—Inventories, the inventory will be presented according to the lower between cost and sale value (the sale price less selling costs and finishing costs). In this scenario, we adopted a simplifying assumption, due to information constraints, by ignoring the sale value of each project. Therefore, the recognition of a loss will only occur when the value of the inventory in the company's balance sheet is lower than its cost.

immediate liquidity ratio dip lower than the level reached in 2011; in contrast, the effect on the ratio of operating cash flow to financing expenses is larger and constitutes evidence of the companies' sensitivity to cash flow, due to their high financing costs. Thus, on average a drop of one percent in the sale of homes has more than double that effect on this ratio. An examination of the effect during the period 2010–17 shows that already at a decline of 20 percent in home sales the ratio is worse than at any time during this period.

Nonetheless, we would mention that the results of the scenarios need to be treated with caution. First, the test is based on a short term of up to a year and at the present point in time and therefore the results of the scenarios do not constitute forward-looking information regarding a slowdown lasting a number of years in the companies' activity. Second, no conclusion can be drawn from this examination regarding the companies' default probability, since during the ordinary course of business they can take a variety of steps that are not taken into account when a "static picture" is assumed for the company. In addition, these companies have expected cash flow from previous projects that is not taken account in these scenarios.

Notwithstanding the above, an examination of various scenarios of a "static picture" and their comparison to previous years demonstrate the resilience of the companies in the industry in the short run and their ability to endure a downturn. Since the financial ratios do not reach the level that prevailed during the years in which there was a major downturn, it can be assumed that within a horizon of up to one year an additional slowdown will not lead to a major crisis for the companies that would affect the entire financial system.

Table 3
The effect of various scenarios on the leverage ratio, weighted (by assets) average, assuming that there was a price decline in 2017

An increase in interest rates and a decrease in prices

Rate of decline in home prices	Increase in interest rate						
	0.0	0.5	1.0	2.0	3.0	4.0	5.0
0.0	75.7	75.8	75.9	76.1	76.3	76.5	76.7
5.0	76.5	76.6	76.7	76.9	77.1	77.3	77.5
10.0	77.3	77.4	77.5	77.7	77.9	78.1	78.3
15.0	78.1	78.2	78.3	78.5	78.7	78.9	79.1
20.0	79.0	79.1	79.2	79.4	79.6	79.8	80.0
25.0	79.8	79.9	80.0	80.2	80.5	80.7	80.9
30.0	80.7	80.8	80.9	81.1	81.3	81.6	81.8

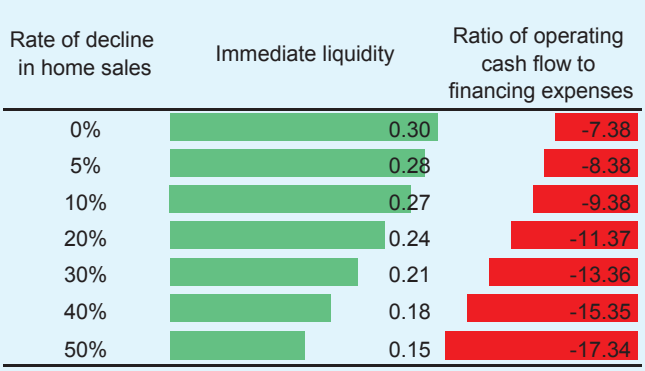
An increase in interest rates and a slowing in new home sales

Rate of decline in home prices	Rate of decline in home sales						
	0.0	5.0	10.0	20.0	30.0	40.0	50.0
0.0	75.7	75.9	76.0	76.4	76.7	77.0	77.3
5.0	76.5	76.7	76.8	77.1	77.5	77.8	78.1
10.0	77.3	77.5	77.6	78.0	78.3	78.6	79.0
15.0	78.1	78.3	78.5	78.8	79.1	79.5	79.8
20.0	79.0	79.1	79.3	79.7	80.0	80.4	80.7
25.0	79.8	80.0	80.2	80.5	80.9	81.3	81.6
30.0	80.7	80.9	81.1	81.5	81.8	82.2	82.6

SOURCE: Bank of Israel.

The impact of the scenarios on the immediate liquidity ratio is only seen in extreme values. In contrast, the impact on the repayment capacity ratio is stronger and indicates the sensitivity of firms in the industry to cash flow.

Figure 1
The Impact of the Slowing in New Home Sales on Selected Financial Ratios, Weighted Average (by Assets)



SOURCE: Bank of Israel.

3. Summary and conclusions

The slowdown in the housing market is evident in the financial statements of most of the public companies in the industry and most of them experienced weaker operating cash flows. Nonetheless, the financial indicators that were examined show stability for most of the companies in the industry. The growth years in the residential construction industry reinforced the resilience of these companies, such that most of them enjoy a level of liquidity that will enable them to service their debts even during a slowdown in activity. The financial leverage ratios also remained stable and for most of the companies there was no change in the ratios that could lead to a downgrading of loan conditions or a demand for immediate redemption of liabilities.

It appears that most of the companies are successfully expanding into other areas of business, such as residential construction abroad, commercial and investment construction and investment in rent-producing real estate (in Israel and abroad). Thus, for example, there are companies that during 2017 reclassified a housing inventory, which had originally been earmarked for sale, into rent-producing real estate assets[21] (which can also be interpreted as a failure to sell them); some of the companies are creating land reserves for themselves for years to come by means of urban renewal projects; and finally most of the companies have projects in the planning stages and land reserves they can use in coming years. Therefore, at this stage (as of December 2017), the companies are not hurrying to get rid of their housing inventories by reducing prices because of cash flow pressure.[22]

There are companies that participate in government programs in order to expand their level of activity, such that 6 of the 12 public companies in the sample participate in the "Buyer's Price" program. Most of the companies that market projects as part of the "Buyer's Price" program choose to do so in areas of high demand, primarily in the Center. It appears that some of the companies take part in the government programs as an additional way to produce cash flow, despite the lower gross profit rates than in the free market.

It appears from the financial statements of the sampled companies and the short-term stress scenarios that at this stage the slowdown in the housing market is not causing any real harm to the financial stability of the public companies in the residential construction industry that might lead to a crisis in the financial system as a whole. Nonetheless, as explained above, it is possible that the sampled public companies do not represent the entire industry, since they have tools (beyond simply expanding their areas of activity) to deal with a slowdown, such as the issuing of shares in order to reinforce the company's capital and in that way improve the leverage ratio or recycling expensive debt with cheap debt (and some of these methods have already been used). In contrast, there are many small companies which have few tools available to them and therefore they have major exposure to a slowdown in the housing market.[23]

Furthermore, the private companies for the most part obtain financing only through bank credit and in most cases at variable interest rates (prime+); therefore, if the interest rate rises, their cash flow pressure will increase and the effect will be greater on them than on the public companies in the industry (as was seen in the stress scenarios). Since most of the small companies are private and we have access only to reports available to the public, we are unable to analyze all of the companies in the industry and to evaluate their financial stability.

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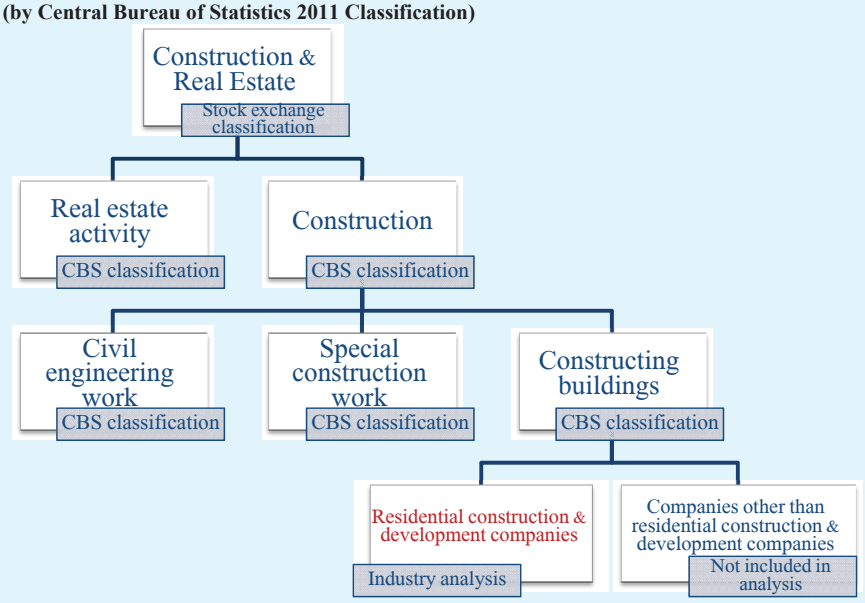
[21] In this manner, the companies have profited in two ways: the first is the recognition of profit as a result of the shift from one accounting standard to another; and the second is the creation of an additional area of business for the company, which will produce cash flow from rent.

[22] This can be seen from the average home price that was reported during the period 2015–17 and from a comparison of the average price per square meter of a project between 2016 and 2017.

[23] An example can be seen in the financial statements of one of the sampled companies, which has the smallest market share. This company experienced a major reduction in cash flow and in the number of units in projects under construction. As a result, and apparently in order to meet the financial covenant to which it is committed, the company offered housing units as part of the "Buyer's Price" program in projects that had been completed but not yet sold. As a result, it recorded losses from a drop in value and thus it valued its inventory of homes and reduced the balance in its financial statements, as of the end of 2017. It is possible that this company is more representative of the small companies in the industry.

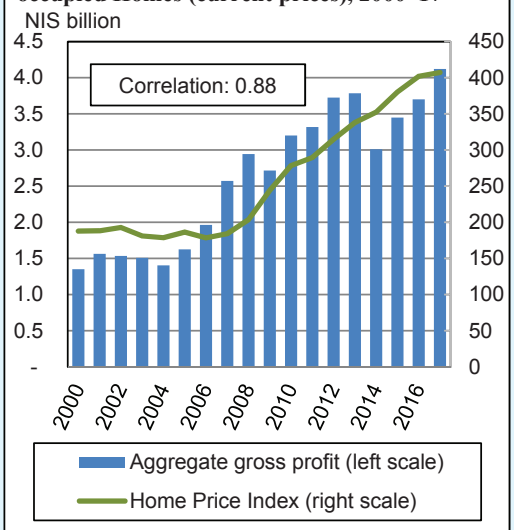
4. Appendix

Figure 2
Classifications of Residential Construction Industry Companies (by Central Bureau of Statistics 2011 Classification)



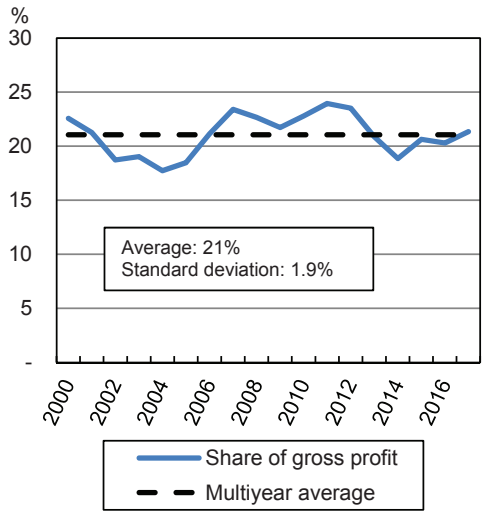
Despite the high correlation between aggregate gross profit of firms in the industry and home prices, it is seen that public companies maintained fixed profit margins over the years.

Figure 3
Gross Profit of Public Companies in the Industry and the Index of Prices of Owner-occupied Homes (current prices), 2000–17



SOURCE: Based on Central Bureau of Statistics and financial reports to the public.

Figure 4
Gross Profit as a Share of Revenue, 2000–17



SOURCE: Financial reports to the public.

When dividing the 12 companies sampled and the other companies in the industry, the trend of financial ratios is seen to be similar to that in Table 1—the financial ratios for all the public companies in the industry.

Table 4

Selected financial ratios, the 12 companies sampled and the 18 additional companies in the residential construction industry, weighted (by assets) average and median, 2010-17

		Weighted (by assets) average															
		12 companies sampled								Other companies in the residential construction industry							
		2010	2011	2012	2013	2014	2015	2016	2017	2010	2011	2012	2013	2014	2015	2016	2017
Leverage ratios	The leverage ratio	0.84	0.84	0.83	0.81	0.81	0.81	0.78	0.76	0.80	0.79	0.78	0.78	0.77	0.75	0.70	0.66
	Financial debt to CAP	0.74	0.75	0.72	0.70	0.69	0.68	0.66	0.67	0.72	0.71	0.69	0.69	0.68	0.66	0.61	0.57
	Net financial debt to net CAP	0.69	0.72	0.69	0.65	0.64	0.64	0.58	0.62	0.69	0.65	0.66	0.66	0.65	0.64	0.57	0.53
Repayment capacity ratios	Operating cash flow to financing expenses	-0.02	-0.89	5.34	3.19	-11.00	5.57	9.25	-7.38	0.35	-1.93	0.17	-2.73	-3.99	-1.73	0.54	-2.95
	Interest coverage ratio	3.73	3.90	6.73	4.83	6.00	8.14	7.73	7.91	0.88	1.24	0.76	2.00	-1.23	1.62	1.34	1.12
	Operating cash flow to current liabilities[1]	0.00	-0.08	0.11	0.12	-0.01	0.09	0.19	-0.13	0.02	-0.04	0.08	-0.03	-0.03	0.03	0.14	0.12
Liquidity ratios	The quick ratio[1]	0.68	0.58	0.62	0.71	0.67	0.78	0.79	0.74	0.51	0.36	0.41	0.47	0.46	0.44	0.64	0.72
	Immediate liquidity[1]	0.32	0.19	0.19	0.32	0.29	0.26	0.33	0.30	0.30	0.14	0.14	0.14	0.20	0.16	0.31	0.33
	Operating cash flow to total sales	0.02	-0.15	0.13	0.11	-0.10	0.11	0.22	-0.24	0.05	-0.10	0.38	-0.17	-0.25	-0.04	0.18	-0.45
		Median															
		12 companies sampled								Other companies in the residential construction industry							
		2010	2011	2012	2013	2014	2015	2016	2017	2010	2011	2012	2013	2014	2015	2016	2017
Leverage ratios	The leverage ratio	0.80	0.83	0.83	0.83	0.82	0.81	0.77	0.77	0.82	0.83	0.82	0.81	0.80	0.79	0.75	0.73
	Financial debt to CAP	0.72	0.77	0.72	0.72	0.68	0.69	0.66	0.68	0.71	0.74	0.68	0.66	0.70	0.70	0.65	0.67
	Net financial debt to net CAP	0.66	0.76	0.71	0.67	0.67	0.65	0.62	0.66	0.68	0.72	0.66	0.63	0.67	0.67	0.63	0.61
Repayment capacity ratios	Operating cash flow to financing expenses	1.91	-1.85	2.78	1.38	-1.63	5.53	6.73	-2.85	0.14	-2.08	0.30	-0.17	-0.87	0.77	0.59	-2.12
	Interest coverage ratio	4.44	4.27	3.70	5.14	2.66	4.21	4.45	4.64	1.62	1.95	0.87	3.91	0.72	3.56	2.09	3.83
	Operating cash flow to current liabilities[1]	0.12	-0.10	0.10	0.07	-0.03	0.16	0.17	-0.04	-0.01	-0.07	0.05	-0.04	-0.07	0.03	0.08	-0.02
Liquidity ratios	The quick ratio[1]	0.64	0.50	0.46	0.55	0.45	0.66	0.72	0.55	0.57	0.28	0.38	0.49	0.39	0.40	0.58	0.54
	Immediate liquidity[1]	0.22	0.08	0.08	0.15	0.14	0.12	0.25	0.17	0.20	0.09	0.09	0.14	0.11	0.12	0.15	0.17
	Operating cash flow to total sales	0.11	-0.18	0.13	0.08	-0.06	0.14	0.14	-0.05	0.10	-0.17	0.18	0.01	-0.08	0.09	0.13	-0.05

[1] Net of advances by customers.

SOURCE: Bank of Israel.

The scenarios' impact on the financial debt to CAP ratio is stronger than their impact on the leverage ratio.

Table 5
The effect of various scenarios on the debt to CAP ratio, weighted (by assets) average

An increase in interest rates and a slowing in new home sales

Rate of decline in new home sales	Increase in interest rate						
	0.0	0.5	1.0	2.0	3.0	4.0	5.0
0.0	67.4	67.5	67.7	67.9	68.2	68.4	68.7
5.0	67.6	67.7	67.9	68.1	68.4	68.6	68.9
10.0	67.8	67.9	68.0	68.3	68.6	68.8	69.1
20.0	68.2	68.3	68.4	68.7	68.9	69.2	69.5
30.0	68.6	68.7	68.8	69.1	69.3	69.6	69.9
40.0	68.9	69.1	69.2	69.5	69.7	70.0	70.3
50.0	69.3	69.5	69.6	69.9	70.1	70.4	70.7

An increase in interest rates and a decrease in prices

Rate of decline in home prices	Increase in interest rate						
	0.0	0.5	1.0	2.0	3.0	4.0	5.0
0.0	67.4	67.5	67.7	67.9	68.2	68.4	68.7
5.0	67.5	67.6	67.7	68.0	68.2	68.5	68.7
10.0	67.6	67.7	67.8	68.1	68.3	68.6	68.8
15.0	67.8	68.0	68.1	68.4	68.6	68.9	69.1
20.0	68.7	68.9	69.0	69.2	69.5	69.8	70.0
25.0	70.2	70.3	70.4	70.7	71.0	71.2	71.5
30.0	72.1	72.2	72.3	72.6	72.9	73.2	73.4

Decrease in prices and a slowing in new home sales

Rate of decline in home prices	Rate of decline in home sales						
	0.0	5.0	10.0	20.0	30.0	40.0	50.0
0.0	67.4	67.6	67.8	68.2	68.6	68.9	69.3
5.0	67.5	67.6	67.8	68.2	68.6	69.0	69.4
10.0	67.6	67.7	67.9	68.3	68.7	69.1	69.5
15.0	67.8	68.0	68.2	68.6	69.0	69.4	69.8
20.0	68.7	68.9	69.1	69.5	69.9	70.3	70.7
25.0	70.2	70.4	70.6	71.0	71.4	71.8	72.3
30.0	72.1	72.3	72.5	72.9	73.4	73.8	74.3

SOURCE: Bank of Israel.

Table 6
The effect of various scenarios on the debt to CAP ratio, weighted (by assets) average, assuming that there was a price decline in 2017

An increase in interest rates and a decrease in prices

Rate of decline in home prices	Increase in interest rate						
	0.0	0.5	1.0	2.0	3.0	4.0	5.0
0.0	67.4	67.6	67.7	68.0	68.2	68.5	68.8
5.0	68.2	68.3	68.5	68.8	69.0	69.3	69.6
10.0	69.0	69.2	69.3	69.6	69.9	70.2	70.4
15.0	69.9	70.1	70.2	70.5	70.8	71.1	71.4
20.0	71.1	71.3	71.4	71.7	72.0	72.3	72.6
25.0	72.4	72.6	72.7	73.0	73.3	73.6	73.9
30.0	73.9	74.1	74.2	74.6	74.9	75.2	75.5

A decrease in prices and a slowing in new home sales

Rate of decline in home prices	Rate of decline in home sales						
	0.0	5.0	10.0	20.0	30.0	40.0	50.0
0.0	67.4	67.6	67.8	68.2	68.6	68.9	69.3
5.0	68.3	68.5	68.7	69.1	69.5	69.9	70.3
10.0	69.3	69.5	69.7	70.1	70.5	70.9	71.4
15.0	70.3	70.5	70.7	71.1	71.6	72.0	72.4
20.0	71.3	71.5	71.8	72.2	72.6	73.1	73.5
25.0	72.4	72.6	72.8	73.3	73.7	74.2	74.7
30.0	73.5	73.7	74.0	74.4	74.9	75.4	75.9

SOURCE: Bank of Israel.