since the latter are generally short term and tend to "dry up" in times of crisis. In December of 2015, retail deposits accounted for about 55 percent of the total deposits up to one month, financial deposits for about 20 percent and non-financial wholesale deposits[83] for about 25 percent. Nonetheless, the quality of the funds was adversely affected somewhat since the share of on-demand deposits rose, as a result of the fall in prices in the capital market during the second half of the year and the low interest rate.

10. STRESS TESTS

Macroeconomic stress test of the banking system on the basis of a uniform scenario, 2015–16

a. General

It is general practice worldwide to evaluate the risks facing the banking system by means of, among other things, a stress test based on a uniform stress scenario. The test is conducted on the system as a whole to assess the scenario's effect on the banks' profitability, capital and stability. In this process, the banks carry out the test by means of their internal methodologies, and at the same time the Banking Supervision Department also does so using a consistent and uniform methodology of its own. The process contributes to understanding the risk factors to which the banking system and the individual banks are exposed and serves as a tool for evaluating the resilience of the banking system and ensuring a sufficient level of capital. However, the test does not constitute a forecast as it is based on models and numerous assumptions.

The result of the test carried out by the Banking Supervision Department this year[84] indicated that the realization of a macroeconomic stress scenario of a geopolitical nature will have a significant effect on the banking system, which will record a major loss during the second year of the scenario. Nevertheless, the banks' capital ratios are not expected to fall to under the minimum required by the Banking Supervision Department, a Common Equity Tier 1 capital adequacy ratio of 6.5 percent. The findings reflect the direct effect of credit and market risk but do not take into account other effects, such as a decline in liquidity (which may have a significant effect), the damage to the reputation of the bank and feedback effects. Yet at the same time, the results tend to be somewhat more severe since they do not take into account the response of the banks' managers to the crisis.

The following are details of the characteristics of the scenario and the test results. The results should be viewed as indications of the banks' level of risk and as an additional measure for estimating it.

[83] Deposits of nonfinancial corporations.

[84] The following banks participated in the stress test: Leumi, Hapoalim, Discount, Mizrahi-Tefahot, First International, Union Bank, and Bank of Jerusalem.

b. The scenarios

The test carried out in 2015 was based on two scenarios: a base scenario and a stress scenario. The stress scenario is very severe, and reflects the risk factors to which the Israeli economy and the banking system are exposed. It should again be emphasized that the stress scenario does not constitute a forecast but rather a hypothetical situation that is meant to test the resilience of the banks in a different macroeconomic environment. The scenario takes place over 13 quarters and its starting point is September 30, 2015.

Base scenario: This scenario reflects the expected path of the economy and is based on the Bank of Israel's macroeconomic forecasts, on the forecasts of international financial institutions regarding global developments, and on other assessments of developments in the economy, all of which were as of the time the scenarios were created.

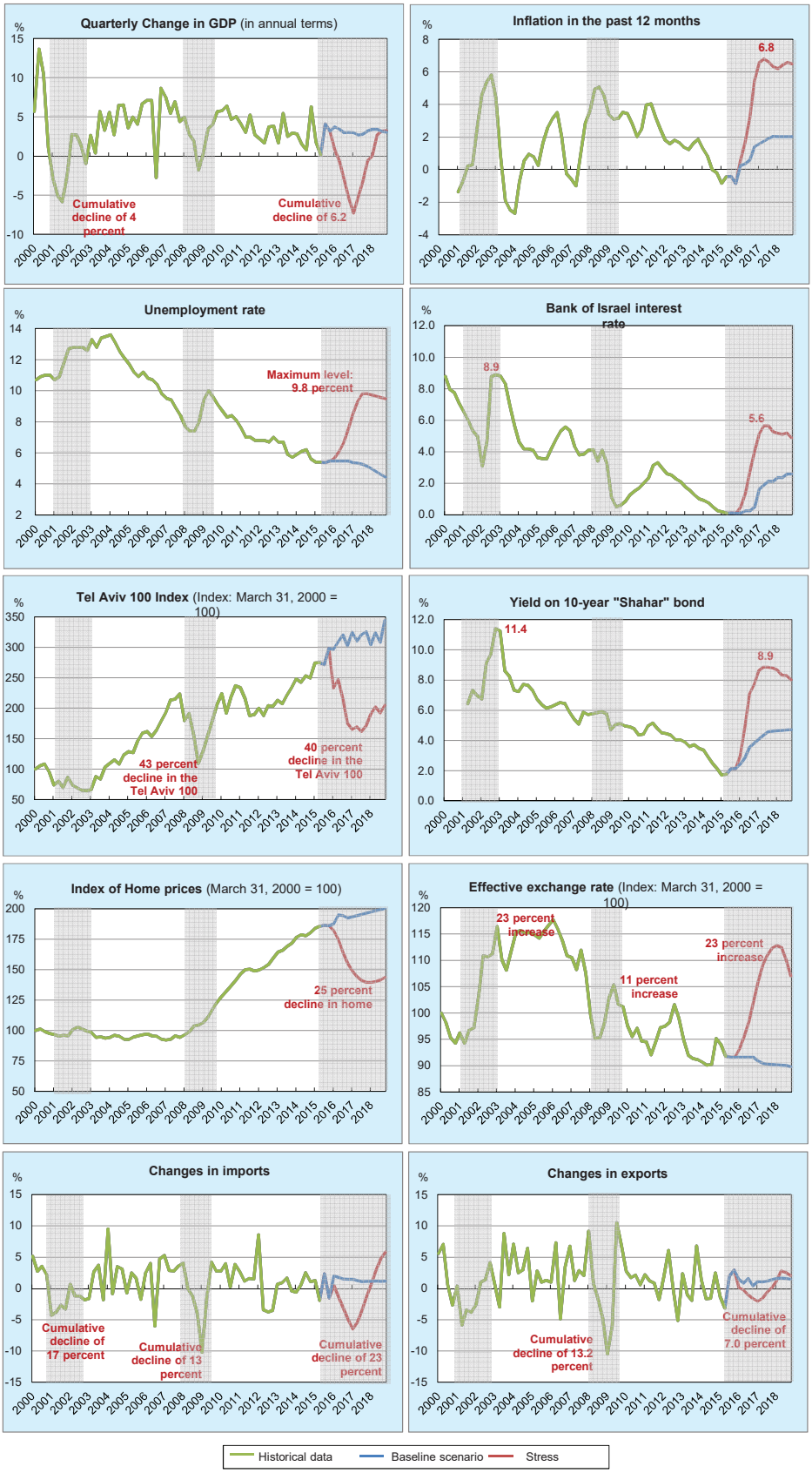
Stress scenario: This macroeconomic scenario is characterized by a severe and prolonged domestic shock, as a result of deterioration in Israel's geopolitical situation. The events have a major effect on the economy's productive capacity which, together with significant external administrative barriers, negatively impact the demand for Israeli exports and the ability to import goods. As a result, there is a sharp depreciation and an increase in inflation and the interest rate. The real effect is also manifested in a major negative impact on the labor market and on the housing and real estate market. Alongside the decline in real activity, there is also a sharp decline in the prices of financial and real assets, against the background of the underpricing of risk in the bond market and the high housing prices.

Figure 1.45 shows how the main macroeconomic variables develop in each of the scenarios and Table 1.23 presents an international comparison of the main variables in the stress scenarios that were used in the selected countries.

c. Assumptions

The Banking Supervision Department carried out the uniform stress test on the basis of various assumptions, such as: no change in asset balances and composition during the scenario (in order to be able to understand the source of the changes in the banks' results); no additional raising of capital; and the actions taken by the banks' management in response to the crisis are not taken into account. The results of the test reflect its direct effect on capital, profitability, the credit portfolio and the securities portfolio and do not include a possible decline in the banks' liquidity or accompanying indirect effects, such as a lowering of the banks' ratings or a drop in investor confidence.

Figure 1.45
Historical Macroeconomic Data and Development of Scenarios, 2000–18[a]



[a] The shaded areas denote crisis periods.
SOURCE: Published financial statements and reports to the Banking Supervision Department.

Table 1.23
Comparison of main macroeconomic variables in a uniform stress test[a], Israel and selected economies

(percent)

	Israel (2015)		US (2016)			Europe
Main macroeconomic variables	**Starting point**	**Stress scenario**	**Starting point**	**Stress scenario**	**Severe stress scenario**	**Starting point**
GDP - Maximum contraction in the stress scenario		**6.2%**		**1.8%**	**6.1%**	
Unemployment rate - Maximum level in the stress scenario	5.4	**9.8**	5.0	**7.5**	**10.0**	
Monetary interest rate[b] - Maximum/minimum level in the stress scenario	0.1	**5.6**	0.1	**0.1**	**-0.5**	-
Inflation - Maximum/minimum annual change in the stress scenario	-0.4%	**6.8%**	0.1%	**-0.5%**	**0.6%**	
Change in the currency	Depreciation of the ₪ against the basket of currencies[c]	**23%**	Appreciation of the $ against the €	**-11%**	**-14%**	
Long-term yields - Maximum/minimum level in the stress scenario	2.1	**8.9**	2.2	**1.3**	**0.2**	1.2
Stock index - Maximum change of the leading index in each country		**-40%**		**-26%**	**-51%**	
Home prices - Maximum change during the stress scenario		**-25%**		**-12%**	**-25%**	

a Duration of the scenario: Israel—13 quarters; US and Europe—3 years; UK—5 years.

b Data regarding the ECB's monetary interest rate were not published in the stress scenario carried out in Europe. In the US—3 month treasury bill.

c In Israel - the nominal effective exchange rate, including the yen, pound sterling, US dolllar and euro (the currencies of Israel's main trading partners).

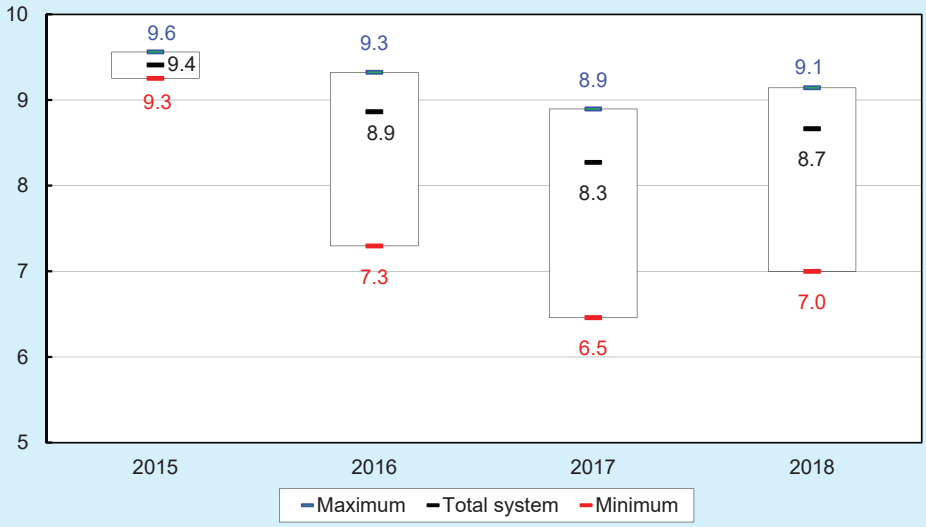
SOURCE: Israel—Bank of Israel; US—Federal Reserve; UK—Bank of England; Europe—European Banking Authority.

d. Findings

The realization of the domestic macroeconomic stress scenario, against the background of deterioration in Israel's geopolitical situation, is expected to seriously affect the banking system. The results, which relate to direct damage caused to the banking system, subject to the assumptions presented above, show that the capital ratios of the banks do not drop to below the required minimum. However, during the second year of the scenario, the banking system suffers a major loss of about NIS 3 billion, which represents a return on capital of about -3.3 percent (Figure 1.46, Figure 1.47). The Common Equity Tier 1 capital ratio of the banking system declines from 9.4 percent in September 2015 to a low of 8.3 percent during the scenario. The capital ratio of the bank that is the worst affected dropped to a low of about 6.5 percent during the scenario.

In the scenario described above, the most serious effect on the profitability of the banks is derived from credit losses. The economic recession will make it difficult for business and private borrowers to meet their commitments and the banks will record major losses in the credit portfolio. During the three years of the scenario, the banks will record credit losses totaling about NIS 40 billion (before tax), constituting an average annual loss of 1.5 percent. The drop in imports and exports is manifested in credit losses in the business sector (excluding construction and real estate), which accounts for 40 percent of the losses in the banks' credit portfolio. Another significant

Figure 1.46
Stress Test[a]: Development of Common Equity Tier 1 Ratio, Total System, December 2015 to December 2018

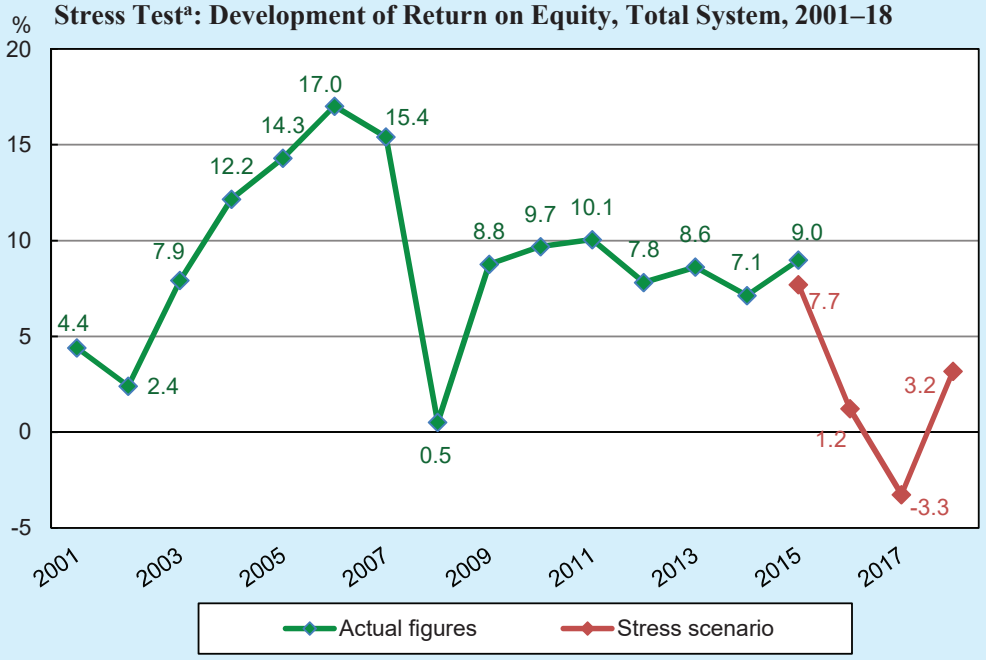


[a] Based on models and estimations, and does not constitute a forecast.
SOURCE: Based on reports to the Banking Supervision Department.

risk relates to the banks' exposure to the construction and real estate industry and the housing market. These losses together account for about 40 percent of the credit losses during the scenario, against the background of a major disruption in the labor market, a sharp drop in housing prices and an increase in the price of raw materials used in construction. The high correlation between these sectors increases the industry concentration risk and is liable to exacerbate the loss by way of feedback effects. However, it should be mentioned that the risk implicit in the housing credit portfolio on its own has declined relative to previous years, due to the improvement in the risk parameters of the portfolio as a result of the regulatory measures taken in previous years (for further details on the results of the stress test in the housing credit portfolio, see the section on credit).

Alongside the credit losses, the scenario is expected to lead to large declines in the value of the banks' securities portfolio, due to the sharp increase in interest rates and credit spreads and declines in share prices. The total resulting negative impact to the banks' capital is expected to reach about NIS 15 billion. The serious and immediate negative impact in the market may also cause a chain reaction and indirect ramifications, such as a drop in investor confidence and a sharp decline in bank and other share values. Alongside the losses in the credit and securities portfolios, the banks' net interest income is expected to increase as a result of higher interest rates, which will offset some of the losses in these portfolios.

Figure 1.47
Stress Test[a]: Development of Return on Equity, Total System, 2001–18



[a] Based on models and estimations, and does not constitute a forecast.
SOURCE: Based on reports to the Banking Supervision Department.