

The potential loss as a result of a maximum change in exchange and inflation rates²⁶ was NIS 278 million, 0.3 percent of the five groups' total capital (Table 1.21). The groups' exposure varied widely, with the potential loss ranging from 0.2 percent of bank capital to 1.7 percent.

In CPI-indexed activity, most of the large banking groups posted surpluses of assets over liabilities in 2016, much as in recent years, and were therefore exposed to an unexpected decline in the CPI. In foreign currency activity, the exchange rate exposure of most of the large groups was similar to its level from the previous year.

Box 1.2: Macroeconomic stress test of the banking system on the basis of a uniform scenario, 2016–2017

- The results of the Banking Supervision Department's stress test this year indicate that in the event of a severe domestic macroeconomic scenario in concurrence with a significant shock in Europe that reflects increased uncertainty about the survival of the European Union, the Israeli banking system will remain stable but will absorb large and protracted credit losses.
- Although the banks' capital ratios are likely to decline in this scenario, those of all banks are expected to exceed the threshold that the Banking Supervision Department has set (a Common Equity Tier 1 capital adequacy ratio of 6.5 percent). The results reflect the significant strengthening of capital in recent years and supervisory measures that induced greater conservatism in risk management, including reduction of the banks' exposure to large and leveraged borrower groups and an improvement in the characteristics of the housing portfolio.
- In the stress scenario, the banks sustain sizable credit losses: about one-third in the business portfolio (excluding construction and real estate), another third in construction and real estate and housing, and about 20 percent in consumer credit.

a. General remarks

It is general practice worldwide to evaluate the risks facing the banking system by means of, among other things, analysis of the impact of an extreme event, based on a uniform scenario that the supervisory authority presents to the entire banking system. The test is conducted system-wide in order to estimate the effect of a severe scenario on the banks' profitability, capital, and stability. The goal is to make sure that even in a very severe scenario, the banks will remain stable even if they have to absorb considerable losses. In Israel, each banking corporation estimates the test results by applying a method of its own, and the Banking Supervision Department tests each bank in a consistent and uniform manner. This process contributes to a better understanding of focal points of risk that the banking system and the individual bank face, constitutes an auxiliary tool for estimating system resilience and assuring capital adequacy, and deals with banks' resilience on a case-by-case basis as necessary. It is worth emphasizing that the test is not a forecast. It is based on numerous models and assumptions, and its outcomes are therefore a rough estimate of possible losses.

²⁶ The maximum change in inflation and the exchange rate is determined on the basis of the monthly changes that occurred, respectively, in inflation expectations and the nominal NIS-USD exchange rate over the past seven years, assuming normal distribution and 99 percent significance.

The results of the test conducted in 2016¹ indicate that in the event of a severe domestic macroeconomic scenario with a concurrent significant shock in Europe that reflects increased uncertainty about the survival of the European Union, **the banking system will remain stable but will absorb large and protracted credit losses.** Capital ratios are likely to fall but those of all banks are expected to exceed the minimum (6.5 percent Common Equity Tier 1 capital adequacy ratio) required by the Banking Supervision Department. These outcomes reflect a direct blow to the system on account of credit risk, market risk, and, to a limited extent, operational risks. They do not take into account additional effects such as a decline in liquidity—a development that may harm the banks' reputation and customer confidence and lead to negative feedback. It is important to note, however, that the results are as severe as they are because they do not take into account actions that the banks' managements will take in response to the crisis. The Banking Supervision Department insisted on this methodology in order to make the results for all banks comparable.

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.

b. The scenarios

The test conducted in 2016 was based on two scenarios—a base scenario and a stress scenario. The stress scenario is very severe. It should again be emphasized that the stress scenario is not a forecast but a hypothetical situation meant to test the banking corporations' resilience in an alternative macroeconomic environment. The scenarios cover a time frame of thirteen quarters starting on September 30, 2016.

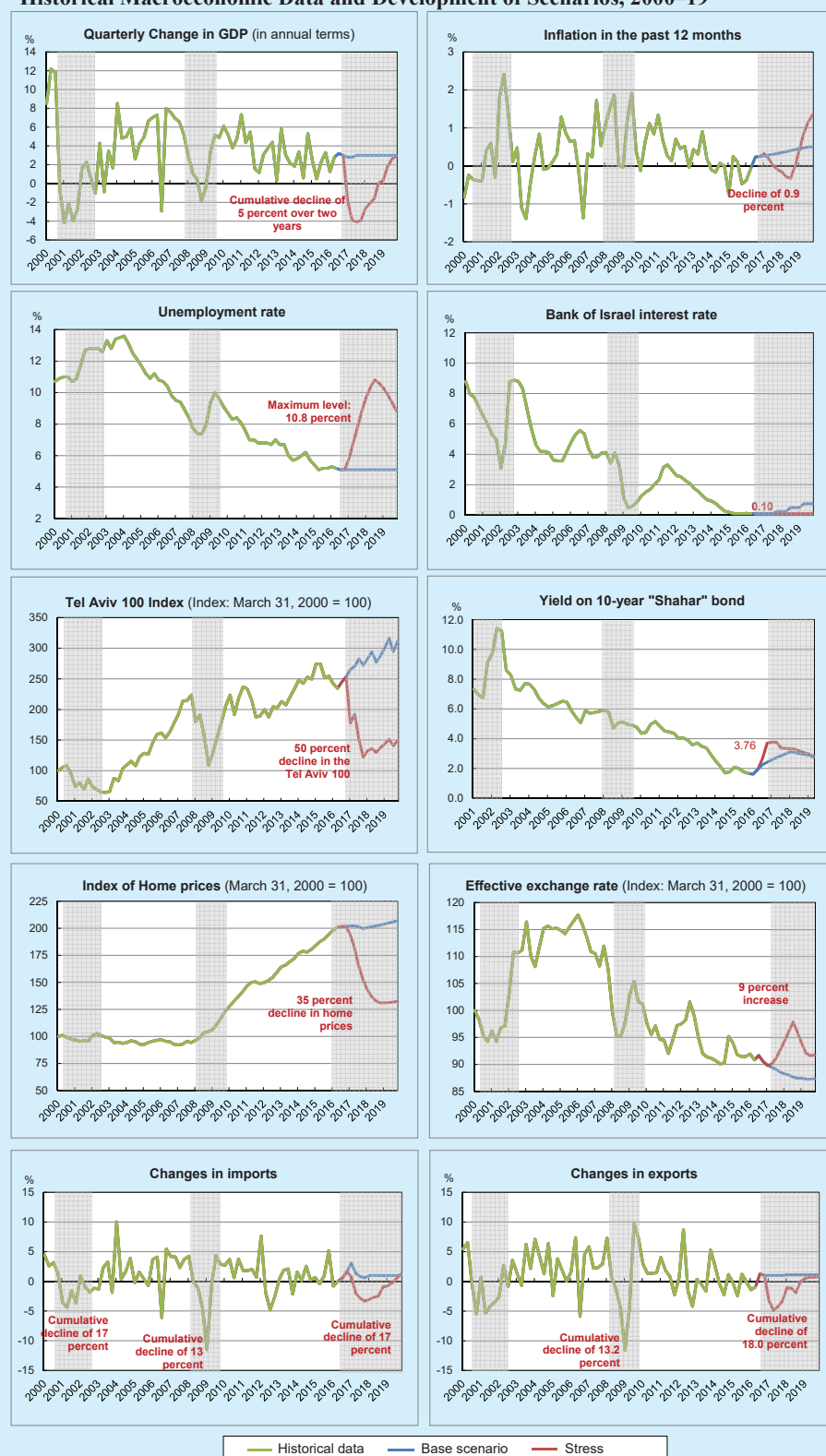
The base scenario reflects the expected path of the economy and is based on the Bank of Israel's macroeconomic forecasts, international financial institutions' forecasts of global developments, and additional assessments of economic developments—all of which were as of the date on which the scenarios were created.

The stress scenario is a shock originating in Europe that reflects increased uncertainty about the survival of the European Union and coincides with a shock to the domestic housing market that causes prices to plummet. The two shocks affect the Israeli economy adversely in both its real and its financial aspects. They cause domestic economic activity to decline steeply, reflected in a sharp decline in exports and investment and a sharp increase in unemployment. As economic activity loses momentum, the Consumer Price Index declines and the Bank of Israel interest rate remains at its current low level. The increasing credit risk, however, is reflected in higher lending interest rates. The weakening of the domestic economy and the flight to safety are manifested in depreciation of the shekel against main currencies other than the euro. As real activity slumps, the shocks leave their effects on the prices of financial assets. The Tel Aviv 100 index loses half of its value, cumulatively, by the end of 2018, and corporate spreads widen in all rating classes due to concern about large credit losses among firms, a transition to assets that are perceived as relatively safe, and liquidity difficulties among investors.

Figure 1 shows the development of main macroeconomic variables in both scenarios.

¹ The following banking corporations took part in the stress test: Leumi, Hapoalim, Israel Discount, Mizrahi-Tefahot, First International, Union, and Bank of Jerusalem.

Figure 1
Historical Macroeconomic Data and Development of Scenarios, 2000–19^a



^a The shaded areas denote crisis periods.

SOURCE: Historical data—Based on Central Bureau of Statistics and Tel Aviv Stock Exchange; Base and Stress scenarios—Bank of Israel.

c. Assumptions

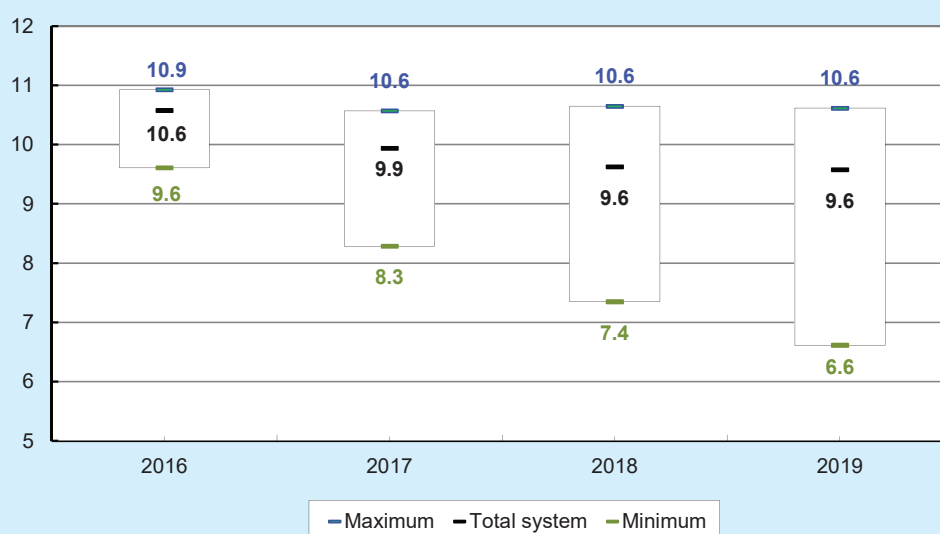
The Banking Supervision Department conducted the uniform stress test on the basis of various assumptions that were meant to facilitate comparison among banks and isolate the effects of the scenario itself from possible reactions. In the course of the scenario, for example, the balance and composition of assets do not change, no additional capital is raised, and, as stated, responses by banks' managements to the evolution of the crisis are not taken into account. The test results reflect the direct effect of this scenario on capital, profitability, and the credit and securities portfolios. The test does not examine the possibility of a decline in the banks' liquidity and related indirect effects, such as lowering of banks' ratings and a negative impact on investor confidence.

d. Findings

The simultaneous occurrence of a shock originating in Europe and a domestic macroeconomic crisis—including a shock to the housing market, causing prices to plunge—is likely to have a significant effect on the banking system but is unlikely to put stability at risk. The ensuing recession will make it difficult for mortgage, household, and business borrowers to honor their obligations, causing the banks to record large credit losses.

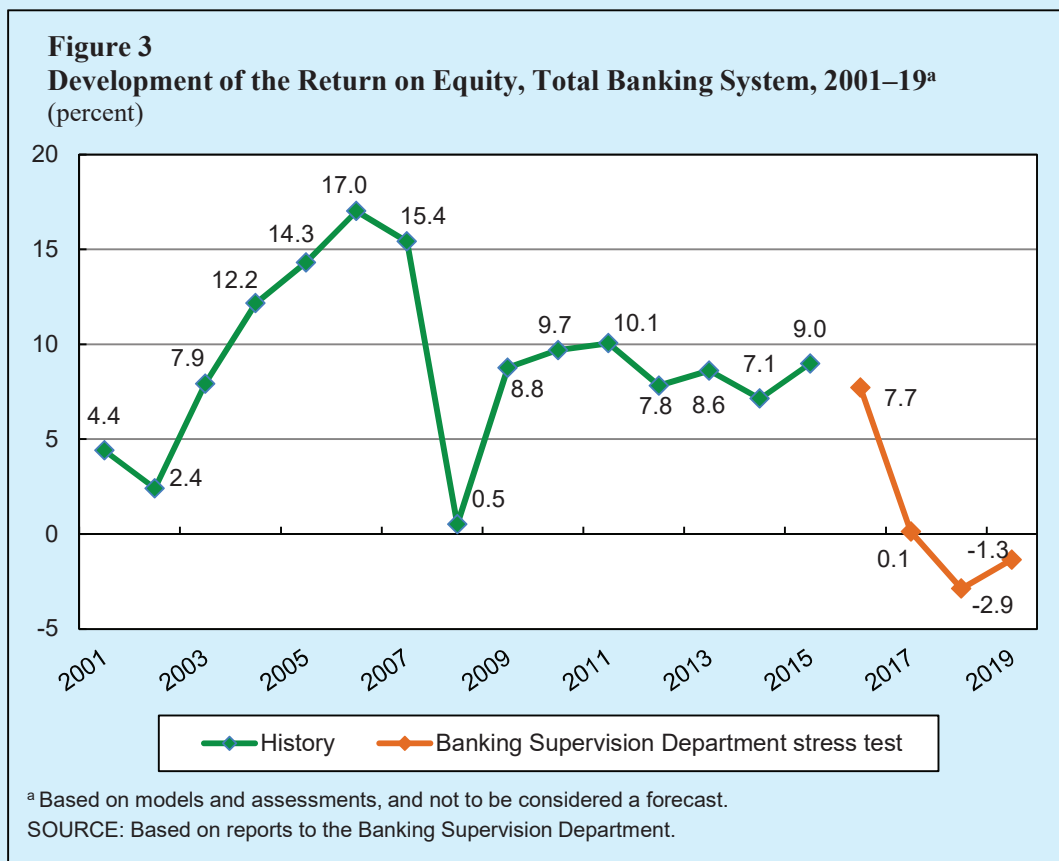
The extent of the direct blow to the banking system, under the aforementioned assumptions, indicates that the system will have enough capital to maintain resilience in the stress scenario and that the banks' capital ratios will not fall below the mandatory minimum. This reflects the major reinforcement of capital

Figure 2
Development of the Tier 1 Capital Ratio, Total Banking System, 2016–19^a (percent)



^a Based on models and assessments, and not to be considered a forecast.

SOURCE: Based on reports to the Banking Supervision Department.

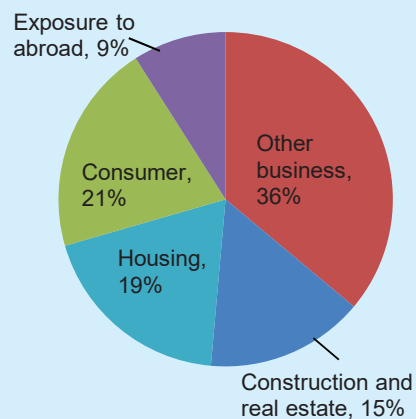


in recent years alongside supervisory measures that led to more conservative risk management, such as the significant decline in the banks' exposure to large and leveraged borrower groups and improvement in the characteristics of the housing portfolio. Nevertheless, the banking system will sustain a serious and long-lasting impact: about NIS 6.6 billion in cumulative losses (pre-tax), zero return on equity in 2017, and negative ROE in 2018 (-2.9 percent) and 2019 (-1.3 percent). The impairment to the banking system's Common Equity Tier 1 capital ratio is reflected in a decline from 10.4 in September 2016 (when the scenario begins) to 9.6 at the end of 2019 (when it ends). The damage caused under this scenario varies widely among the banks. The capital ratio of the bank that sustains the most serious impact will bottom out at 6.6 percent. The most significant damage to the banks' profitability in the scenario described above is derived from credit losses. During the three years of the scenario, the banks will record NIS 35 billion (pre-tax) in credit losses—about 1.2 percent per year on average.

About one-third of the total credit losses will come from the business credit portfolio (excluding construction and real estate). Another third will originate in the construction and real estate industry and housing credit, due to the sharp decline in housing prices assumed by the scenario and the serious impact to the labor market. The strong correlation between these segments will aggravate industry concentration risk and may magnify the loss due to feedback effects. The increase in the risk inherent in

the consumer credit portfolio in recent years (see elaboration in Box 1.1, “Retail Consumer Credit”), typified by a large proportion of unsecured loans alongside the serious impact of the scenario on the labor market, are reflected in credit losses on account of the consumer segment, adding up to about 20 percent of total losses in the banking credit portfolio with high variance among banks.

Figure 4
Expected Credit Losses During the Stress Scenario, Total Banking System, 2017–19^a (percent)



^a Based on models and assessments, and not to be considered a forecast.

SOURCE: Based on reports to the Banking Supervision Department.