Bank of Israel

MONETARY POLICY REPORT

Second Half of 2018

50

February 2019

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According to the Bank of Israel Law, 5770–2010, the Bank of Israel has three objectives: (1) to maintain price stability, as its central goal; it was established that price stability is defined as an annual inflation rate of between 1 percent and 3 percent; (2) to support other objectives of the Government's economic policy, particularly growth, employment and reducing social gaps, provided that this support shall not prejudice the attainment of price stability; and (3) to support the stability and orderly activity of the financial system. In order to attain these objectives, the Bank of Israel employs various tools, chief among them the decision on the appropriate level of the short-term interest rate.[1] In addition, the Bank may intervene in the foreign exchange market.

Section 55(a) of the Bank of Israel Law, 5770–2010, establishes the publication of this report, which is submitted by the Bank of Israel to the government and the Knesset Finance Committee twice a year. The report surveys the economic developments that took place during the period covered by the report. It also surveys the policy required—in the view of the members of the Bank of Israel's Monetary Committee, the forum in which monetary policy decisions are reached—for the inflation rate to be within the range set by the government and to achieve the other objectives of the government's economic policy. A survey of financial stability appears in the Bank of Israel's Financial Stability Report for the period covered.

The Monetary Policy Report for the second half of 2018 was prepared by economists in the Research Department, within guidelines set by the Bank of Israel Monetary Committee. This report is based on data that were published up to the interest rate decision reached on January 7, 2019.

1 In April 2017, the Bank of Israel switched from 12 interest rate decisions per year to eight.

SUMMARY OF RECENT ECONOMIC DEVELOPMENTS

Monetary policy: This report reviews the monetary policy in the second half of 2018 and in the beginning of 2019.[2] During the reviewed period, the Monetary Committee began the process of tightening the accommodative monetary policy adopted in recent years. Against the background of the relative stability in the exchange rate, the Bank of Israel did not purchase foreign exchange within the framework of the policy to avoid anomalous exchange rate fluctuations, and sufficed with purchases carried out within the framework of the program to offset the effects of natural gas production. In November, the Monetary Committee announced that the program to offset the effects of natural gas production would cease at the end of 2018. During the course of the reviewed half year, the Committee continued to use the forward guidance tool and in particular reiterated the declaration that the accommodative monetary policy will remain in place as long as necessary to entrench the inflation environment within the target range. In its publications, it clarified this declaration and sharpened the meaning of entrenchment. A significant step in the process of tightening the monetary accommodation was taken in the final interest rate decision for 2018—the Committee decided to increase the interest rate to 0.25 percent, after assessing that the conditions were set for the beginning of the rise; that is, after inflation had stabilized above the lower bound of the target range, and the Committee assessed that it will remain stable and that even at this interest rate level, policy is accommodative and supports the objectives. In addition, the Committee reiterated the assessment that the interest rate path in the future would be gradual and cautious. In the decision in January, the Committee also emphasized that the decisions on future interest rate increases will be made in a manner that supports a process at the end of which the inflation rate will stabilize around the midpoint of the target range and that supports economic activity.

The inflation environment: During the reviewed period, various indicators pointed to the inflation environment having increased and having become entrenched in the lower part of the target range: with the publication of the CPI reading for June, annual inflation entered the target range, for the first time in about 4 years, and during the course of the half year it remained within it. Most components of the CPI made a positive contribution; the index of nontradable items —an approximation of the domestic component of inflation—renewed its rise and remained at a high level. Annual inflation excluding energy, fruit and vegetables, and excluding the price reductions initiated by the government, ranged around 1 percent. One-year expectations derived from the capital market remained within the target range during the period, and forward expectations were stable within it. Throughout the half year, the Committee was of the opinion that there were various factors acting to increase the inflation environment, including wage increases, fiscal policy, and global developments. It was also of the view that the impact of some of the factors that had reduced the inflation rate in recent years had weakened, including the government-initiated price reductions and the trend of appreciation. The CPI for December was published after the end of the reviewed period, and indicated that the inflation rate in 2018 was 0.8 percent.

2 Decisions in 2018 were reached on July 9, August 29, October 8, November 26, and the decision in 2019 was reached on January 7.

Real domestic activity: The data published during the reviewed period led the Monetary Committee to assess that activity had moderated to some extent, but they were of the opinion that this apparently derived from the growth rate returning to the potential environment and the fluctuations seen in vehicle imports in the first quarter. Regarding the composition of GDP, National Accounts data published during the half pointed to several developments: continued contraction in investment, a moderate rise in private consumption, and weakness in goods exports. The Committee discussed these developments and assessed that they derive mainly from constraints created on the supply side due to the proximity to full employment, and not from weakening demand. Labor market data indicated that it remained tight—employment and participation rates remained high, the unemployment rate was at a low, the job vacancy rate remained at a high level, and wages continued to increase at a solid pace, led by the business sector.

Capital market developments: Market expectations with regard to an interest rate increase rose in the beginning of the half to a level that reflected more than one increase during the coming year. Forecasters' assessments and Telbor data indicated that the markets did not expect the increase that took place in November, and their initial reaction to it indicates that they derived from it that other increases will be brought forward as well. Israeli government nominal bond yields increased gradually during 2018. The spreads between Israel and the US in 5-year and 10-year nominal bond yields remained negative and stable in most of the reviewed period, although the most recent data indicate that they narrowed. The spreads between yields on corporate bonds rated A and higher and those on government bonds declined slightly in August, but in the beginning of October there was a correction and in November and December the upward trend continued. In December, equity indices declined on the Tel Aviv Stock Exchange by approximately 10 percent, in line with the marked declines in major equity indices worldwide.

The housing market: Home prices increased for about a decade, reached a peak in August 2017, and from then until September 2018 they declined by approximately 2 percent.[3] The number of new housing transactions stabilized during the course of the period, after it rose to some extent in the beginning of the year and after it had declined consistently since the middle of 2016. With that, there was a continued upward trend in the number of homes sold within the framework of the "Buyer's Price" program. During the course of the period, a marked slowdown was apparent in the number of building starts and in residential construction investment. The Monetary Committee assessed that the slowdown in residential construction apparently derived from moderation in demand.

Global developments: Data on the global economy indicated a loss of momentum throughout the half year, and the IMF reduced its growth forecast. The US economy continued to grow by a high rate, but it is expected that the pace will moderate slightly in the fourth quarter. In Europe, activity lost momentum. During the period, the Committee saw several risks that in its assessment weigh on the continued trend of global growth, including trade wars, political risk in Europe, and the volatility in emerging economies' financial markets. The monetary

3 This is the updated data that the Committee had in its interest-rate decision in January 2019.

environment worldwide remained accommodative but showed a clear trend of contraction. The US continued its process of normalization and the US Federal Reserve raised the federal funds rate twice. The eurozone kept the monetary interest rate at a negative level, and the ECB repeated the assessment that it will stay at its current level through the summer of 2019, at least. From the beginning of 2019, quantitative easing worldwide is expected to be replaced by quantitative tightening. However, at the end of the reviewed period, uncertainty increased regarding the continued trend of monetary contraction around the world, against the background of financial market volatility in advanced economies. The markets are not pricing in an additional interest rate increase in the US, and in Europe the timing for the interest rate being expected to increase was deferred.

Exchange rate: During the half-year reviewed, the nominal effective exchange rate did not develop uniformly: the shekel strengthened until the beginning of September, and afterward it depreciated. Committee members agreed that from a historical perspective, the shekel remains overvalued, but they assessed that the forces for appreciation weakened against the background of the increase in the interest rate spreads between Israel and other countries, and the contraction of the surplus in the current account of the balance of payments. During the course of the half-year, the Bank of Israel did not intervene in the foreign exchange market with the goal of preventing anomalous exchange rate fluctuations, and sufficed with purchases within the framework of the program to offset the effect of natural gas production.[4]

Research Department staff forecast: In January 2019, the growth forecast for 2019 was revised downward (to 3.4 percent), among other things against the background of the assessment that growth is converging more rapidly to the long term pace. In 2020, GDP is expected to grow by 3.5 percent. The inflation forecast for 2019 was reduced (to 1.3 percent), among other things because the price of oil declined in the fourth quarter. In 2020, inflation is expected to continue converging gradually to the midpoint of the target range and to be 1.8 percent by the end of the year. The interest rate is expected to increase to 0.5 percent in the third quarter of 2019, and to rise gradually to 1.25 percent at the end of 2020 (the end of the forecast range).

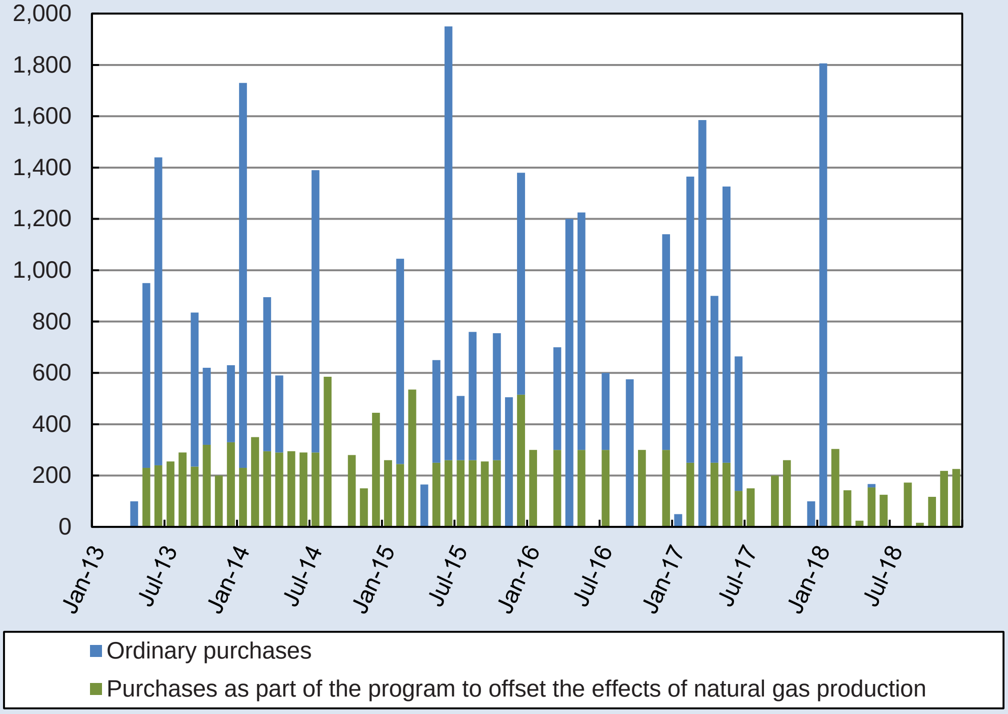
4 In May, the Bank of Israel intervened in the foreign exchange market but at a very low amount—$13 million.

Section 1 of this report explains the policy adopted by the Monetary Committee in the period reviewed, and Section 2 presents the background conditions that prevailed at the time of the interest rate decisions and the Committee's perspective at that time.

1. MONETARY POLICY

In the half year reviewed, the Monetary Committee began a process of tightening the accommodative monetary policy that had been adopted in recent years. This process is gradual, and to some extent it already began in February 2018: the Bank of Israel did not purchase foreign exchange in the framework of the policy to prevent anomalous exchange rate fluctuations, and sufficed with purchases within the framework of the program to offset the effect of natural gas production (**Figure 1**).[5] In the middle of November, the Bank announced that the natural gas plan would cease at the end of 2018, as the Citizens of Israel Fund (the sovereign wealth fund) is set to be established in 2019, and updated assessments are that it will invest funds in 2020.[6]

Figure 1
Bank of Israel Intervention in the Foreign Exchange Market, January 2013 to December 2018 ($ million)



SOURCE: Bank of Israel calculations.

5 In May, the Bank of Israel intervened in the foreign exchange market outside the natural gas program, but it was a very small amount —$13 million.

6 In the notice, the Bank emphasized that it will continue to act in the forex market when there are exchange rate fluctuations that are not in line with fundamental economic conditions, or if the forex market does not operate in an orderly fashion.

In addition, the Bank of Israel continued to use forward guidance—a monetary tool that it has used in recent years in order to impact on market expectations regarding the future path of the monetary interest rate. The formulation of the guidance since April 2017 emphasized the Committee's intention "to maintain the accommodative policy as long as necessary in order to entrench the inflation environment within the target range". During the course of the period reviewed, the Committee discussed the meaning of entrenchment extensively. The Committee emphasized that in order to establish that inflation has become entrenched, it must be sure to the extent possible that its return to within the target range is not transitory. In its publications, the Committee emphasized that it does not refer to entrenchment precisely in the middle of the target, but that as inflation tends to be volatile, a situation in which the expected inflation environment is very close to the lower bound is not entrenchment within it.[7]

In the beginning of the period, the Committee noted that the inflation environment continues to increase toward the target range, and in the interest rate decision reached at the end of August it added that it appears that the inflation environment is beginning to be entrenched within the target range. In a press briefing held in October 2018, the Governor emphasized that in each and any one of the upcoming interest rate decisions, the Committee would be able to change the policy in accordance with the data and how they interpret them.

In the final interest rate decision in 2018, the Monetary Committee decided to increase the interest rate by 0.15 percentage points, to 0.25 percent. This was the first interest rate change since March 2015.[8] The Committee increased the interest rate after it assessed that the conditions had ripened for beginning the increase. That is, after inflation had stabilized above the lower bound (annual inflation was 1.2 percent) and the Committee assessed that it will remain stable and that even at that level the policy is accommodative and supports the goals. Ultimately, the Committee found it appropriate to give greater weight to the period in which inflation has been within the target range and to the various assessments regarding the probability that it will remain around that level, and lower weight to annual inflation being close to the lower bound of the target. Among the signs of a rise in the inflation environment are inflation remaining within the target range for a significant period—inflation measured over the preceding 12 months has been within the target range for 5 months and seasonally adjusted inflation measured over the preceding 6 months[9] has been within the range since December 2017 (**Figure 2**)—and an increase being seen in the annual inflation rate presented by adjusted indices and inflation expectations from the various sources.

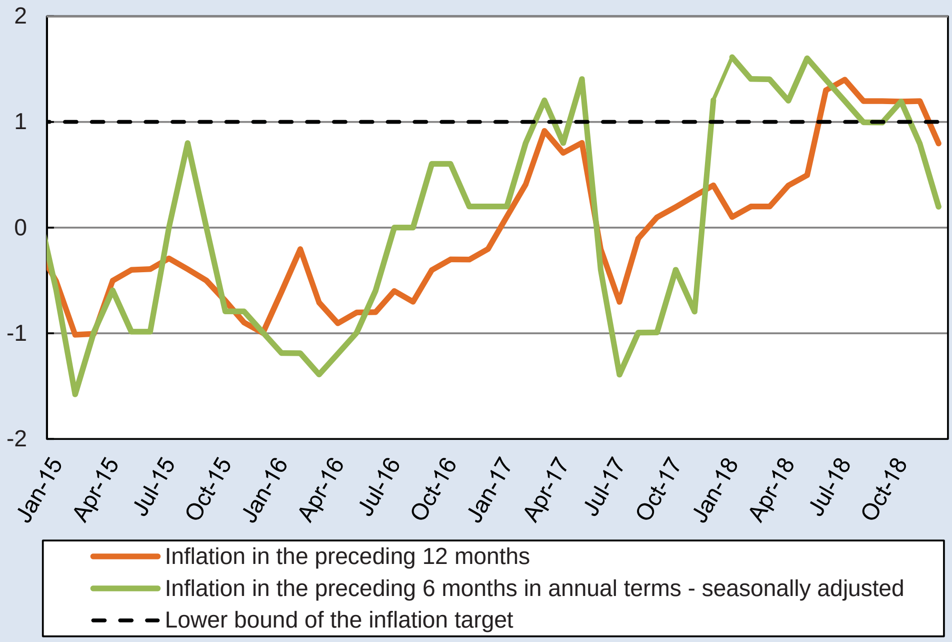
The Committee's decision was reached against the background of (a) the assessment that the forces supporting an increase in inflation continue to act; these include, among other things, the increase in wages in the economy, the increase in inflation abroad, the expansionary fiscal policy, and the trend seen worldwide of a shift to less accommodative monetary policy; (b) the assessment that the impact has weakened for some of the factors that in recent years reduced the inflation rate and even

7 From the comments by the Governor of the Bank of Israel at the press briefing on monetary policy on July 9, 2018.

8 Due to the changeover of Governors, the November 2018 decision was made in an incomplete composition of the Committee, as only five members participated, and the Deputy Governor served as Chair of the Monetary Committee under her authority as alternate for the Governor. Four of the five members concurred with the decision to raise the interest rate. Details are available at: https://www.boi.org.il/en/NewsAndPublications/PressReleases/Pages/26-11-18.aspx.

9 In annual terms.

Figure 2
Annual Inflation and Inflation in the Preceding 6 Months in Annual Terms, January 2015 to December 2018 (Percent)



SOURCE: Based on Central Bureau of Statistics.

led to negative inflation—these include the steps taken by the government with the goal of reducing the cost of living, as well as the enhancement of competition in the economy and the appreciation of the shekel; (c) the claim that there is a relatively low probability that inflation will decline for a prolonged period of time. Also at the background of the decision were the following developments: the growth rate declined in the second and third quarters to around its potential rate[10] after it rose above 4 percent in previous quarters, and signs were seen that indicate the growth momentum in most of the advanced economies weakened to some extent.

In the last decision reached during the reviewed period, the Monetary Committee kept the interest rate unchanged at 0.25 percent and repeated the assessment that it will be raised on a cautious and gradual path. In addition, the Committee emphasized that the decisions on future increases will be made with the goal of supporting a process at the end of which inflation will stabilize around the midpoint of the target and with a goal of supporting economic activity.[11]

10 The potential growth rate is derived from multiyear growth trends of productivity and of the various production factors. It is assessed to be approximately 3 percent.

11 This decision was reached after the Governor took on his position and all six members of the Monetary Committee participated.

2. THE BACKGROUND CONDITIONS

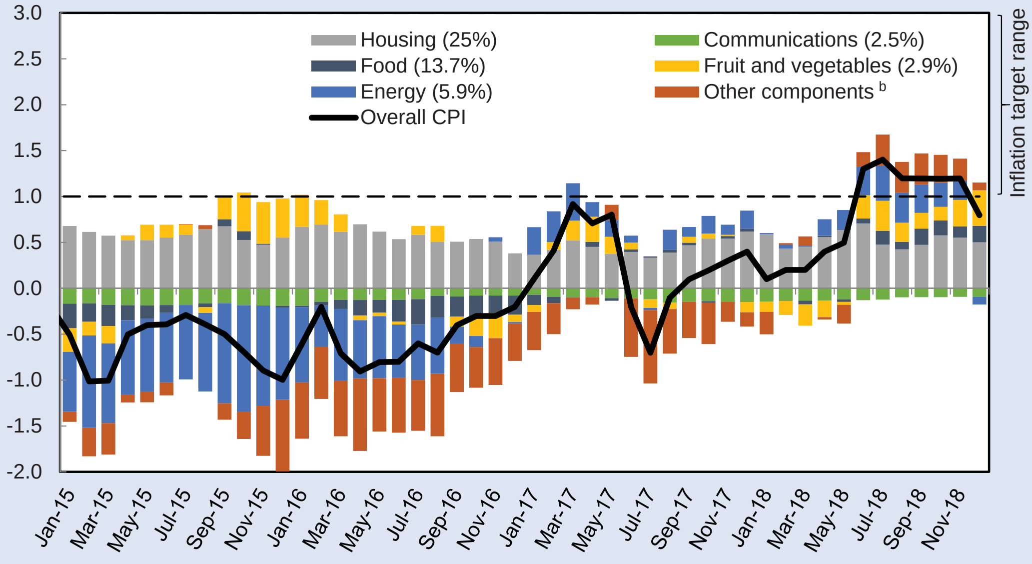
Following are details of the main developments considered by the Monetary Committee during the second half of 2018:

1. The inflation environment

The inflation environment in Israel continued to increase during the reviewed period. During the course of the year, the Committee clarified that in order to analyze the inflation environment, notice should be taken of actual inflation, emphasizing indices adjusted for one-off effects, as well as short term inflation expectations. The Committee explained that in order to assess whether the inflation environment became entrenched within the target range, it will examine expectations and forecasts from various sources as well, and will continue to adopt accommodative policy until it is convinced that inflation's return to the target is not transitory.

Before the interest rate increase and during the course of 2018 the inflation environment was on an upward trend, and various indicators supported the assessment that inflation had stabilized in the lower part of the target: (a) Most main CPI components made a positive contribution to the annual inflation rate in the five months preceding the interest rate increase (**Figure 3**); (b) The annual inflation rate of the index of nontradable items—an approximation of the domestic component of inflation—renewed its rise and was above 1 percent in the six months preceding the decision; (c) There was an increase seen in the adjusted indices used as indicators for "core inflation"[12]—annual inflation

Figure 3
Contribution of the Main CPI Components to Annual Inflation[a], January 2015 to December 2018 (Percent)

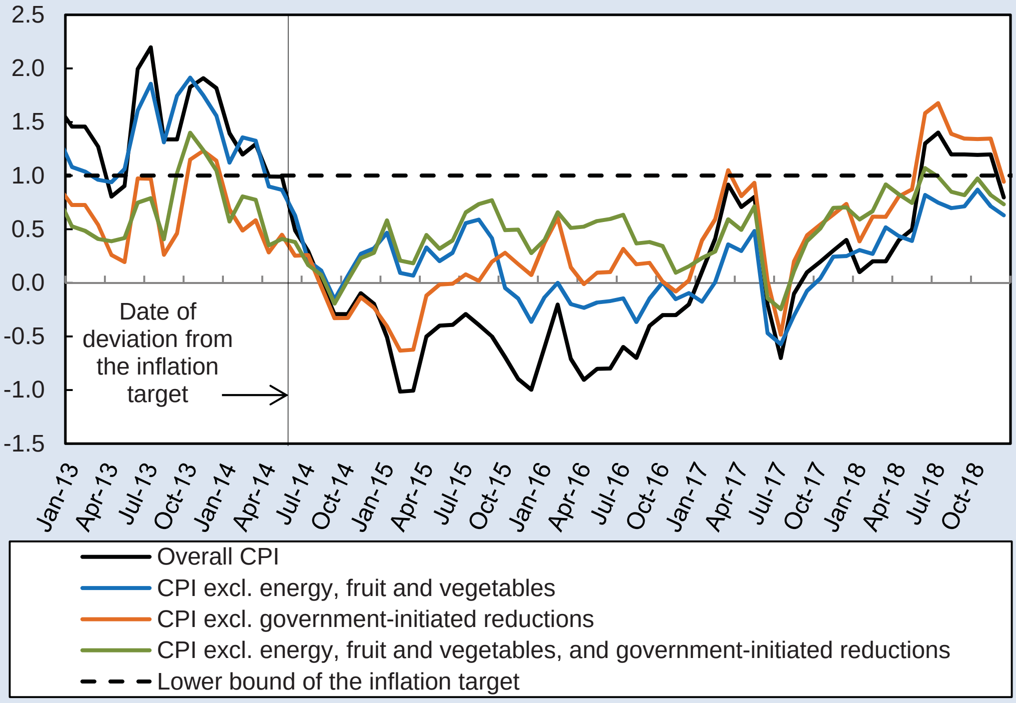


a The number in parentheses is the component's weight in the overall CPI index (as of 2017).
b "Other components" includes Health; Education, Culture and Entertainment; Furniture and Household Equipment; Clothing and Footwear; Miscellaneous; and the Dwellings Maintenance and Transport components minus the sub-components relating to energy prices.
SOURCE: Based on Central Bureau of Statistics.

12 There is no formal core CPI in Israel.

excluding energy, fruit and vegetables, and excluding the reductions initiated by the government, ranged around 1 percent (**Figure 4**). In addition, with the publication of the CPI for June, the annual inflation rate entered the target range for the first time in around 4 years, and during the half it remained relatively stable around 1.2–1.4 percent. It should be noted that the annual inflation rate increased markedly after publication of that index, against the background of the June CPI reading in 2017 was particularly low.[13,14] When looking at inflation for a half of a year (seasonally adjusted, annual terms), it can be seen that it has been ranging within the target range since December 2017.

Figure 4
Actual Inflation over the Preceding 12 Months, Overall CPI and Adjusted Indices, January 2013 to December 2018 (Percent)



SOURCE: Based on Central Bureau of Statistics.

The increase in annual inflation can be partially explained by the increases in oil prices. From the beginning of the second half, until October 2018, oil prices continued the upward trend that had characterized them since June 2017—this increase reached around 70 percent (**Figure 5**). The increase in oil prices made a notably positive contribution to the tradable index for most of the period; during the reviewed period energy components directly contributed 0.3 percentage points to the annual rate of overall inflation.[15] Although in the beginning of October, oil prices began to decline, and the decline grew stronger in November, relative to the record high, prices decreased

13 The June 2017 CPI declined by 0.7 percentage points.

14 In effect, with the June 2017 CPI exiting the annual calculation, the annual inflation rate returned to rising in accordance with its trend prior to that month entering the calculation.

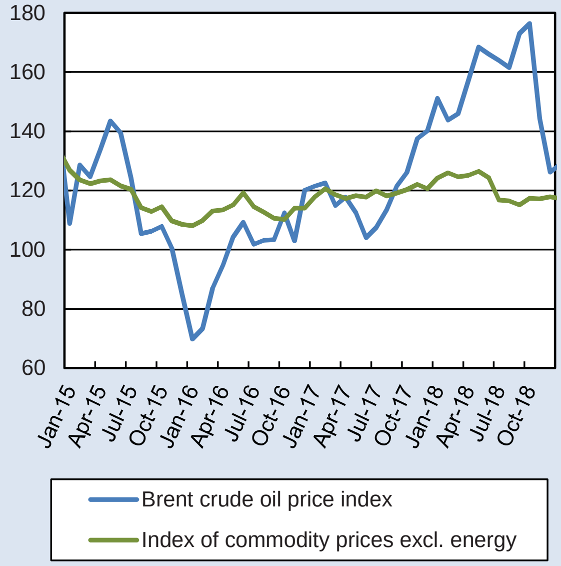
15 Energy components directly made an even greater contribution to the tradable index—0.9 percentage points, on average.

by 30 percent, which is expected to moderate the tradables index. The Committee assessed that the developments in oil prices, and in particular their sharp decline, impacted on expectations, but it was of the opinion that it was proper to analyze their impact on inflation within the framework of the one-off impacts and that they will have only a limited impact on the adjusted indices.

As noted, to analyze the inflation environment, inflation expectations should also be examined: at the interest rate decisions in August and October, it was assessed that the inflation rate is expected to decline temporarily to below the lower bound of the target, which weighed on the assessment that inflation had become entrenched. Moreover, various expectations forecast a marked decline in the "adjusted index"—the CPI excluding energy, fruit and vegetables, and excluding the government initiated reductions. However, afterward, two above-forecast CPI readings were published, and in the November interest rate decision a different picture was conveyed: various forecasts expected that the annual inflation rate in the January 2019 CPI reading would be 1.3 percent and the adjusted CPI would rise. In the January interest rate decision, the Committee continued to assess that annual inflation had stabilized around the lower bound of the target.

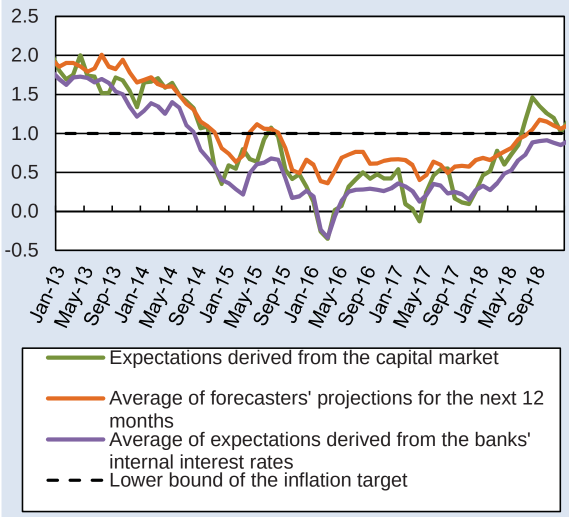
During the course of the reviewed period, forecasters' projections for one year were stable, slightly above the lower bound of the target range (1.1 percent, on average) and 1-year expectations derived from the capital market remained within it (**Figure 6**). At the beginning of the reviewed period, 1-year expectations derived from the capital market were approximately 1.5 percent, but at the November interest rate decision they reached a low of about 1 percent, and rose slightly since then, by about 0.2 percentage points. Throughout the period, forward inflation expectations were stable within the target range—expectations for years 1 to 2

Figure 5
Commodity and Oil Price Indices, Monthly Average, January 2015 to December 2018
(Index)



SOURCE: Based on Bloomberg.

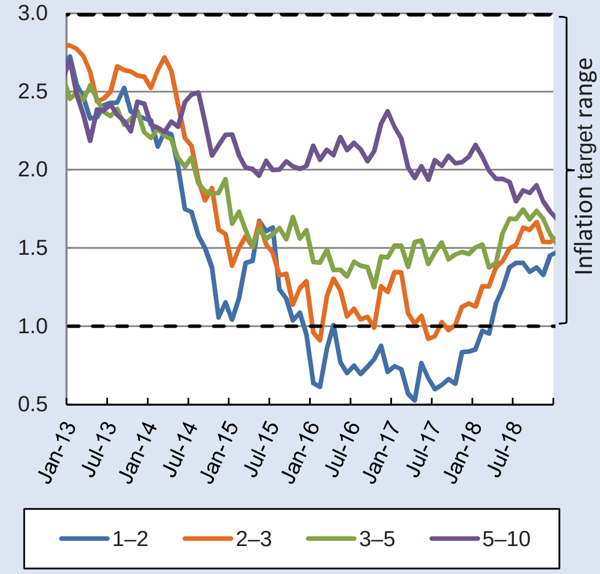
Figure 6
One-Year Inflation Forecasts from the Various Sources[a], January 2013 to December 2018 (Percent)



[a] Monthly averages.
SOURCE: Bank of Israel calculations.

were 1.3–1.5 percent (**Figure 7**). Longer term expectations—from the second year to the third year, and from the fifth year to the tenth year—were 1.6 percent and 1.8 percent, respectively, on average. They continue to indicate that the monetary policy maintains its reliability. With that, during the course of the half year, long term expectations declined somewhat.

Figure 7
Forward Inflation Expectations Derived from the Capital Market[a], January 2013 to December 2018
(percent)



[a] Monthly averages.
SOURCE: Bank of Israel calculations.

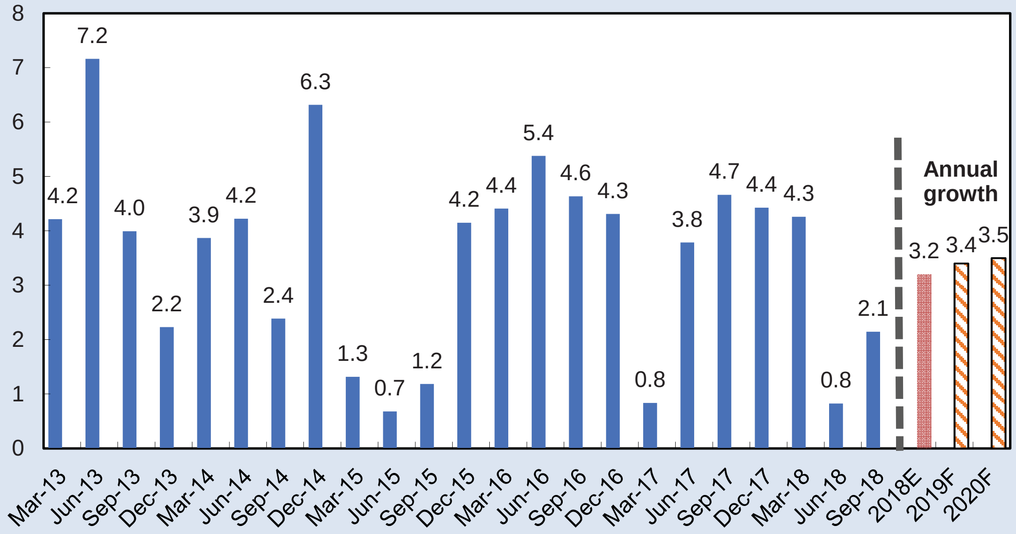
Throughout the half, the Committee members were of the opinion that there were various factors acting to increase the inflation environment: (1) Nominal wages were rising, led by the business sector, in most industries and wage levels, against the background of the full employment environment, (2) expansionary fiscal policy, and (3) inflation abroad was increasing and monetary policy worldwide is becoming less accommodative. In addition to this, in recent years there were factors that led to a decrease in the inflation rate, including government-initiated price reductions, enhanced competition in the economy, and the appreciation of the shekel, and when the Monetary Committee raised the interest rate it assessed that the impact of some of them had weakened. The Committee assessed that the main risk to continued entrenchment is the possibility that the shekel will begin to appreciate again. The CPI for December was published after the reviewed period, and indicates that the inflation rate for the full year of 2018 was 0.8 percent.

2. Domestic real economic activity

The real economic data published in the second half of 2018 led to the Monetary Committee members' assessment that activity had moderated to some extent but that the economy continues to grow by close to its potential rate of about 3 percent (Figure 8). In the beginning of the reviewed period, after the publication of the second estimate of first quarter 2018 National Accounts data, the Monetary Committee noted that the rate of GDP growth, 4.5 percent, was above the potential rate (**Table 1**). The first estimate for the second quarter showed that growth had slowed to approximately 2 percent, but the Committee continued to assess that the growth rate was around its potential and there was not a change in trend, as it assessed that the decline derived from transitory factors, including fluctuations in vehicle imports.

The assessment regarding economic activity remained similar even after the publication of the second estimate for the second quarter, showing 1.8 percent GDP growth, and the first estimate of third quarter data, showing a GDP growth rate of 2.3 percent. The Committee members continued to hold the opinion that the slowing growth rate in those quarters apparently could be explained by

Figure 8
GDP Growth Rates[a], March 2013 to September 2018
(Seasonally adjusted quarterly data, in annual terms, percent)



[a] The annual growth figure for 2018 reflects the Central Bureau of Statistics' first estimate. The figures for 2019 and 2020 reflect the Bank of Israel Research Department's forecast.

SOURCE: Bank of Israel and Central Bureau of Statistics.

Table 1
National Accounts - data available at the time of the interest rate decisions

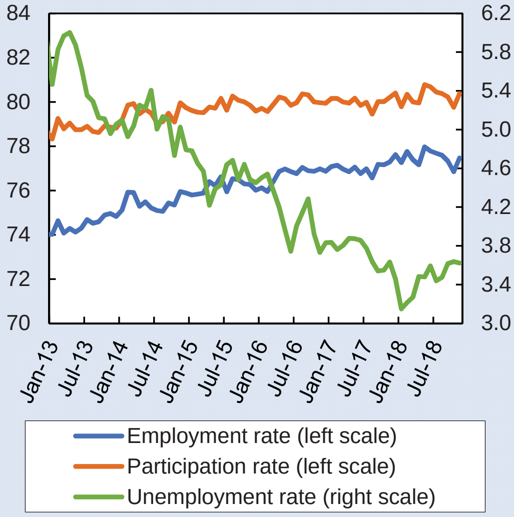
(seasonally adjusted data, quantitative rates of change compared to previous period, in annual terms)

Decision made in		July	August	September	October	November	December	January
GDP	2018:Q1	4.5	4.7	4.8	5.1	5.2	4.6	4.3
	2018:Q2			2.0	1.8	1.8	1.2	0.8
	2018:Q3						2.3	2.1
Business sector product	2018:Q1	5.4	5.7	5.6	6.0	5.9	5.6	5.1
	2018:Q2			1.1	0.8	1.1	0.4	-0.2
	2018:Q3						2.1	1.1
Private consumption	2018:Q1	9.7	10.0	9.6	9.1	8.8	8.8	9.4
	2018:Q2			0.5	-1.7	-2.4	-2.6	-2.4
	2018:Q3						2.1	2.7
Fixed capital formation	2018:Q1	14.2	13.9	3.7	5.2	5.9	6.1	5.6
	2018:Q2			-6.6	-3.7	-1.8	-4.6	-5.9
	2018:Q3						-6.3	-10.5
Exports excluding diamonds and startups	2018:Q1	9.5	11.3	6.2	7.2	8.1	6.4	5.0
	2018:Q2			-4.4	-6.7	-5.4	-8.1	-8.2
	2018:Q3						0.9	0.7
Civilian imports excluding ships, aircraft, and diamonds	2018:Q1	5.2	5.2	5.3	4.5	4.5	3.4	3.4
	2018:Q2			8.4	7.5	7.5	4.3	4.3
	2018:Q3						-5.3	-5.3

SOURCE: Based on Central Bureau of Statistics.

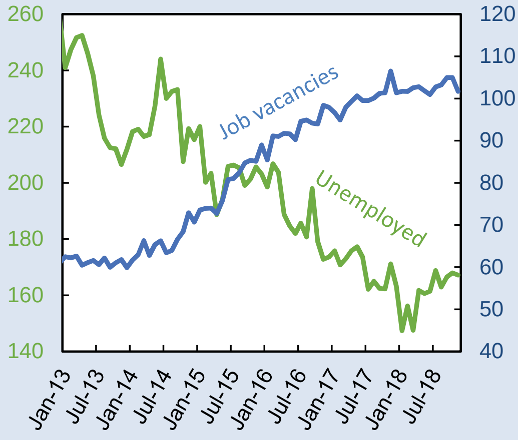
growth returning to its potential rate and by the fluctuations in vehicle imports. GDP net of vehicle imports[16] grew by only 1.9 percent in the first quarter of 2018, while growing by 3.0 percent in the second quarter and by 3.2 percent in the third quarter. Another explanation given for the slowing third quarter growth is the possibility that the seasonal adjustment was imprecise, as in 2018 the entire Jewish New Year holiday season occurred in September. During the course of the half year, the assessment strengthened that the economy continued to grow at a pace close to its potential rate, due to labor market data and other activity indicators, including indices pointing to a rise: the Composite State of the Economy Index, the Purchasing Managers Index, the Consumer Confidence index and the Survey of Business Tendencies. Labor market data indicated that it remains tight—the employment and participation rates remained high, around 80 percent (**Figure 9a**), the unemployment rate is at a low, at 3.6 percent, the job vacancy rate remains high at 3.7 percent (**Figure 9b**), and wages continue to rise by a solid rate, led by the business sector, and in all industries and wage levels—by 3.4 percent in the economy overall and by 4.1 percent in the business sector (**Figure 10**). Additional support for the "tightening" in the labor market came from the increase in imports. The first estimate for the full year of 2018 indicates annual growth of 3.2 percent, similar to its potential rate.

Figure 9a
Unemployment, Employment, and Participation Rates, Prime Working Ages (25–64), January 2013 to November 2018
(Seasonally adjusted monthly data, percent)



SOURCE: Central Bureau of Statistics.

Figure 9b
Job Vacancies and Number of Unemployed, January 2013 to November 2018
(Seasonally adjusted data, thousand)



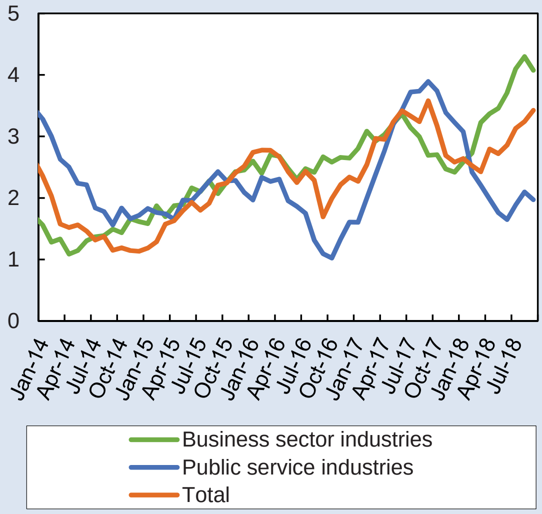
SOURCE: Central Bureau of Statistics.

In terms of the composition of GDP, National Accounts data published during the half indicated several developments—investment continued to contract, private consumption increased moderately, and goods exports were weak. The Monetary Committee assessed that these trends derive mainly from constraints created on the supply side as a result of the proximity to full employment and not from weakening demand. The data throughout 2018 indicated a

16 Estimates published by the Bank of Israel within the framework of the interest rate decision reached on November 26, 2018.

continued decline in residential construction investment—15 percent in the first quarter and 5.1 percent in the second quarter—although there was some moderation in the third quarter and investment declined by only 1.1 percent. In the second and third quarters there was some contraction seen in investment in the principal industries as well (excluding ships and aircraft). The data in the reviewed period indicated that there is a moderating trend in private consumption: in the first quarter, private consumption excluding durable goods grew by a solid rate of 3.8 percent, after increasing by 4.5 percent in 2017 (**Table 2**). However, second- and third-quarter data showed a step down to more moderate growth, at 2.2 percent and 2.6 percent, respectively. Goods exports data indicated some weakness throughout the period. Total exports[17] declined by 8.2 percent in the second quarter, and increased moderately, by 0.7 percent, in the third quarter.

Figure 10
Nominal Wage per Employee Post, January 2014 to September 2018
(Rate of change from same period in the previous year, seasonally adjusted moving 6-month average, percent)



SOURCE: Based on Central Bureau of Statistics.

Table 2
Development of GDP, imports and uses

(seasonally adjusted data, quantitative rates of change compared to previous period, in annual terms)

	2016	2017	2018	2017:Q2	2017:Q3	2017:Q4	2018:Q1	2018:Q2	2018:Q3
GDP	4.0	3.5	3.2	3.8	4.7	4.4	4.3	0.8	2.1
Business sector product	4.2	3.6	3.2	4.4	5.5	4.5	5.1	-0.2	1.1
Imports excluding defense, ships, aircraft and diamonds	9.0	7.3	6.7	7.0	22.6	9.8	3.4	4.3	-5.3
Private consumption	6.4	3.4	4.1	7.5	6.2	2.1	9.4	-2.4	2.7
of which : private consumption excluding durable goods	5.2	4.5	3.7	5.4	6.6	4.0	3.8	2.2	2.6
Public consumption	4.2	3.4	4.0	6.6	-4.8	11.3	8.7	-4.5	10.0
of which : public consumption excluding defense imports	4.2	4.5	4.3	6.2	-5.1	12.6	5.1	-2.2	12.1
Gross domestic investment	10.1	3.5	4.4	12.1	9.4	5.3	6.1	20.9	-33.2
of which : in fixed assets	12.8	3.0	2.7	8.6	8.4	-0.1	5.6	-5.9	-10.5
Exports excluding diamonds	0.9	7.0	4.2	5.5	14.0	8.3	3.5	-3.3	7.4
of which : exports excluding diamonds and startups	-0.2	7.3	3.9	13.7	10.2	11.9	5.0	-8.2	0.7

SOURCE: Based on Central Bureau of Statistics.

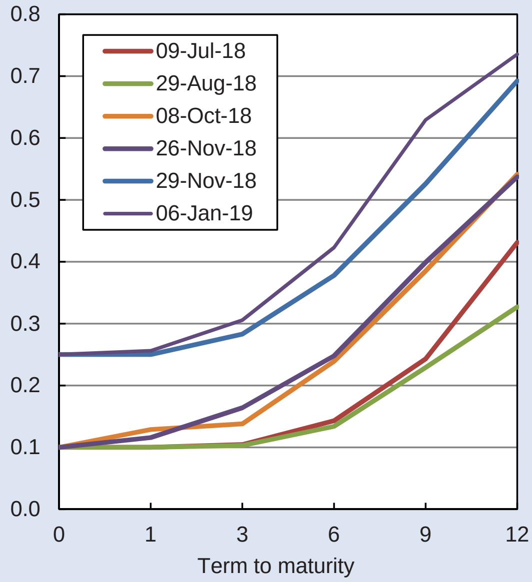
17 Excluding diamonds and startups.

Public consumption (excluding defense imports) continued to expand in the period reviewed at a high pace, similar to the annual rate in 2017. National Accounts data updated through November indicated that public consumption (excluding defense imports) increased by 5.1 percent in the first quarter, in real terms, higher than the rate of increase in GDP. In the second quarter, public consumption contracted by approximately 2 percent, but in the third quarter it returned to rapid growth (12.1 percent). Between January and October 2018, total real tax revenues declined by approximately 3.8 percent relative to revenues in the corresponding period of 2017, and in parallel government ministries showed a high rate of budget execution. This led to a high cumulative domestic deficit relative to previous years and approximately NIS 8 billion higher than the seasonal path for meeting the deficit target. At the same time, data indicated an above-target annual deficit of 3.6 percent of GDP, but it was assessed that it would remain around the target and perhaps slightly above. Initial estimates for the full year of 2018 indicate meeting the deficit target. Tax revenues declined in real terms by 0.9 percent but an increase in other revenues offset that. In terms of ministries' expenditures, in 2018 they exceeded the planned budget by 1 percent, but interest expenses were lower than forecast.

3. Developments in the capital market

In the beginning of the reviewed period, the inflation environment increased, and with it market expectations regarding the first interest rate increase. From June until the first interest rate decision in the reviewed period was reached (on July 9), one-year expectations derived from the Telbor market rose sharply and reflected more than one interest rate increase (**Figure 11**); the average of private forecasters' projections reflected one increase. Expectations derived from the shorter term Telbor market indicated that the probability of an interest rate increase in the fourth quarter of 2018 was 0.25 percent, with a high probability of an increase in the first quarter of 2019. Ahead of the interest rate decision in August 2018, the Telbor market's expectations declined but after the decision they increased again, in accordance with the trend prevailing since the beginning of the year. Markets and forecasters[18] did not expect the interest rate increase that occurred in November; they granted a high probability that the interest rate would be increased for the first time in the first quarter of 2019 and a low

Figure 11
Forward Yield Curve According to Telbor Market Data at the Time of Interest Rate Decisions, July 2018 to January 2019
(Percent)



SOURCE: Bank of Israel calculations.

18 On average.

probability that it would occur in November. The markets' reaction to the increase indicates that they derived from it that other interest rate hikes would also be brought forward, but it does not reflect an indication of an expectation for a more rapid pace of increase than had been expected previously.

Israeli government nominal bond yields increased gradually in 2018. Yields for 5 years and 10 years continued to increase during most of the year, while two-year yields stabilized during June and remained around 0.5 percent. They began to increase again after the November interest rate increase. From mid-December, against the background of the decline in yields in the US, the trend for 5-year and 10-year yields changed, and they declined by a cumulative 0.2 percentage points. The spreads between Israel and the US in nominal yields on 5-year and 10-year debt securities remained stable and negative for most of the period—approximately 1.5 and 0.8 percentage points, respectively. In contrast, the most recent data indicate a contraction of the spreads. Real 2-year bond yields declined sharply in June 2018, a development that was in line with the increase in inflation expectations, and they remained stable until mid-August. During the course of that period, longer term yields—5 years and 10 years—were relatively stable. Since August, real yields rose for all terms.

The spreads between bond yields on corporate bonds rated A and higher and on parallel government bonds were stable from the beginning of the reviewed period through August 2018. In August, they declined slightly but in the beginning of October they corrected, and the upward trend continued in November and December. Relative to the beginning of the period, spreads on corporate bonds rated AA widened by 0.2 percentage points while spreads on A-rated bonds widened by 0.5 percentage points. After yield spreads on BBB-rated bonds increased in the first half of 2018 by approximately 3 percentage points, in the second half of the year there was a mixed picture: between June and October spreads stopped widening and were stable, while between November and January they again increased, rising by approximately 5 percentage points relative to the beginning of the period reviewed. In December, Tel Aviv Stock Exchange (TASE) equity indices declined by approximately 10 percent, in view of the notable price declines and volatility in major equity market indices worldwide.

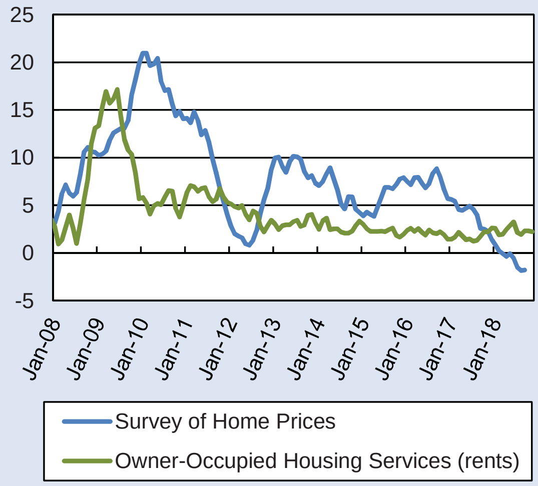
4. The housing market

Home prices increased for approximately a decade, reached a peak in August 2017, and from then until September 2018 they declined by approximately 2 percent, similar to the annual pace according to the most recent data, of -1.8 percent (Figure 12).[19] The annual rate of increase in rent (the owner-occupied dwelling services index) continued to range around the trend created in recent years, and the updated figure is 2.2 percent. The number of new housing transactions stabilized during the course of the reviewed period, after in the beginning of the year it rose to some extent and after having declined consistently since the middle of 2016. The stability in the housing market was reflected as well in the number of new homes sold. With that, there was a continued upward trend in the number of homes sold within the framework of the "Buyer's Price" program. During the course of the period, a marked slowdown was apparent in the number of building starts (**Figure 13**) and in residential construction investment. The official data indicate that between October

19 These are the updated data that the Monetary Committee saw at the interest rate decision of January 2019.

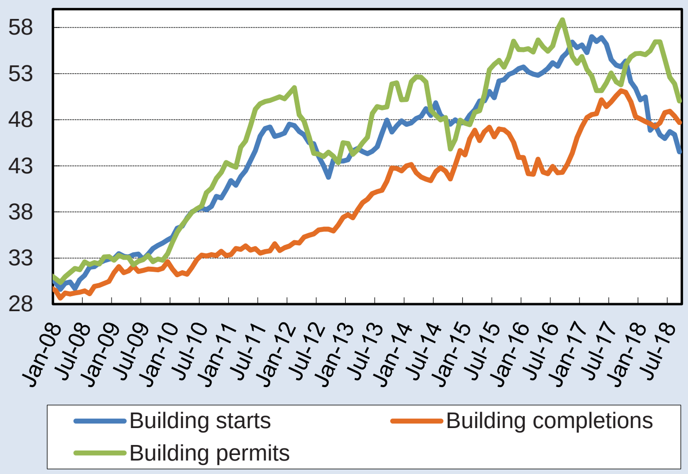
2017 and September 2018, construction was started on 45,000 homes—about 15 percent less than in the preceding 12 months.[20] In those months, construction was completed on 48,000 homes—about 7 percent less than in the corresponding period of the previous year. The Committee assessed that the slowdown in residential construction apparently derived from the moderation in demand. However, the members noted that it is difficult to understand the picture related to supply of new homes, as there aren't updated data on the stock of unsold new homes, which makes analysis difficult. New mortgage volume stabilized at the end of the reviewed period—the monthly average in the last 12 months is NIS 5 billion, against the background of a slight increase in the real weighted interest rate on mortgages (0.3 percentage points), and after displaying an upward trend since the second half of 2017 (**Figure 14**). Together with new mortgages extended, there was an increase in the average LTV (loan to value) ratio, a trend that started in the beginning of 2017.

Figure 12
Rates of Change in Home Prices, and Owner-Occupied Housing Services over the Preceding 12 months, January 2008 to November 2018
(Percent)



SOURCE: Based on Central Bureau of Statistics.

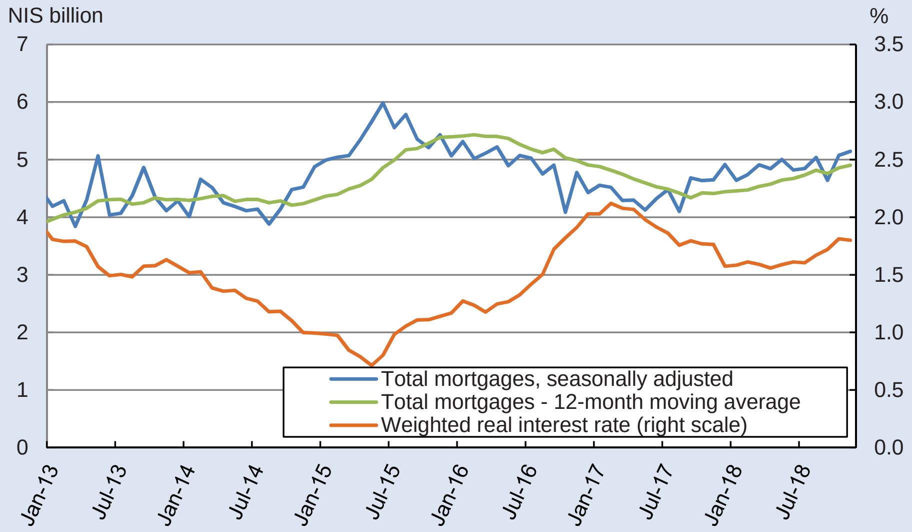
Figure 13
Building Permits, Starts and Completions, Past 12 Months, January 2008 to September 2018 (Residential units, thousand)



SOURCE: Based on Central Bureau of Statistics.

20 Provisional data. The Central Bureau of Statistics tends to update them periodically. In accordance with the forecast for future updates, the decline is smaller.

Figure 14
Total Mortgages and the Weighted Real Interest Rate on Mortgages, January 2013 to November 2018



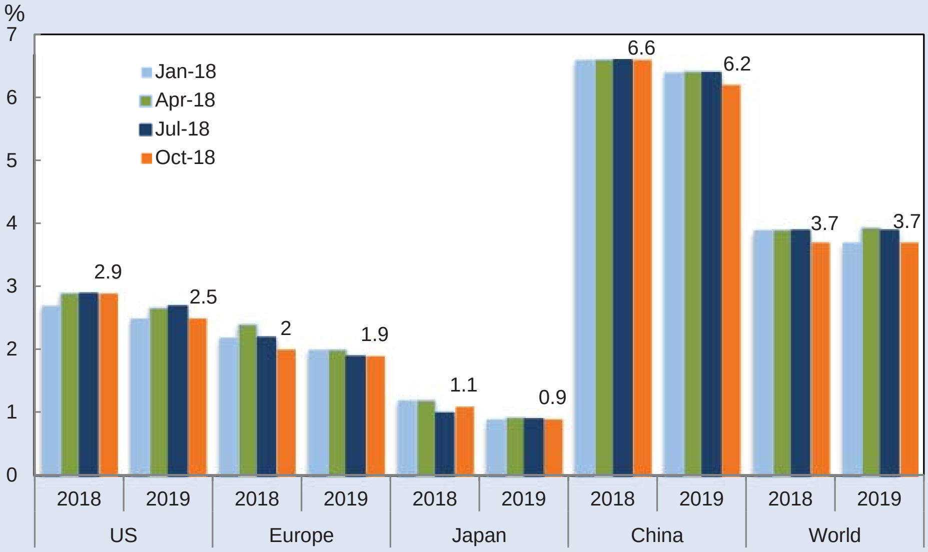
SOURCE: Bank of Israel, Banking Supervision Department.

5. The global economy

During the course of the second half of 2018, global economic data indicated a loss of momentum, and the IMF revised its growth forecast downward. In the beginning of the reviewed period, the Committee faced a picture of improving global economic activity (the second quarter). However, most of the data that accumulated during the period pointed to a loss of momentum, and in particular a slowing was seen in the growth rate of world trade, and the international institutions[21] reduced their forecasts slightly (**Figure 15**). Specifically, the 2018 forecast for Europe was reduced from 2.4 percent in April 2018 to 2 percent in October 2018, and the forecast for 2019 was reduced by 0.1 percentage points, to 1.9 percent. The forecasts for the US and China for 2018 remained unchanged, but the 2019 forecasts were reduced by 0.2 percentage points, to 2.5 percent for the US and 6.2 percent for China. During the course of the half year, the Committee saw several risks that in its assessment weigh on the continued trend of global growth, including trade wars, political risk in Europe (particularly progress toward Brexit), and the volatility in emerging financial markets. US economic activity continued its positive momentum throughout the period: various indicators pointed to proximity to full employment and wage data showed a gradual rise; updated assessments expect some moderation in the fourth quarter. In Europe, data on activity showed signs of moderation, particularly weakness in growth. Beginning from October, there were sharp declines in most financial markets and uncertainty increased.

21 The IMF and OECD.

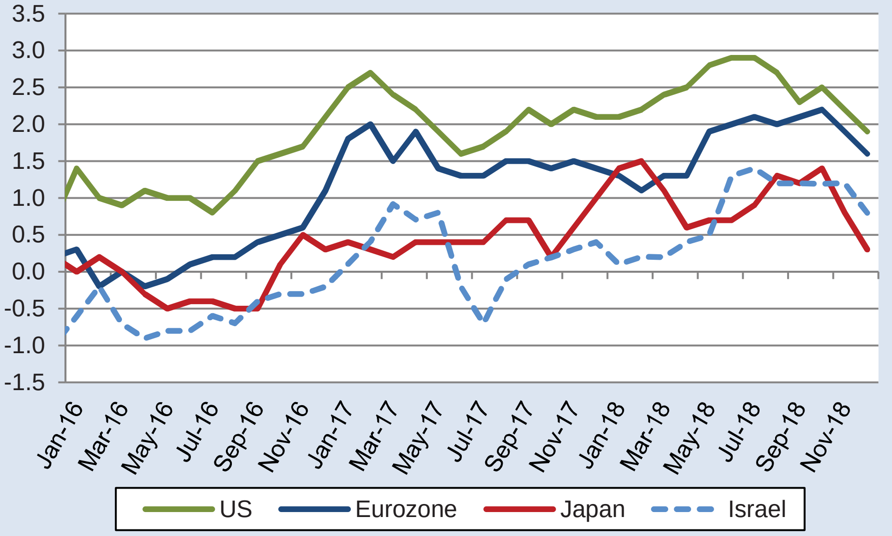
Figure 15
IMF Annual Growth Forecasts for 2018 and 2019



SOURCE: Bloomberg.

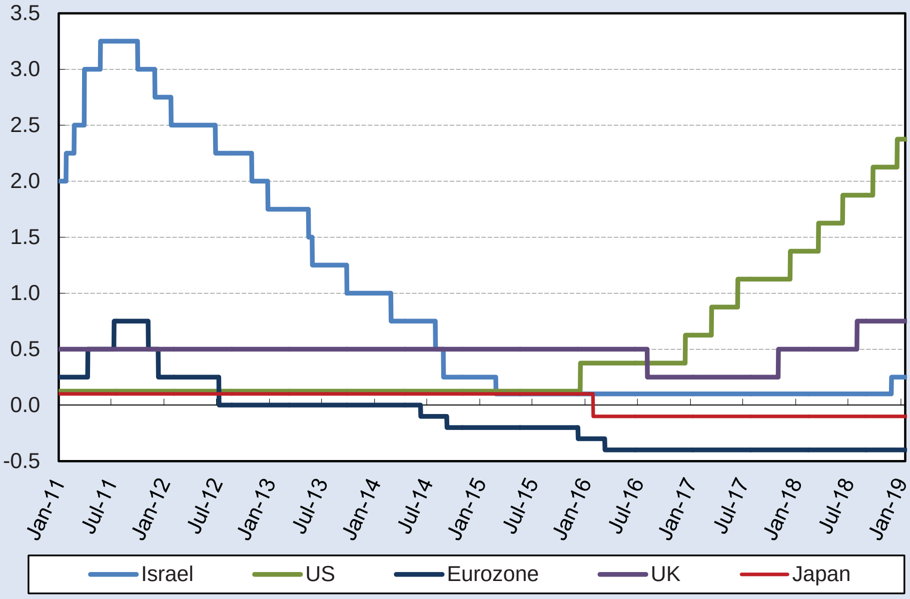
During the half year reviewed, the global monetary environment remained at an accommodative level but with a clear tightening trend, although at the end of the half year, uncertainty increased regarding the continuation of this trend. The US continued the normalization process, core inflation remained around 2 percent, and overall inflation was slightly higher than that (**Figure 16**). The US Federal Reserve raised the federal funds target rate twice during the half year reviewed, by 0.25 percentage points each time, and the rate is currently 2.25–2.50 percent (**Figure 17**). Looking forward, it can be seen that US markets are currently not pricing in another interest rate increase in 2019, while at the November interest rate decision the various assessments were for another 2–3 increases. In the eurozone, headline inflation ranges around 2 percent, though core inflation remained moderate, around 1 percent. The monetary interest rate remained negative at -0.4 percent, and the ECB reiterated its assessment that it is expected to remain at its current level at least until the summer of 2019. In the November interest rate decision, the market priced in the assessment that the eurozone will first raise the interest rate in the fourth quarter of 2019, although the most recent data indicate a deferral of that timing. In addition to the US Federal Reserve, other central banks raised interest rates during the reviewed period, including in the UK, Russia, Canada, India, Mexico, Norway, South Africa, Chile, and the Czech Republic (**Figure 18**). Argentina and Turkey continued to adopt significant restraining measures, against the background of the severe currency crises they faced. Argentina raised the interest rate by 15 percentage points and Turkey raised it by 6.25 percentage points. The Bank of Japan kept the interest rate negative, at -0.1 percent, and repeated its commitment to continue accommodative policy with the goal of achieving the price stability target (2 percent). Regarding unconventional policy, the global quantitative easing is expected to shift to quantitative tightening in the beginning of 2019, as the Fed continues to contract its balance sheet and the ECB announced that it will cease its asset purchase program at the end of 2018, after it continued reducing the pace of monthly purchases—in October 2018 it reduced the pace again, from €30 billion to €15

Figure 16
Consumer Price Index in the Major Economies and in Israel, January 2016 to December 2018 (Percent)



SOURCE: Bloomberg and Central Bureau of Statistics.

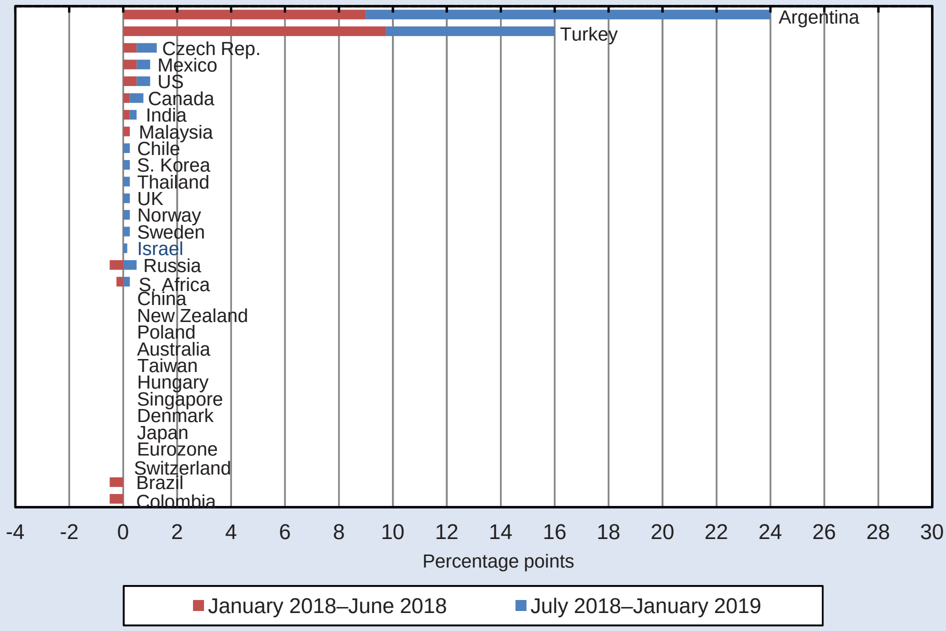
Figure 17
Central Bank Interest Rates: Israel, US[a], Eurozone[b], UK, and Japan, January 2011 to January 2019 (Percent)



[a] Mid-range interest rate.
[b] The interest rate on the deposit facility, through which commercial banks deposit surplus balances overngiht with the ECB.
SOURCE: Bloomberg and Bank of Israel.

billion. At the end of the half year reviewed, uncertainty increased regarding the continued tend of monetary contraction worldwide, against the background of the sharp declines in equity indices in advanced economies' financial markets. US markets are not pricing in additional interest rate increases, and markets in Europe are reflecting a deferral in the timing for the interest rate to increase.

Figure 18
Changes in Central Bank Interest Rates in OECD Countries and in Developing Economies, January 2018 to January 2019[a]



a The interest rate for any month is the rate known on the last day of that month.
SOURCE: Bloomberg.

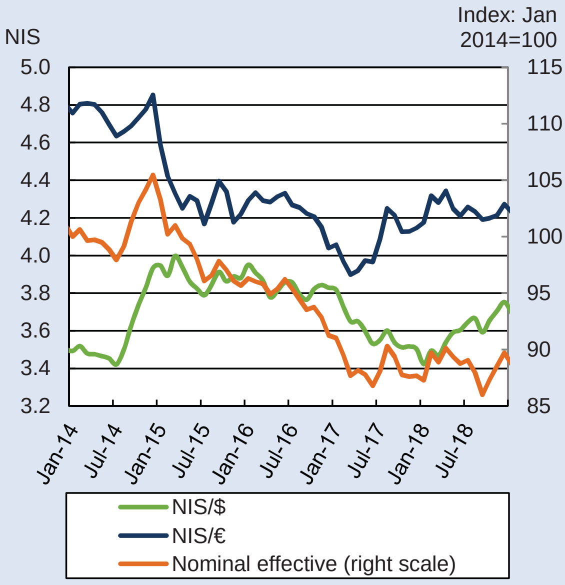
6. The development of the exchange rate of the shekel

During the half year reviewed, the development of the nominal effective exchange rate was not uniform—until the beginning of September the shekel strengthened, and afterward it depreciated. From July until the middle of September, the shekel strengthened by approximately 4 percent in terms of the nominal effective exchange rate (**Figure 19**); part of the appreciation in the first period derived from the weakening of the Turkish lira and from the weakening of the currencies of emerging markets.[22] The shekel appreciated against the dollar, the euro, and the British pound by only around 2–3 percent. Beginning from the middle of September, the shekel depreciated vis-à-vis the dollar against the background of the interest rate increases in the US, expectations that the increases would continue in 2019 as well, and the assessment that the interest rate spreads between the countries would continue to widen. The shekel was stable vis-à-vis the euro during most of the period, and relative to the beginning it weakened by 1 percent. The Committee members agreed that from a historical perspective, the shekel remains overvalued. They assessed that in the period reviewed,

22 The Turkish lira makes up 4.6 percent of the nominal effective exchange rate, and during the period it contributed approximately 1.4 percent to the appreciation.

appreciation forces weakened against the background of the increase in interest rate spreads between Israel and abroad and the contraction of the surplus in the current account of the balance of payments. In the reviewed period, the Bank of Israel did not purchase foreign exchange within the framework of the policy to prevent anomalous fluctuations in the exchange rate, and sufficed with purchases in the framework of the plan to offset the effect of natural gas production, as there were no anomalous fluctuations in the exchange rate.[23] In the middle of November, the Bank of Israel announced that the natural gas plan would end at the end of 2018. The Monetary Committee continued to hold the opinion that the potential for renewed appreciation presents the main risk to the continued entrenchment of inflation within the target range.

Figure 19
Selected Exchange Rates, January 2014 to December 2018 (Monthly average)



SOURCE: Bank of Israel.

7. The Research Department's forecast

During the reviewed period, the Bank of Israel Research Department published a staff forecast three times—with the interest rate announcements in July 2018, October 2018, and January 2019. In the July forecast, the Department assessed that inflation would be entrenched within the target range in the second half of 2018, and therefore the interest rate was expected to increase in the fourth quarter of that year and in the third quarter of 2019 (**Table 3**).

In October, the inflation forecast for 2018 was reduced to 0.8 percent, as after the publication of the previous forecast low CPI readings were published and because the shekel appreciated (to a greater extent that assessed in the July forecast), and even though oil prices increased. In view of the assessment that these phenomena are only transitory, the Research Department assessed that inflation in the coming four quarters would be 1.4 percent, similar to the previous forecast, and kept the inflation forecast for 2019 unchanged. As the developments indicated a lower inflation rate, the forecast of the date of the initial interest rate increase was deferred to the first quarter of 2019. The assessment regarding the date on which it would increase again, to 0.5 percent, remained unchanged at the third quarter of 2019.

The January 2019 forecast reduced the growth forecast for 2019, against the background of the assessment that growth is converging more rapidly to the long-term rate, and presented for the first time a growth forecast for 2020, at 3.5 percent. In terms of inflation, the Research Department

23 As noted, in May the Bank of Israel intervened in the foreign exchange market, but at a very small amount—only $13 million.

assesses that several factors will support its continued rise in 2019, including wage increases, shekel depreciation, and higher prices for electricity, water, and auto insurance (which are expected to impact on the CPI for January). In contrast, the decline in oil prices in the fourth quarter is expected to moderate inflation in the coming months. The range of considerations led to reducing the forecast compared with October's. As for the forecast for 2020, the inflation rate is expected to continue to converge gradually to the midpoint of the target range—to 1.8 percent at the end of the year. The forecast for the timing of an interest rate increase to 0.5 percent remains similar to the previous forecast—the third quarter of 2019. An additional increase, to 0.75 percent, is expected in the first quarter of 2020, and the interest rate is expected to continue to rise gradually to 1.25 percent at the end of 2020.

Table 3
Research Department Forecasts

(rate of change in percent, unless otherwise noted)

Forecast for the years	2018				2019				2020
Date of forecast	**04/18**	**07/18**	**10/18**		**04/18**	**07/18**	**10/18**	**01/19**	**01/19**
GDP	3.4	3.7	3.7		3.5	3.5	3.6	3.4	3.5
Inflation[a]	1.1	1.2	0.8		1.4	1.5	1.5	1.3	1.8
Bank of Israel interest rate[b]	0.25	0.25	0.10		0.50	0.50	0.50	0.50	1.25
Date of forecast	**04/18**	**07/18**	**10/18**	**01/19**					
Inflation in the coming year[c]	1.1	1.4	1.4	1.3					
Interest rate one year from now[d]	0.25	0.25	0.5	0.5					

[a] Average CPI inflation in the last quarter of the year compared with the average in the last quarter of the previous year.

[b] Year-end.

[c] In the four quarters ending in the same quarter the following year.

[d] In the same quarter the following year.

SOURCE: Bank of Israel.

Appendix Table 1
Developments in the Domestic Asset Markets

(rates of change)

	07/18	08/18	09/18	10/18	11/18	12/18
Yield to maturity (monthly averages, percent)						
3-month *makam*	0.1	0.1	0.1	0.1	0.2	0.3
1-year *makam*	0.2	0.2	0.2	0.3	0.3	0.5
Unindexed 5-year notes	1.3	1.3	1.4	1.4	1.5	1.6
Unindexed 20-year bonds	3.1	3.1	3.1	3.2	3.3	3.4
CPI-indexed 1-year notes	-1.2	-1.1	-1.0	-0.9	-0.7	-0.7
CPI-indexed 5-year notes	-0.2	-0.3	-0.1	-0.1	0.0	0.1
CPI-indexed 10-year notes	0.5	0.5	0.6	0.6	0.8	0.8
Yield spread between government bonds and corporate bonds rated AA (percentage points)[a]	1.3	1.2	1.1	1.2	1.2	1.5
Stock market (rate of change during the month)						
General shares index	2.1	5.0	-0.5	-2.7	1.9	-10.1
Tel Aviv 35 Index	4.1	5.5	-1.4	-3.4	2.7	-10.2
Foreign exchange market (rate of change during the month)						
NIS/$	0.4	-1.6	0.6	2.6	-0.5	1.3
NIS/€	1.1	-2.1	0.1	-0.1	0.0	1.9
Nominal effective exchange rate	0.0	-3.6	0.9	1.7	0.1	1.5

[a] The calculation is based on fixed-rate, CPI-indexed bonds, excluding convertible and structured bonds, with a yield of up to 100 percent and a term to maturity of more than 6 months.
SOURCE: Bank of Israel calculations.

Appendix Table 2
The inflation and interest rate environment

(monthly averages)

	07/18	08/18	09/18	10/18	11/18	12/18
Inflation environment indicators (percent)						
Monthly change in CPI	0.0	0.1	0.1	0.3	-0.3	-0.3
Forecasters' predictions of monthly CPI (average of forecasts prior to publication of CPI)	0.2	0.2	0.0	0.2	-0.2	-0.1
12-month change in CPI	1.4	1.2	1.2	1.2	1.2	0.8
One-year inflation expectations derived from the capital market	1.5	1.4	1.3	1.2	1.0	1.2
Forecasters' one-year inflation predictions	1.0	1.2	1.1	1.1	1.1	1.1
Inflation expectations for various terms[a]						
Forward inflation expectations for the short term (from the end of the first year through the end of the third year)	1.5	1.5	1.5	1.5	1.4	1.5
Forward inflation expectations for the medium term (from the end of the third year through the end of the fifth year)	1.7	1.7	1.7	1.7	1.7	1.6
Forward inflation expectations for the long term (from the end of the fifth year through the end of the tenth year)	1.8	1.9	1.9	1.9	1.8	1.7
Interest rates and interest rate differentials						
Bank of Israel interest rate	0.10	0.10	0.10	0.10	0.10	0.25
Real interest rate dervied from the zero curve	-1.22	-1.1	-1.0	-0.9	-0.7	-0.7
Short-term interest rate differential between Israel and the US	-1.90	-1.90	-1.94	-2.15	-2.15	-2.10
Short-term interest rate differential between Israel and the eurozone	0.10	0.10	0.10	0.10	0.10	0.25
Forecasters' predictions of change in the Bank of Israel interest rate (average of forecasts prior to the decision)	0.0	0.0	-	0.0	0.0	-
Telbor interest - 3-month forward rate in 9 months	0.4	0.4	0.5	0.5	0.5	0.7
Forecasters' predictions of the interest rate a year hence	0.3	0.3	0.3	0.4	0.4	0.6
Long-term nominal interest rate differential between Israel and the US	-0.7	-0.7	-0.7	-0.8	-0.7	-0.4
Long-term real interest rate differential between Israel and the US	-0.2	-0.3	-0.3	-0.4	-0.3	-0.2

[a] Inflation expectations are measured by the difference between yields on local currency unindexed and CPI-indexed bonds. These expectations include an element of risk premium, which increases with the length of the term to which the expectations relate.
SOURCE: Based on Central Bureau of Statistics data and private forecasters' reports.