Bank of Israel

MONETARY POLICY REPORT

July–December 2017

48

March 2018

CONTENTS

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, especially 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 intervenes 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 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 Financial Stability Report for the period covered.

In accordance with Section 55(b) of the Law, this report explains why the inflation rate deviated from the target range set by the government for more than six consecutive months, beginning with the publication (on July 15th, 2014) of the Consumer Price Index (CPI) for June 2014. The rate of inflation during this period declined to below the lower bound of the target range, and explanations appear in Section A (Policy and Targets) inside.

The Monetary Policy Report for the second half of 2017 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 January 31, 2018. In a few cases, reference was added to developments that occurred in the days preceding publication.

[1] In 2017, the Monetary Committee decided to move from 12 decisions per year to eight decisions per year.

SUMMARY

Monetary policy: In the second half of 2017, the Monetary Committee left unchanged the interest rate set in March 2015—0.1 percent—because the inflation environment ranged below its target rate. In its forward guidance, the Committee declared that the monetary policy would remain accommodative for as long as needed to entrench the inflation environment within the target range. Against the backdrop of the depreciation that occurred in the beginning of the period under review, the Bank of Israel reduced its intervention in the foreign exchange market. After some appreciation during the course of the period, the shekel appreciated further toward the end of the period under review and afterwards, and in January 2018 the Bank of Israel expanded its intervention.

Actual inflation and inflation expectations: Over the course of the year, the annual rate of inflation remained below the inflation target, and reached 0.4 percent at the end of the year. For the first time since 2014, inflation was positive for most months of the year, although its development over the year was uneven. Inflation ranged below the target as a result of the continuous appreciation of the shekel prior to the period under review as well, government actions to reduce the cost of living, increased competition in the economy, low global inflation, and despite rising wages and the strength of the labor market. Inflation expectations for a period of up to two years remained below the lower bound of the inflation target range, and forward inflation expectations for the third year (years 2–3) ranged around the lower bound and rose slightly at the year end. Longer term inflation expectations remained firmly anchored within the target range.

Real domestic activity: The data available to the Monetary Committee in the second half of 2017 indicated that growth increased at a more moderate pace this year, leading to the assessment that the rate is consistent with the economy's potential growth. Committee members believed that the moderation in the growth rate primarily reflects limitations on the supply side resulting from the full employment environment. After the weakness in exports seen in recent years, and particularly in goods exports, they recovered at the beginning of the second half of the year, led by services exports. However, the recovery halted later on, and private consumption returned to being the main component of growth.

The exchange rate: After a marked appreciation in the nominal effective exchange rate of the shekel in the previous half-year period, there was a moderate depreciation of 1 percent in the second half of the year (December average vs. June average). The development of the exchange rate was, however, uneven in this period: a considerable depreciation occurred until August, primarily against the euro, which was then followed by an appreciation of the shekel. In the beginning of 2018, through February 9th, the shekel depreciated by approximately 2.5 percent compared to its average level in December 2017.

The housing market: In the second half of 2017 (until November), the rate of increase in home prices slowed. Alongside a decline in the number of transactions, there was also a decrease in building starts, though the supply is expected to increase in the future, as the number of building permits increased. Monthly mortgage volume stabilized after a sharp decline, and as a result, the balance of housing credit expanded at a more moderate rate compared with the previous year.

The global economy: In the period under review, world trade as well as growth figures for most economies continued to improve, and growth forecasts were revised upward. The US Federal Reserve is raising the federal funds rate gradually, with an increase in December as well. The ECB kept the interest rate at -0.4 percent and announced that it would reduce the scope of its monthly bond purchases beginning in January 2018 but would extend the period during which it makes the purchases. Other central banks shifted their monetary policies to a less accommodative stance, although the monetary environment remains extremely accommodative. Inflation remained below target in most major economies, although in the period under review the growth rate of global commodity and oil prices accelerated .

The financial markets: Between July and November (inclusive), domestic share indices were stable, mainly underperforming compared to leading global indices. This is primarily due to the underperformance of the major chemical and pharmaceutical companies, which are heavily represented in Israeli indices. In December, the domestic situation reversed, and for the second half of 2017 overall, domestic share indices rose only slightly less than US and European indices. In the beginning of February 2018, after the period reviewed in this report, there were sharp declines in equity indices abroad and in Israel. In the second half of 2017, nominal yield curves shifted downward for medium and long-term maturities. In 2017, the flood in issues of nonfinancial public companies continued and in the period under review spreads between corporate and government bonds declined to their lowest level since 2007. In the second half of 2017, tax revenues exceeded forecasts and ultimately allowed the government to repay a portion of its debt early, and to reduce the scope of its debt raising.

Research Department staff forecast: According to the staff forecast published by the Research Department in January 2018, GDP is expected to grow by 3.4 percent in 2018 and by 3.5 percent in 2019. Inflation is expected to converge to within the target range during 2018 and reach 1.1 percent at the end of the year. The Bank of Israel interest rate is expected to remain at its current level until the third quarter of 2018, and rise in the fourth quarter.

MONETARY POLICY

In accordance with Section 55(b) of the Bank of Israel Law, Section A of this report reviews the reasons for the inflation rate's deviation from the target range set by the government for more than six consecutive months. In addition, Section A describes the policy that the Monetary Committee adopted to return the rate of inflation to within the target range, and presents its assessment of the time required to achieve that goal. Section B describes the background conditions that prevailed at the time the interest rate decisions were made and presents the perspective of the Committee. We note that since the interest decision in October 2017, the Committee has operated with a full complement of six members, after having operated with fewer than six members since November 2014.

A. POLICY AND TARGETS

In the period under review, the Monetary Committee decided to keep the interest rate unchanged at its low level (0.1 percent), against the backdrop of several major developments: (1) the inflation environment remained lower than the price stability target (although for the first time since September 2014, inflation was positive in most months of the year); (2) the nominal effective exchange rate was at a low level, and the shekel had appreciated before the period under review; these factors weighed on the tradable sector and impeded the return of the inflation rate to its target. These developments in the exchange rate occurred despite both the increase in the interest rate by the US Federal Reserve, a process that is expected to continue in 2018 as well, and despite monetary policy remaining highly accommodative in Europe and in most advanced economies, even if it contracted slightly; (3) the rate of growth moderated slightly in the first half of 2017[2]—compared with the accelerated rate that prevailed in 2016—and was consistent with the potential growth rate of the economy, with private consumption once again driving growth. The labor market was characterized by full employment and rising wages; (4) home prices continued to rise, although more moderately than in the past, and corporate bonds spreads reached very low levels—which was also observed in additional countries.

In addition to leaving the interest rate at its low level, the Monetary Committee continued its "forward guidance". In its interest announcements since April this 2017, the Monetary Committee has noted that it intends to maintain the accommodative policy as long as necessary in order to entrench the inflation environment within the target range. In addition, the Bank continued to intervene in the foreign exchange market, although less intensely: The Bank purchased dollars mainly as part of its declared plan to offset the effects of natural gas production on the current account.

Committee members pointed to the causes for the low, albeit positive, rate of annual inflation and the continuing deviation of the inflation rate from the target range in the period under review: (1) Although the nominal effective exchange rate of the shekel depreciated moderately, by 1 percent, in the half-year under review, the shekel appreciated by 4.2 percent over the previous 12-month period, which had a gradual, continuous effect on inflation.[3] (2) The steps taken by the

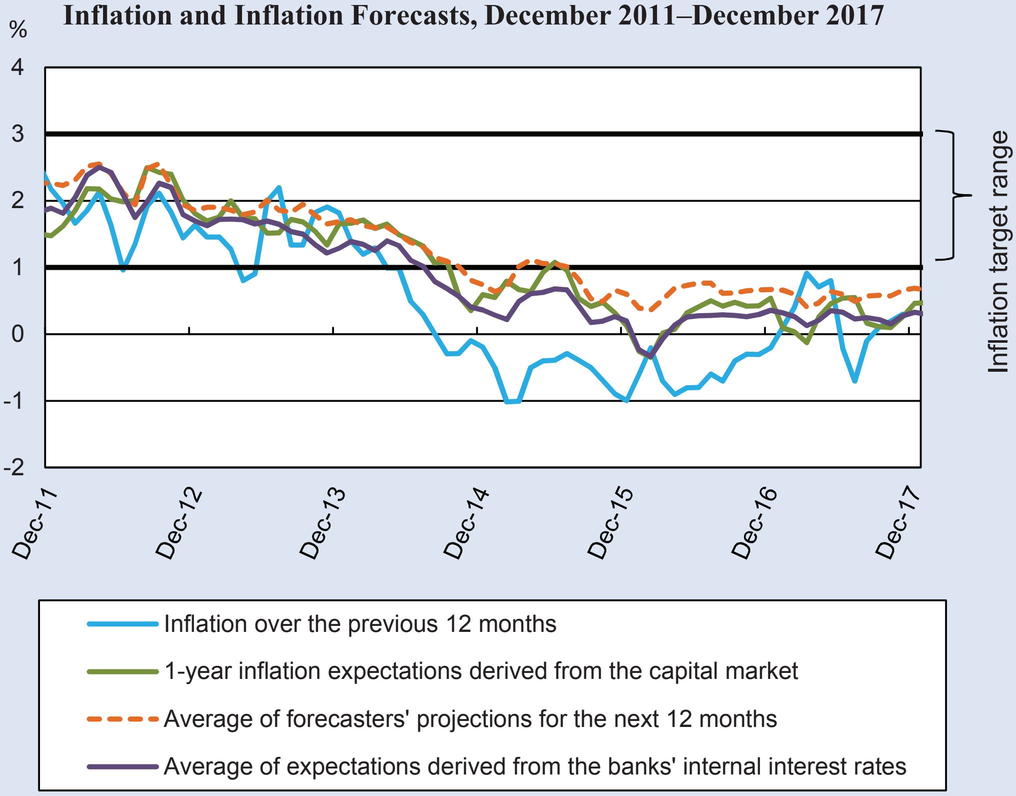
[2] Net of the effects of vehicle imports.

[3] In the period under review, inflation in tradable goods decreased by less than it did in the previous period, affected by the persistent increase in commodity and oil prices, and it reached -1.1 percent in 2017.

government to reduce the cost of living[4] continued to drive prices lower, although with a smaller effect than in the past. Net of direct government interventions, the Consumer Price Index increased by 0.7 percent in 2017. (3) The competition in the economy apparently increased, and was reflected in, among other things, a rise in online purchases, especially from foreign websites.[5]

The Monetary Committee stressed that these factors caused the annual inflation rate to remain below the target, yet noted that a moderate rise in the rate of inflation was evident over the course of 2017. This year, the annual rate of inflation, which was 0.4 percent, was positive for the first time since 2014; the rate of inflation dropped below zero only in June and July (Figure 1).

Figure 1
Inflation and Inflation Forecasts, December 2011–December 2017



SOURCE: Based on Central Bureau of Statistics.

Several factors led to the increase in the rate of inflation this year. Global metal prices increased by 17.8 percent and oil prices rose by 32 percent in the period under review, after exhibiting a similar

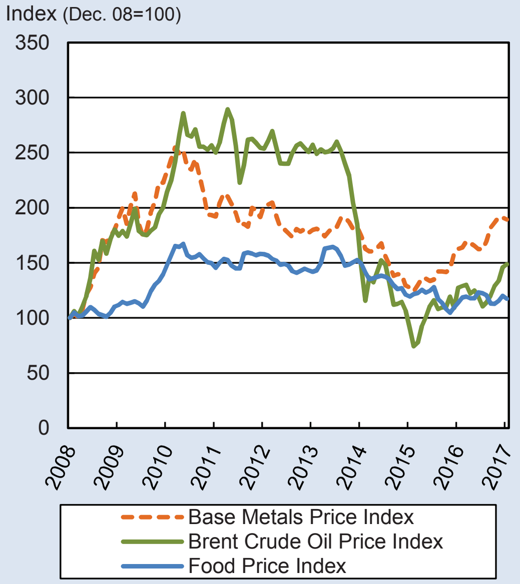
[4] The changes since February 2016, which affected the annual rate of inflation during the half-year, included the cancelation of customs duties and purchase taxes on some imported goods, reduced rates for taxies and public transportation, and for vehicle insurance. Electricity and water rates were also reduced.

[5] For further discussion of the increase in competition and Internet purchases, see the Bank of Israel Annual Report for 2016 (Chapter 3).

rising trend in 2016 (Figure 2).[6] Global food prices rose by 5.4 percent in 2017, mainly in the first half of the year, after exhibiting a downward trend since mid-2014 (Figure 2). These developments contributed to the upward swing in inflation in 2017 in most major economies, although inflation rates remained lower than target figures: Annual inflation was 1.5 percent in the United States[7], 1.4 percent in the eurozone, and 1.1 percent in Japan. Note that changes in global inflation rates mainly affect inflation in Israel through import prices.

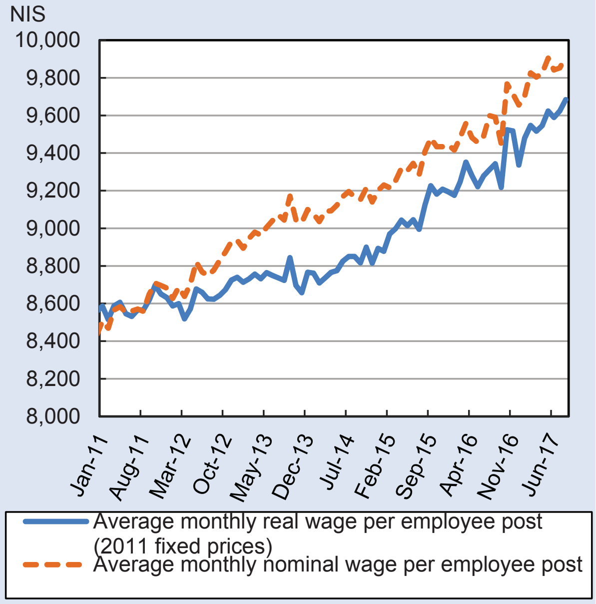
Domestic developments added to the effects of global developments: The housing component in the Consumer Price Index (measuring rents) increased by 2.4 percent in the past year, primarily in the period under review, after a 1.4 increase in the previous year; nominal wages rose by 1.5 percent[8] in the period under review, as did real wages, which increased purchasing power (Figure 3); the unit labor cost also rose. All these factors are expected to contribute to rising prices in the future as well.

Figure 2
Global Base Metal, Oil and Food Price Indices, December 2008–December 2017



SOURCE: Based on Bloomberg.

Figure 3
Nominal and Real Wages in Israel, January 2011–September 2017



SOURCE: Bank of Israel.

Various indicators of real activity—especially National Accounts data and the full employment environment in the labor market—supported the assessment that economic growth in the second and third quarters was consistent with the economy's potential growth, after a period of accelerated growth in 2016. **Against the background of these developments, the Monetary Committee assessed that the low inflation rate derives primarily from supply-side factors and does not reflect weak demand.**

[6] Dollar prices of metal rose by 34 percent since January 2016, and dollar prices of oil rose by 87 percent since February 2016.

[7] Core PCE index.

[8] October versus June figures, in annual terms.

Monetary policy remained accommodative during the reviewed half-year — The interest rate remained very low and supported the solid expansion of private consumption; the recovery of fixed capital formation, and a tight labor market. However, Monetary Committee members noted that while the interest rate is at a historical low, real yields in Israel are higher than in Europe and are comparable to yields in the United States. They consequently concluded that even if the monetary policy in Israel is accommodative in itself, it is not particularly accommodative relative to other countries. There was an opinion among Committee members that tightening monetary policy in the current period will increase pressures for appreciation and weigh on the already low inflation rate and inhibit the emerging recovery in exports. In addition, the view was expressed that policy decisions should also take into account additional considerations, including developments in asset prices, and therefore the conditions for an interest hike may come about sooner than expected. However, an appreciation in the shekel might postpone the inflation's return to its target and consequently defer a rise in the interest rate.

In summary, members of the Monetary Committee assess that leaving the interest at its current level over time will work to return inflation to within the target range within about one year, with the support of other economic forces: the rise in nominal wages against the backdrop of a full employment environment; the improvement in global economic activity and world trade and the increase in global inflation—processes that are supported by the continued implementation of a highly accommodative monetary policy worldwide; the rise in commodity prices, especially oil; and the moderate increase in actual inflation, a development that impacts on inflation expectations, and thus future inflation in turn. This assessment is also supported by long-term inflation expectations, which continue to reflect financial market assessments that the monetary policy will lead to the inflation rate reaching its target. Nonetheless, **Committee members note that several factors may postpone the inflation rate's return to its target,** including government measures to reduce the cost of living, and growing competition in the economy. Inflation will also be affected by developments in the exchange rate. As noted above, in its announcements, **the Monetary Committee noted that it intends to maintain the accommodative policy as long as necessary in order to entrench the inflation environment within the target range.**

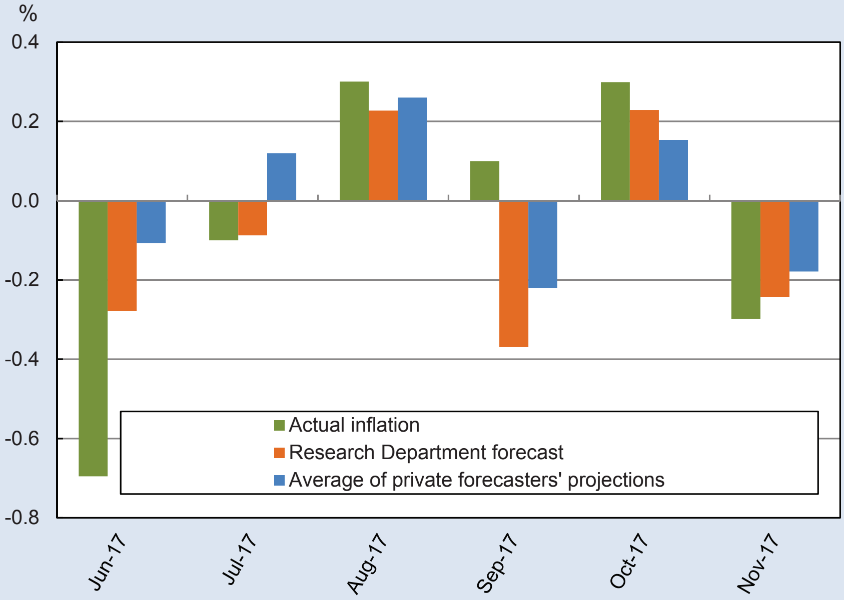
B. BACKGROUND CONDITIONS AND THEIR EFFECT ON INTEREST RATE POLICY

In the second half of 2017, inflation continued to rise moderately, a trend that began in the second half of 2016, and it reached an annual rate of 0.4 percent in December 2017 (Figure 1). The Monetary Committee assessed that the low inflation environment does not reflect weakness in domestic demand, and noted that several factors may delay the inflation rate's return to its target. From January to May 2017, annual inflation increased from 0.1 percent to 0.8 percent, and reached the positive range for the first time since September 2014, although it declined sharply to -0.2 percent and 0.7 percent in June and July, respectively, primarily because the June index surprised to the downside (Figure 4).[9] In August, annual inflation began to rise, and September surprised to the upside.[10]

[9] The June CPI reading declined sharply due to a seasonal decline in fruit and vegetable prices and in apparel and footwear prices, and due to a decline in transportation prices. Government interventions contributed -0.2 percentage points to this index.

[10] The September CPI reading surprised to the upside due to a 0.4 percent rise in housing, and a similar increase in education, despite reductions in daycare costs.

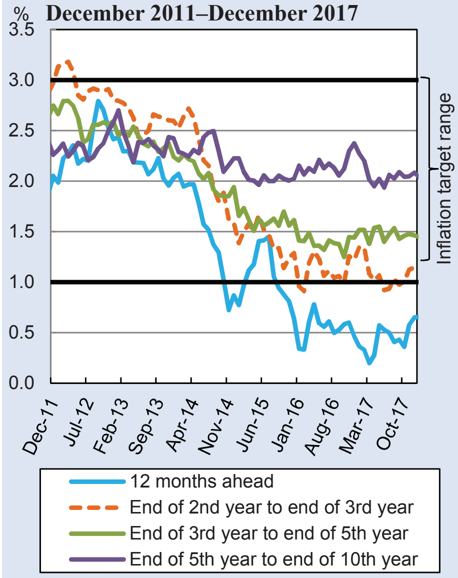
Figure 4
Monthly Inflation: Actual vs. Forecasts, June 2017–November 2017



SOURCE: Based on Central Bureau of Statistics.

Break-even inflation expectations for one year and forward inflation expectations for the second year[11] remained below the lower bound of the target range, at 0.6 percent and 0.8 percent, respectively, at the end of 2017. In April 2017, forward inflation expectations for the intermediate-term (2–3 years) fluctuated in the vicinity of the lower bound of the target range (Figure 5) and rose slightly toward the end of the year. Longer-term forward inflation expectations remained anchored within the target range.

Figure 5
Forward Inflation Expectations Derived from the Capital Market, December 2011–December 2017



SOURCE: Bank of Israel.

Government measures to reduce the cost of living were one of the factors that inhibited the return of the inflation to the target, but the Committee did not view these steps as a reason for more accommodative monetary policy. This is because monetary policy is not required to respond to one-off declines in price levels and does not offset price changes that have already occurred.[12] Furthermore, policy makers take

[11] Current expectations concerning inflation for the 12 months ahead one year from now.

[12] Further discussion is available in the Bank of Israel Annual Report for 2014 (Chapter 3).

the economy's overall picture into account, and in this regard particularly considerations of financial stability.

The data in the period under review indicated that the growth rate moderated slightly in 2017, and is consistent with the potential growth rate (Table 1). National Account data for the first quarter of the year indicated low growth, but net of fluctuations in vehicle imports, the GDP grew at a rapid pace.[13] Growth recovered in the second quarter and reflected a rise in all uses. This recovery, alongside the initial estimate for the third quarter and the forecast that the economy will continue growing at a similar pace in the fourth quarter, led to the assessment that the economy is growing at a pace near to its potential growth rate.

Table 1

Development of GDP, imports and uses[a]

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

	2015	2016	2017	2016:Q4	2017:Q1	2017:Q2	2017:Q3
GDP	2.6	4.0	3.0	4.7	0.9	2.6	3.5
Business sector product	2.7	4.2	3.2	5.7	0.1	3.0	3.8
Imports excluding defense, ships, aircraft and diamonds	1.6	8.1	5.5	-0.8	-2.3	8.5	15.9
Private consumption	3.9	6.1	3.0	0.9	0.8	6.2	7.6
of which : private consumption excluding durable goods	4.3	4.9	4.2	1.1	3.8	4.4	7.2
Public consumption	3.2	3.9	2.8	1.5	2.7	1.9	-1.5
of which : public consumption excluding defense imports	3.8	4.0	3.7	2.5	7.1	2.2	-2.5
Gross domestic investment	2.4	8.1	5.2	13.4	-21.7	19.2	12.3
of which : in fixed assets	-0.8	11.9	2.7	0.7	-2.5	10.0	5.3
Exports excluding diamonds	-0.8	2.2	3.6	6.3	10.1	-1.4	3.1
of which : exports excluding diamonds and startups	-0.9	1.1	3.9	4.8	6.1	5.8	-0.4

[a] National Accounts data are initially published approximately 6 weeks after the end of the quarter, so fourth quarter data do not appear in this report.

SOURCE: Based on Central Bureau of Statistics.

Members of the Monetary Committee were of the opinion that the moderation in growth in 2017 reflects supply-side limitations resulting from the state of full employment in the labor market: The unemployment rate[14] remained low (3.7 percent), the labor force participation and employment rates remained stable and high (79.9 percent and 76.9 percent, respectively); the job vacancy rate continued to increase (3.8 percent); and the rise in real wages (3.1 percent for the year ended in October 2017) and the increase in health tax revenues supported the assessment that wages would continue to rise.

[13] Details appear in the Report of the Monetary Committee for the First Half of 2017.

[14] The data in this paragraph refer to the prime working ages (25–64), and refer to average figures for 2017, compared to the corresponding figures for the previous year.

In the beginning of the half-year under review, data available to the Committee indicated a recovery in exports in the first six months of 2017, led by exports of services (Table 2). An initial estimate of National Accounts data for the third quarter, which became available later in the period under review, showed that growth in the exports of commodities was halted, and private consumption regained its position as the main driver of growth, supported by the increase in real income.

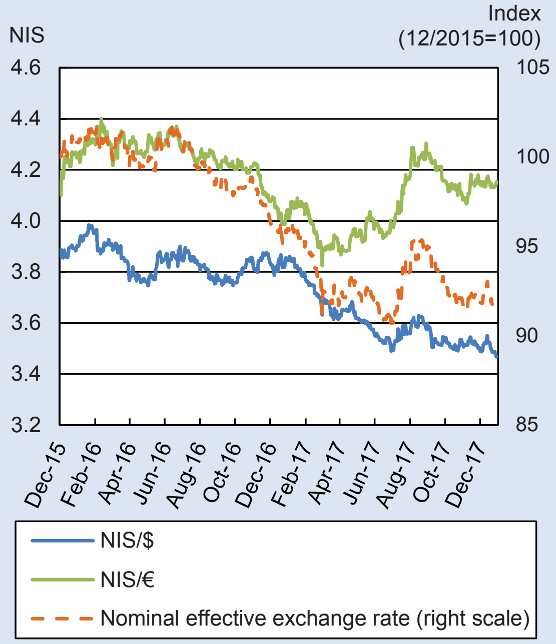
Table 2
National Accounts - data available in the months during the reviewed half-year*
(Seasonally adjusted data, quantitative rates of change compared to previous period, in annual terms)

		July	August	September	October	November	December
GDP	2017:Q1	1.2	1.4	0.6	0.6	0.8	0.9
	2017:Q2			2.7	2.4	2.4	2.5
	2017:Q3						4.1
Business sector product	2017:Q1	0.3	0.5	-0.4	-0.4	-0.1	0.1
	2017:Q2			2.7	2.5	2.5	2.5
	2017:Q3						4.2
Private consumption	2017:Q1	-1.7	-1.1	-1.0	-1.1	-0.8	0.3
	2017:Q2			6.5	6.5	5.9	6.1
	2017:Q3						7.8
Fixed capital formation	2017:Q1	-3.1	-3.4	-6.1	-4.6	-4.5	-3.0
	2017:Q2			5.2	10.7	11.0	11.1
	2017:Q3						8.1
Exports excluding diamonds and startups	2017:Q1	8.6	9.7	6.7	6.3	6.4	5.7
	2017:Q2			3.6	5.4	6.0	4.8
	2017:Q3						0.4
Civilian imports excluding ships, aircraft, and diamonds	2017:Q1	-1.5	-1.6	-2.3	-3.5	-3.5	-2.5
	2017:Q2			1.9	6.7	6.7	7.9
	2017:Q3						10.5

SOURCE: Based on Central Bureau of Statistics.
* The data include vehicle imports, which had a marked impact during the reviewed half.

Members of the Monetary Committee discussed the risks to future growth in exports, and expressed concerns that the continued expansion of services exports might be adversely affected by a shortage of skilled labor. They noted that the low level of the exchange rate weighs on goods exports, and that the government should adopt a policy to increase labor productivity—including through improvements in human capital and increased investments in infrastructure—in order to support growth over time. Early estimates of National Accounts data for the year 2017, which were published on the last day of the year, indicated a solid recovery in exports of goods and services (excluding diamonds and start-up companies), although the most recent data (of foreign trade) alluded to a decline in the growth of exports due to a decline in pharmaceuticals exports, offset somewhat by a recovery in exports in the chemicals industry. The Monetary Committee members discussed the developments in pharmaceuticals company Teva, noting that the company's crisis is certain to have a grave impact on employees, who are facing dismissal notices, but the favorable state of the labor market should have a positive impact on their ability to find other employment. Moreover, a contraction in Teva's operations in Israel is not expected to generate any economy-wide effects.

Figure 6
Selected Exchange Rates, daily data
December 2015–December 2017



SOURCE: Bank of Israel.

In summary of the period under review, the nominal effective exchange rate depreciated by 1 percent,[15] after uneven development over the period. A 4.2 percent depreciation in the nominal effective exchange rate occurred in July and August, mainly against the euro, and in August, the shekel appreciated by a similar degree against the euro and the dollar (Figure 6). Against the backdrop of the considerable depreciation at the beginning of the period under review, the Bank of Israel curtailed its intervention in the foreign exchange market: The Bank purchased $710 million in the second half of 2017, primarily as part of its program designed to offset the effects of natural gas production on the current account.

The Bank of Israel's foreign exchange intervention policy constitutes an integral part of the monetary policy, and it remained unchanged: The Bank intervenes when the exchange rate shows excessive fluctuations that are not in line with fundamental economic conditions, or when the foreign exchange market is not functioning properly.[16] Toward the end of the period under review, the appreciation gained strength, and in January 2018 the Bank increased its interventions in the foreign exchange market.

The annual rate of increase in home prices moderated in the half-year under review, in parallel with slowing in housing market activity. In the beginning of the period, figures supported assessments of a stabilization in home prices (Figures 7 and 8), although subsequent figures for this period indicated that home prices were increasing again. In the final interest rate decision of the period,[17] data confirmed that home prices rose by 5.8 percent in annual terms in the past six months, similarly to corresponding figures for end-2016 (6.1 percent). Initial figures published after the final interest rate decision in the half-year under review indicate that home prices declined and the annual rate of increase moderated to 2.4 percent.[18]

Concurrent with the continued increase in home prices, activity in the housing market slowed. This slowdown was reflected in a continued drop in total transactions; a slight decline in mortgage

[15] Average in December compared with the average in June.

[16] A box published in Monetary Policy Report for the Second Half of 2016 elaborates on the Bank of Israel's exchange rate policy, and reviews the reasons for this policy, its results, and the decision making process.

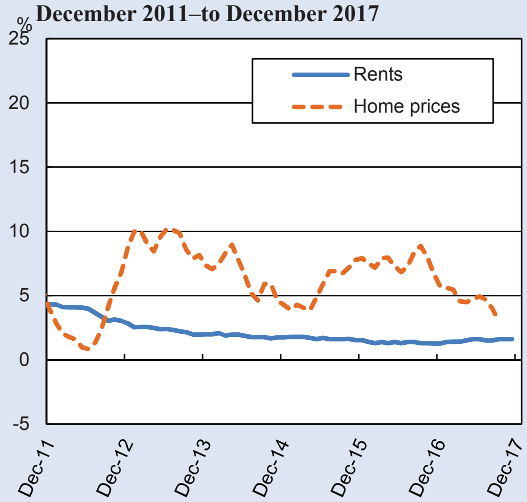
[17] The last decision in the half-year under review was made on November 27, 2017.

[18] This figure refers to the change in home prices in October–November 2017 compared to the corresponding period in 2016.

interest rates; and stability in the rate of new mortgages taken out, in the average mortgage term,[19] the LTV (loan to value), and PTI (payment to income)[20] ratios, after a continued decline in these indicators in recent years. In their discussions, Committee Members suggested that the decline in total transactions apparently derives from uncertainty surrounding the impact of government housing plans on prices. Together with the slowing in demand, there was moderation in building starts, investments in residential buildings, and the growth rate of housing credit and Committee Members expressed concern that the slowdown is trickling down to the supply side as well. They did, however, note that at the same time, an increase in the number of building permits is evident, which should support future activities.

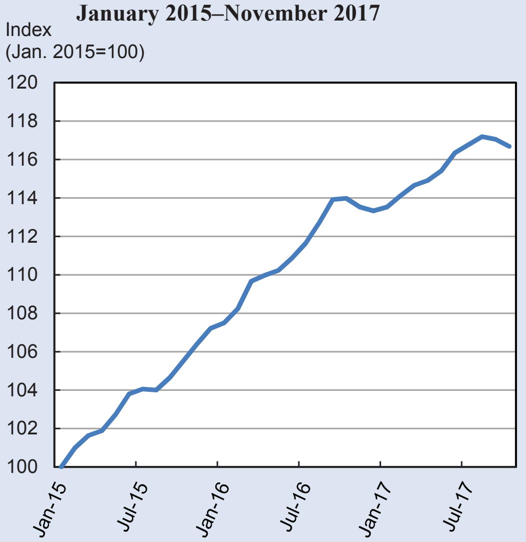
The housing component of the CPI increased in the period under review by 3.6 percent in annual terms,[21] after a 0.8 percent increase in the first half of the year. In total, it increased by 2.4 percent in 2017 (Figure 7).

Figure 7
Rates of Increase in Home Prices and Rents over the Preceding 12 Months, December 2011–to December 2017



SOURCE: Based on Central Bureau of Statistics.

Figure 8
Survey of Home Prices, January 2015–November 2017



SOURCE: Based on Central Bureau of Statistics.

During the reviewed period, the positive momentum in the global economy continued, as did the improvement in world trade and in growth figures for most of the economies. The IMF

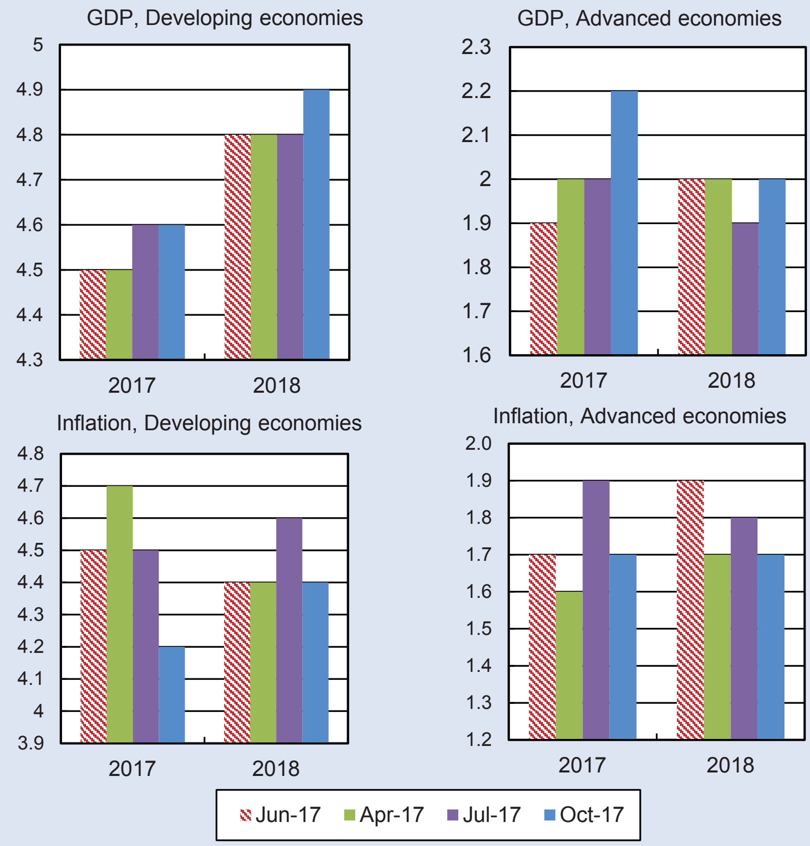
[19] To estimate the average mortgage amount, we take total mortgages extended in the month and divide this by the number of mortgage transactions recorded that month. This estimate may be biased. To illustrate, when a mortgage is granted in several installments, the transaction is recorded upon the first installment, alongside its sum, yet the remaining installments are recorded only according to their amounts. When there is a decrease (increase) in the number of transactions, results are skewed upward (downward).

[20] For a further discussion of the risks in the housing market and rising mortgage interest rates, see the Financial Stability Report for the First Half of 2017.

[21] This figure refers to October, which is the most recent figure in the interest decision made in late November.

and investment banks raised growth forecasts for 2017 and 2018 (Figure 9). The US economy experienced a weak first quarter, but recovered in the second quarter, and grew rapidly in the third quarter despite natural disasters. In the period under review, projections showed that the US economy would continue its rapid growth in the fourth quarter, and that the tax reform scheduled to go into effect in the beginning of 2018 may support short-term growth, while increasing the deficit and the debt. The eurozone continued to grow rapidly in the third quarter, and political risk continued to decline; these favorable developments led to strengthening of the euro worldwide. In Japan, the positive growth that the economy exhibited for almost two years, continued, and election results reinforced assessments that the accommodative policy will continue. In China, official figures indicated that the growth rate remained similar to the previous year, although concerns remained regarding the government's ability to deal with the high rate of leverage in the economy. Positive sentiment continued in global stock markets, despite the uncertainty surrounding the policies of the

Figure 9
IMF Forecasts of Growth and Inflation Rates in Advanced and Developing Economies for 2017 and 2018 (percent)



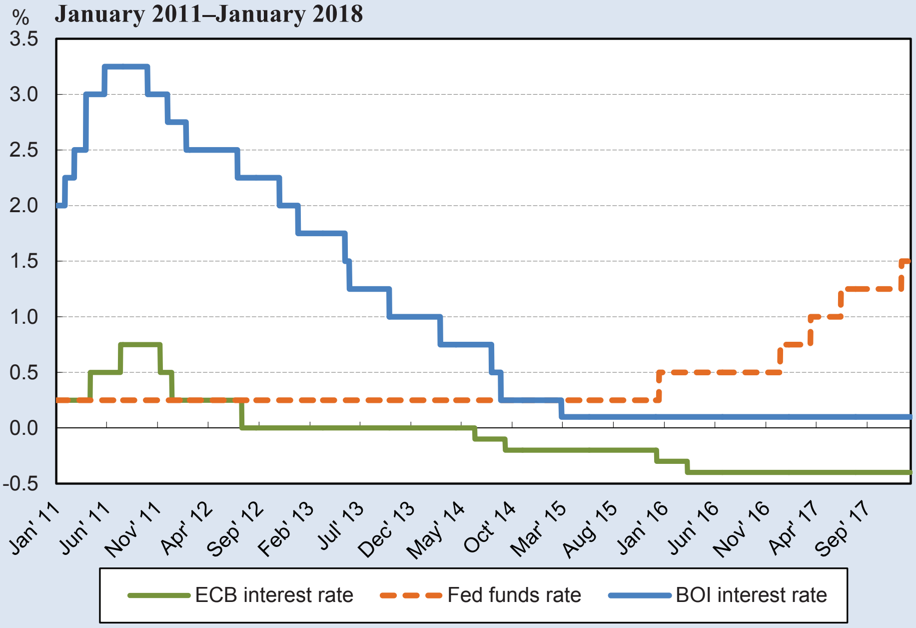
The legend refers to the publication date of the IMF forecast.

SOURCE: International Monetary Fund.

US administration, which led to volatility in the short term.

While several major central banks tended toward a less accommodative monetary policy in the period under review, the monetary environment nonetheless remained highly accommodative. Despite the improvement in economic activity — which was reflected in lower unemployment and in reduced output gaps in the various economies—and despite rising oil prices (Figure 2), inflation remained below target in most major economies. In December 2017, the Federal Reserve increased the federal funds target rate from 1–1.25 percent to 1.25–1.5 percent, as expected, after an increase of 0.25 percentage points in June (Figures 10 and 11). Forward contracts continue to reflect the probability that the Federal Reserve will raise the interest rate three times in 2018. The ECB left the interest rate[22] at -0.4 percent in view of the relatively low rate of inflation (Figures 10 and 11), and concurrently announced that beginning in January 2018, it expected to reduce its bond purchases from €60 billion to €30 billion per month, and extend this quantitative easing program at least until September 2018. The quantitative easing program in the eurozone is reflected in negative nominal yields in the medium term (3–5 years). The Bank of Japan retained the interest rate at its negative level of -0.1 percent, and reiterated its commitment to an accommodative policy. Other banks raised the monetary interest (Figure 11) but concurrently published dovish statements. The central banks of the UK and the Czech Republic raised interest in response to high inflation, while the central

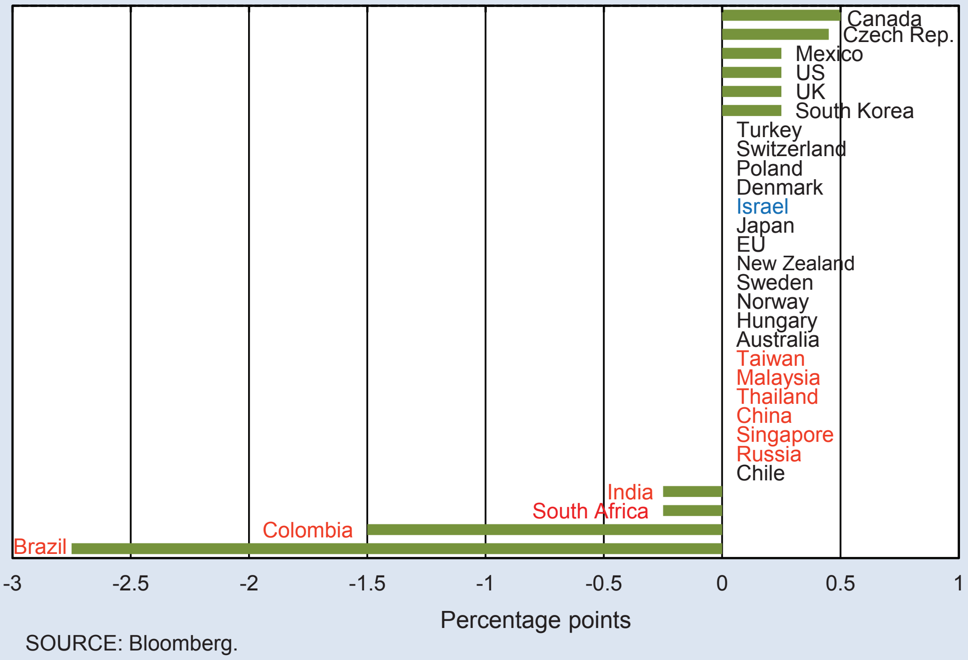
Figure 10
Central Bank Interest Rates in Israel, the ECB[a], and the US[b], January 2011–January 2018



[a] The interest rate on surplus balances of commercial banks.
[b] The US interest rate reflects a range of 0.25 percentage points; this graph notes the upper bound, as conventional.
SOURCE: Bank of Israel.

[22] The ECB interest on surplus balances of commercial banks.

Figure 11
Changes in Central Bank Interest Rates in OECD Countries (in Black) and in Developing Economies (in Orange), July–December 2017

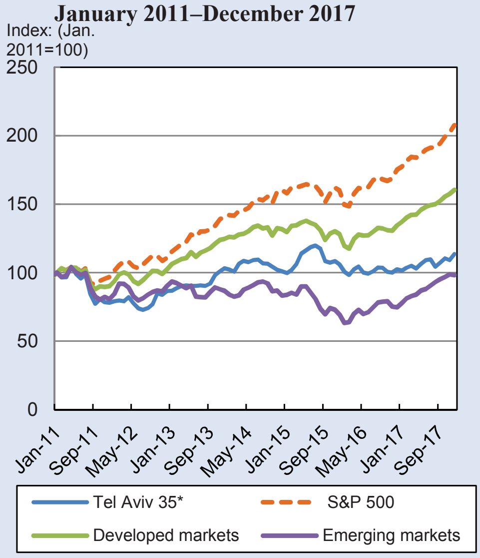


SOURCE: Bloomberg.

bank of Canada raised interest in response to high growth. Several central banks reduced interest rates, primarily due to weak economic activity.[23]

In summary of the period under review, domestic equity indices rose slightly less than US and European indices although the development of the indices was uneven. From June to November (inclusive), the Tel Aviv 35 Index remained unchanged, primarily due to the performance of chemical and pharmaceuticals companies. In contrast, the S&P 500 index and share indices in developed and developing markets rose by 6.6 percent, 6.3 percent and 12.1 percent, respectively (Figure 12). In December (and in January 2018), the domestic picture reversed, and in summary of the second half of 2017, the Tel Aviv 35 Index increased by approximately 4 percent. Nominal yield curves

Figure 12
Global Equity Indices in Dollar Terms, Monthly Averages, January 2011–December 2017



* The index was the Tel Aviv 25 through Feb. 2017.
SOURCE: Bloomberg.

[23] The central banks of Columbia, Brazil, and South Africa reduced interest rates following depressed economic activity, while the central bank of India reduced the interest rate as a result of inflation below the target.

showed declines in the intermediate and long terms. Estimated net capital raised by the non-financial business sector through bond issues[24] totaled NIS 20.5 billion in both 2017 and 2016, which is significantly higher than the estimated capital raised in 2015 — merely NIS 2.8 million. **During the reviewed period, the spreads between similar corporate and government bonds declined to their lowest level since 2007**. The spreads decreased both as a result of the decline in yields on corporate bonds and the rise in yields on CPI-indexed government bonds. Committee members expressed concern that, similar to the situation in other countries, bond spreads do not fully reflect their embedded risks.

In 2017, the government's economic action supported economic activity. Public consumption[25] increased by 5 percent in real terms, considerably higher than the increase in the GDP. Civilian ministries' expenditures showed a real increase of 8.5 percent while defense expenses increased by more than 5 percent. **The total deficit (excluding credit granted) accounted for 2 percent of the GDP in 2017, a smaller share than the planned deficit ceiling** (2.9 percent of the GDP), and was similar to the deficit in 2016—2.1 percent of GDP. The lower than expected deficit reflects a considerable increase in tax revenues, mainly due to an atypical increase in one-off revenues, specifically from tax incentives granted in 2017 on dividend distributions, and tax revenues on the sale of Mobileye.

In January 2018, the government approved the budget for 2019.

The staff forecast published by the Research Department in October 2017 projected that GDP would grow by 3.1 percent in 2017 and by 3.3 percent in 2018, compared to 3.4 percent and 3.3 percent, respectively, in the June forecast. The growth forecasts for 2017 was revised downward because National Accounts data for the first half of 2017 indicated that exports and investment increased more slowly than the assessments at the time of the previous forecast. The path of future inflation was also revised downward compared to the previous forecast due to the actual development of inflation. The Research Department predicted that inflation would be 1 percent in the four quarters ended in the third quarter of 2018, and also at the end of that year (compared to 1.5 percent in 2018, in the June forecast). In view of these developments, the expected interest rate path was also revised: The Research Department predicted that the interest rate would increase to 0.25 percent in the fourth quarter of 2018, and not in the second quarter, as anticipated in the June forecast.

The staff forecast published by the Research Department in January 2018, after the end of the period under review, anticipates GDP growth of 3.4 percent in 2018 and 3.5 in 2019. Inflation is expected to return to within the target range in 2018 and reach 1.1 percent at the end of the year. The Bank of Israel interest rate is expected to remain at its current level until the third quarter of 2018, and increase in the fourth quarter of that year. This forecast is consistent with the forward guidance of the Monetary Committee.

[24] The estimated net capital raised through bond issues — issues less forecast redemptions.

[25] Public consumption is the government's expenditures excluding transfer payments and expenses in its capital account (such as investments and transfers to pension funds). Its main components are wage payments and government purchases.

Table A.1
Developments in the Domestic Asset Markets

	07/17	08/17	09/17	10/17	11/17	12/17
Yield to maturity (monthly averages, percent)						
3-month *makam*	0.1	0.1	0.1	0.1	0.1	0.1
1-year *makam*	0.1	0.1	0.1	0.1	0.1	0.1
Unindexed 5-year notes	1.0	0.8	0.8	0.8	0.8	0.8
Unindexed 20-year bonds	3.2	3.0	3.0	3.0	2.9	2.9
CPI-indexed 1-year notes	-0.4	-0.1	0.0	0.0	-0.2	-0.3
CPI-indexed 5-year notes	0.0	-0.2	-0.2	-0.1	-0.2	-0.3
CPI-indexed 10-year bonds	0.6	0.4	0.3	0.4	0.4	0.3
Yield spread between government bonds and corporate bonds rated AA-AAA (percentage points)[a]	1.0	0.9	0.9	0.9	0.9	0.9
Yield spread between government bonds and unrated corporate bonds excluding real estate (percentage points)[b]	5.0	5.2	5.0	5.0	5.0	4.9
Stock market (rate of change during the month)						
General shares index	0.5	-8.4	2.0	0.1	0.9	3.7
Tel Aviv 35 Index	0.9	-3.2	1.4	1.2	1.2	3.7
Foreign exchange market (rate of change during the month)						
NIS/$	1.8	1.1	-1.9	-0.2	-0.6	-0.9
NIS/€	4.7	2.1	-2.4	-1.5	1.2	0.2
Nominal effective exchange rate	3.1	1.5	-2.2	-1.1	0.0	0.0
Risk indices derived from trading in shekel-dollar options (monthly averages, percent)						
Implied volatility	11.2	11.1	11.2	11.2	11.2	11.2
Probability of depreciation greater than 5%	0.2	0.3	0.4	0.5	0.5	0.5
Probability of appreciation greater than 5%	0.3	0.2	0.2	0.4	0.3	0.3

[a] The calculation was changed to CPI-indexed bonds, excluding convertible bonds, with a yield of up to 60 percent and a duration of more than 6 months.
[b] The yield spread relates to spreads between all series of corporate bonds and CPI-indexed government bonds (formerly "Galil" bonds) with the relevant duration.
SOURCE: Bank of Israel calculations.

Table A.2
The inflation and interest rate environment
(monthly averages)

	07/17	08/17	09/17	10/17	11/17	12/17
Inflation environment indicators (percent)						
Monthly change in CPI	-0.1	0.3	0.1	0.3	-0.3	0.1
Forecasters' predictions of monthly CPI (average of forecasts prior to publication of CPI)	0.1	0.3	-0.2	0.2	-0.2	0.1
12-month change in CPI	-0.7	-0.1	0.1	0.2	0.3	0.4
One-year inflation expectations derived from the capital market	0.6	0.2	0.1	0.1	0.3	0.5
Forecasters' one-year inflation predictions	0.5	0.6	0.6	0.6	0.7	0.7
Inflation expectations for various terms[a]						
Forward inflation expectations for the short term (for the second year and third year)	0.9	1.0	1.0	1.0	1.1	1.1
Forward inflation expectations for the medium term (for the fourth through sixth years)	1.7	1.8	1.7	1.7	1.6	1.7
Forward inflation expectations for the long term (for the seventh through tenth years)	2.1	2.0	2.1	2.1	2.2	2.2
Interest rates and interest rate differentials						
Bank of Israel interest rate	0.10	0.10	0.10	0.10	0.10	0.10
Derived real interest rate	-0.43	-0.1	0.0	0.0	-0.2	-0.3
Short-term interest rate differential between Israel and the US	-1.15	-1.15	-1.15	-1.15	-1.15	-1.30
Short-term interest rate differential between Israel and the eurozone	0.10	0.10	0.10	0.10	0.10	0.10
Forecasters' predictions of change in the Bank of Israel interest rate for next month (average forecast, prior to the decision)	0.0	0.0	0.0	0.0	0.0	0.0
Telbor interest - 3-month forward rate in 9 months	0.2	0.1	0.1	0.1	0.1	0.2
Forecasters' predictions of the interest rate a year hence	0.2	0.1	0.1	0.1	0.1	0.1
Long-term (10-year) nominal interest rate differential between Israel and the US	-0.2	-0.3	-0.3	-0.4	-0.4	-0.5
Long-term (10-year) real interest rate differential between Israel and the US	0.0	-0.1	0.0	-0.1	-0.1	-0.1

[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 rises with the length of the term to which the expectations relate.
SOURCE: Based on Central Bureau of Statistics data and private forecasters' reports.