Bank of Israel

MONETARY POLICY REPORT

July-December 2013

40

January 2014

© **Bank of Israel**
Passages may be cited provided source is specified.
Catalogue # 601771
http://www.bankisrael.org.il

Printed in Israel by Scorpio Printing, Jerusalem

CONTENTS

Summary 5

1. THE BACKGROUND AND INFLATION 7

a. The global environment 8

b. Real economic developments in Israel 14

c. Financial developments 17

d. Fiscal policy 19

e. The exchange rate 20

f. Inflation 21

g. The housing market 24

BOX: Unconventional monetary policy—goals and means **25**

2. MONETARY POLICY AND ITS IMPLEMENTATION 30

APPENDIX TABLES 41

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 includes a survey of developments in the areas of price stability and the economy during the period covered by the report, and of the policy required, in the view of the Monetary Committee, to maintain the inflation rate within the range set by the government and to achieve the other objectives of the government's economic policy.

The Monetary Policy Report is prepared by economists in the Research Department, within the guidelines of the Bank of Israel Monetary Committee, the forum in which monetary policy decisions are reached. The report for the second half of 2013 is based on data that were published up to January 27, 2014, the date of the decision on the interest rate for February 2013.

SUMMARY

- Monetary and macroprudential policy: During the second half of 2013, the Monetary Committee reduced the interest rate for October by 0.25 percentage points, from 1.25 percent to 1 percent, after lowering the interest rate by a combined 0.75 percentage points during the first half of the year. In September, October and December, the Bank of Israel purchased foreign exchange in spot transactions as part of its policy of intervention in the foreign exchange market, in addition to foreign exchange purchases as part of the program the Bank declared in May that is intended to offset the surplus effects of the start of natural gas production on the exchange rate. In August, the Supervisor of Banks published restrictions on the provision of housing loans, which came into force in September (with full applicability in November), and which apply to the payment to income ratio, the portion of the loan that may be granted at variable interest rates, and the term to final repayment of the loan. These provisions reduce macroprudential risk and moderate the pass-through between demand for mortgages and the Bank of Israel interest rate, thereby allowing for much more flexibility in interest rate decisions.

- Inflation and inflation expectations: The Consumer Price Index increased during the reviewed period by 0.5 percent, and increased by 0.7 percent on a seasonally adjusted basis—a rate of increase that is slightly below the midpoint of the price stability target range. For most of the year, including the reviewed period, actual inflation (over the preceding 12 months) was slightly below the midpoint of the price stability target range. One-year inflation expectations from various sources declined during the reviewed period to about 1.6 percent.

- The housing market: Home prices continued to increase, and in the 12 months ending in October, prices increased by 8 percent, similar to the annual rate of increase (the rate of increase looking at the past 12 months) seen in each of the last ten months. Further, both the number of transactions and the volume of mortgages stabilized at high levels. In order to reduce the macroprudential risk derived from these developments, in August the Supervisor of Banks imposed additional restrictions on the provision of housing credit.

- Domestic real economic activity: The GDP growth rate remained moderate, similar to the past two years. The standstill in exports continued, mainly due to low levels of demand in the global market, but also due to the continued appreciation of the shekel in terms of the nominal effective exchange rate. In contrast, private consumption, public consumption, and the start of natural gas production supported continued growth. Even though growth remained moderate, the unemployment rate continued to decline, while employment in the public service sector increased.

- The global economic environment: During the reviewed period, global real economic activity remained moderate, and growth forecasts for 2014 continued to be revised downward. But at the end of the period, signs of some improvement were seen. Monetary policy worldwide remained highly accommodative. The European Central Bank lowered its interest rate in November by 0.25 percentage points. The US Federal Reserve announced tapering in the scope of bond purchases toward the end of December, while there were assessments at the beginning of the reviewed period that the tapering would begin as early as September. At the same time, the Fed repeated its commitment to maintain a low interest rate for an extended period. The decline in the default risk of European countries that had encountered financial difficulties continued. Emerging markets grew at a slower rate than had been characteristic in recent years, while China continues to lead growth, and growth forecasts were revised downward.

- The exchange rate: During the reviewed period, the shekel appreciated by about 2.5 percent in terms of the nominal effective exchange rate, and by about 4.5 percent against the dollar. The appreciation slowed during the second half of the year, inter alia following the Bank of Israel's announcement of the foreign exchange purchasing program to moderate the effect on the exchange rate of natural gas production.

- The financial markets: During the reviewed period, the Tel Aviv 25 Index increased by about 11 percent, reaching historically high levels. The change in the stock index was for most of the period coordinated with the trend in advanced markets, other than in August and September, apparently as a result of the increase in geopolitical risk (assessments regarding a possible attack in Syria). Yields on government bonds increased in June—similar to yields worldwide, against the background of expectations of tapering in quantitative easing in the US—but toward the end of the year, they again declined. The balance of business sector credit remained stable. In contrast, the balance of household credit increased, with the increase taking place mostly in housing credit. Spreads in the corporate bond market continued to decline, and the balance of tradable bonds even declined slightly, due to net debt repayment and debt restructuring deals being formulated. Net funds raised was positive only in the real estate industry.

- Fiscal policy: At the beginning of the reviewed period, the government's deficit target was raised as part of approving the budget, and during the reviewed period, the assessment was that the deficit that would be registered at the end of 2013 would be lower than the ceiling of 4.65 percent of GDP that was set when the budget was approved. Taking this into account, the government decided at the end of November to cancel plans to increase income taxes at the beginning of 2014, and in parallel to reduce planned expenditures for 2014 in the reserve and interest items. The gap between the deficit and the ceiling derived mainly from a reduction in the growth of expenditures, relative to their approved growth, and from one-time tax receipts.

- Staff forecast: According to the Staff Forecast that was published at the end of December, the Research Department projects that the rate of inflation over the next four quarters will be near the midpoint of the price stability target range. The Bank of Israel interest rate is expected to remain at its current level until the second half of 2014, and is expected to be 1.25 percent in the fourth quarter of 2014. GDP growth in 2013 is expected to be 3.5 percent (2.6 percent excluding the effect of natural gas production from the Tamar site). This projected growth rate is similar to the growth rate forecast in the previous Staff Forecast (from September). The forecast for GDP growth in 2014 and 2015, excluding the effect of natural gas production, was revised upward, with an upward revision of exports and of private consumption, as a result of improved assessments regarding global growth and the cancellation of the plan to increase income tax at the beginning of 2014.

The factors considered in the monetary policy decisions

The Bank of Israel Law, 5770–2010, defines the Bank's objectives as: maintaining price stability as its central goal—stability which has been defined as an inflation rate within a range of 1–3 percent; supporting the stability and orderly operation of the financial system; and supporting the other objectives of the government's economic policy, especially growth, employment, and the reduction of social gaps, provided that they do not negatively impact price stability.

In formulating monetary policy, the Monetary Committee uses a number of tools, chiefly the monthly decision on the appropriate level of short-term interest rates. In addition, the Bank of Israel occasionally intervenes in the foreign exchange market, and the Supervisor of Banks uses macroprudential tools.

There were four main issues in the background of the Committee's decisions during the period reviewed: (1) The inflation environment remained moderate, which was reflected in low CPI readings and in a decline in inflation expectations; (2) Growth in the economy remained moderate, as a result of the combination of expanded public and private consumption and a standstill in exports, against the background of continued moderate economic activity worldwide and in view of the continued appreciation of the shekel; (3) The shekel strengthened against the background of accommodative monetary policy worldwide, moderation of geopolitical concerns, the surplus effect on the exchange rate of the start of natural gas production, and continued direct investments in the economy; (4) The risks implicit in the housing market: Home prices continued to increase, and the number of transactions and volume of mortgages remained high.

In view of developments in all of these areas, the Monetary Committee reduced the interest rate for October by 0.25 percentage points, to 1 percent, and did not change the interest rate in the other five decisions during the reviewed period. Alongside the decision to reduce the interest rate for October, the Bank of Israel purchased foreign exchange through spot transactions in September, October and December, in addition to foreign exchange purchases as part of the program declared in May. In August, the Monetary Committee saw fit to reinstate the interest rate decision in September (and to return to a schedule of 12 decisions per year), due to the volatility that was expected in the financial markets as a result of expectations that the Federal Reserve would announce a reduction in the volume of bond

purchases during September, and due to increasing geopolitical concerns.[1] Since the volume of mortgages continued to grow, the increase in home prices continued, and in order to reduce the housing credit risks to borrowers and lenders, in August, the Supervisor of Banks published restrictions on the granting of housing loans. These took effect in September (and became fully applicable in November) and apply to the payment to income ratio, the portion of the loan that can be issued at variable interest rates, and the term until final repayment of the loan. The sections that follow present the main developments which were considered in the policy decisions of the Bank of Israel's Monetary Committee.

a. The global environment

As a small and open economy, Israel is greatly affected by developments in the global environment. These developments impact directly on domestic activity, Israel's exports, domestic price levels, and financial markets.

(1) Real activity, prices and policy

Global real activity remained moderate during the reviewed period, and growth forecasts for 2014 continued to be revised downward, but toward the end of the year, there were signs of some improvement.[2] In Europe, there was moderate growth in the second and third quarters, following six quarters of negative growth. In European countries that have experienced financial difficulties, the decline in default risk continued, after those countries made structural changes and continued to implement the significant fiscal restraint that reduced their deficits. With that, unemployment in the eurozone remained high, and the supply of new credit to the private sector remained low. The recovery in the United States continued: GDP continued to grow, although at a moderate pace, and unemployment continued to contract. The risk to the global recovery stemmed during the reviewed period from a continued deterioration in the emerging markets. Growth rates in these countries were lower than they had been in recent years, and forecasts for the coming year continued to be revised downwards. This deterioration derived both from the moderate global activity and from structural problems in these countries.

1 In February, the Committee announced that it would not make decisions on the interest rate in months that contained major holidays, because only a small amount of relevant data are published in those months.

2 Based on reports and forecasts of financial institutions and of international institutions such as the International Monetary Fund.

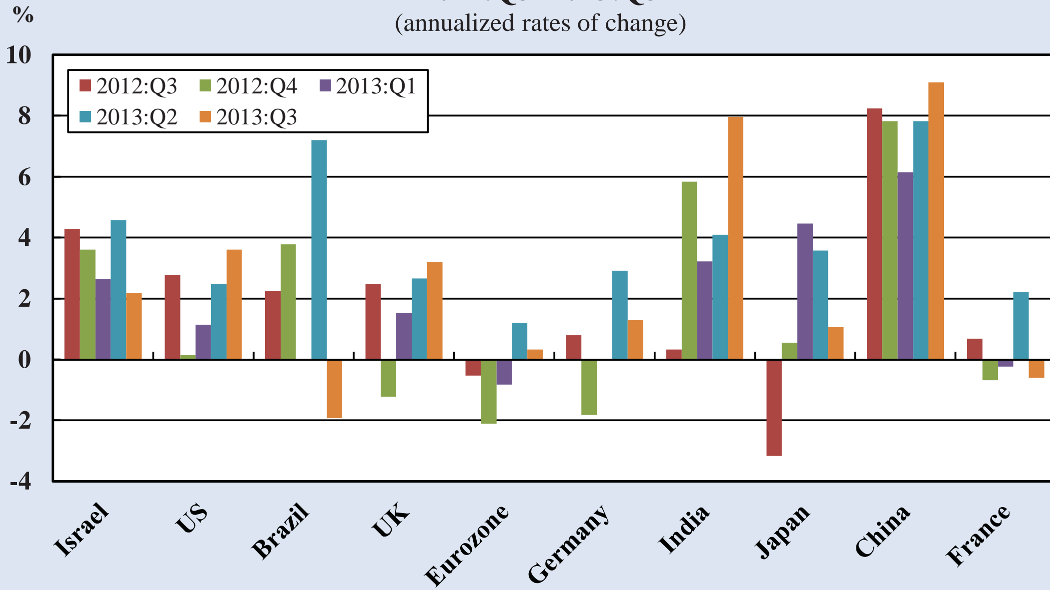
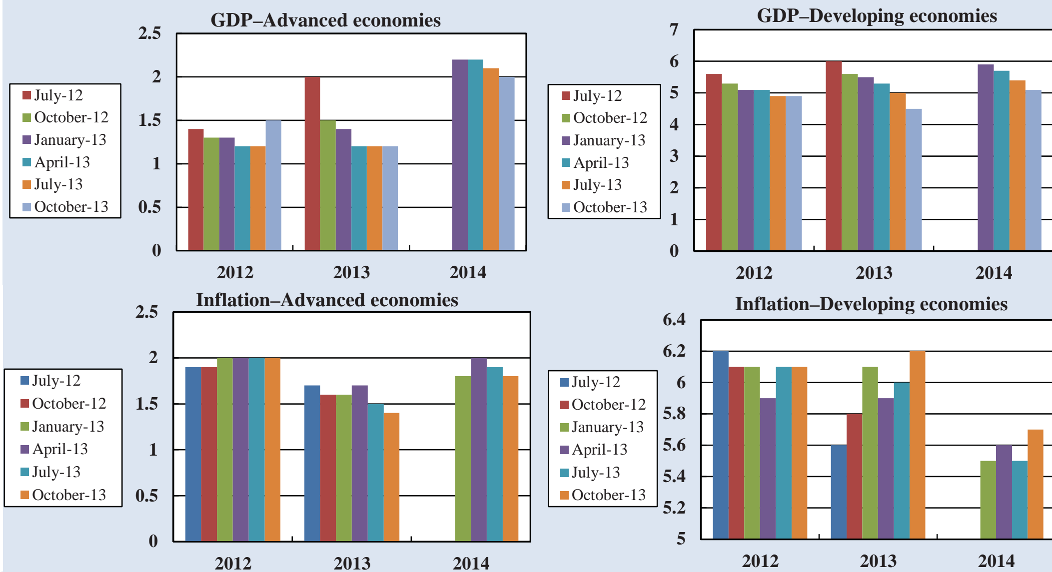


Figure 1
Rate of growth in selected countries, 2012:Q3–2013:Q3
(annualized rates of change)

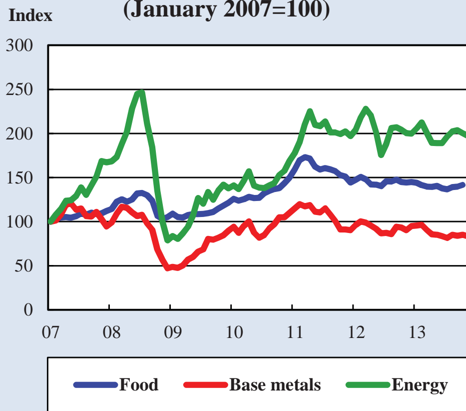
SOURCE: Bank of Israel.

Figure 2
IMF forecast of growth rates and inflation for advanced and developing countries, 2012–2014



SOURCE: Bank of Israel.

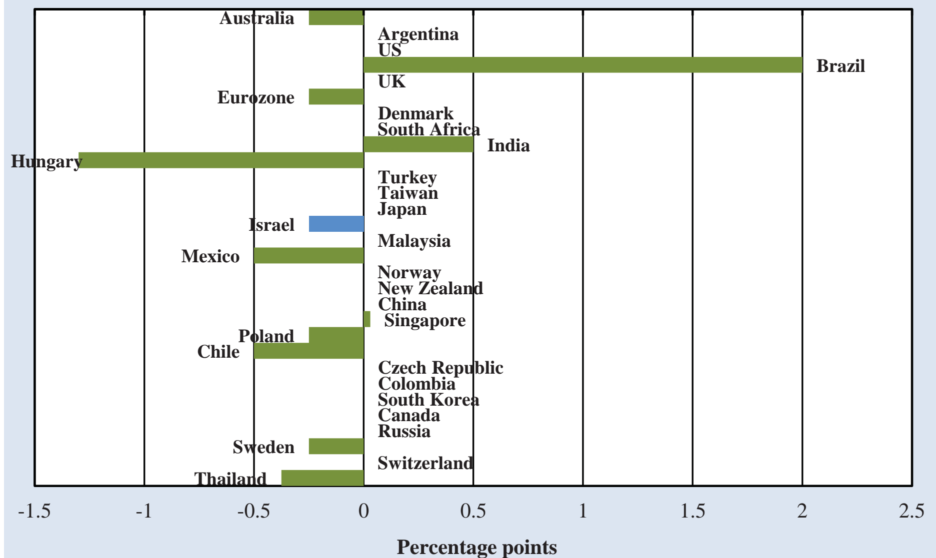
Figure 3
Price indices of base metals, food and energy,
January 2007 to November 2013
(January 2007=100)



SOURCE: Bloomberg.

Against the background of continued moderate global economic activity, the inflation environment also remained moderate, and monetary policy in the major economies remained highly accommodative. Since global economic activity continued to demonstrate weakness, interest rates in the major economies remained low, other than in a small number of economies that encountered a high interest rate environment (Figure 4). The US Federal Reserve continued to purchase bonds at a rate of $85 billion per month, and despite expectations that it would taper the amount as early as September, it wasn't until December 18 that it announced a reduction of $10 billion per month, starting at the beginning of January. Alongside this, the Federal Reserve re-asserted its commitment to leave the interest rate at a low level for an extended period. The European Central Bank lowered its interest rate by 0.25 percentage points in November, and declared that it would remain low for a long time.

Figure 4
Change in central bank interest rates,
July 2013 to December 2013



SOURCE: Bank of Israel calculations.

Advanced economies

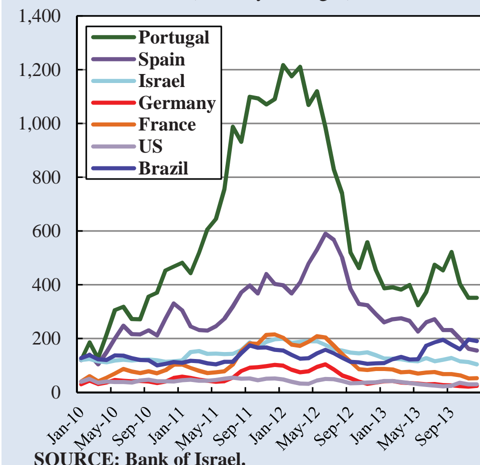
Eurozone

Europe returned to positive, although moderate, growth in the second and third quarters of 2013, following six quarters of negative growth. Even so, unemployment in the eurozone remained high and stands at about 12 percent, while the

unemployment rate among young people remains much higher. The growth rate in Europe continued to be characterized by a high level of variance between the countries, with Germany continuing to lead.

The level of economic activity remained low, and unemployment remained high, inter alia because the countries that encountered a debt crisis continued to adopt fiscal restraint measures and bank credit to the private sector continued to decline. In countries that were required to make broad cuts, the improvement in the current account continued, unit labor costs declined, and there was a decline in the debt-to-GDP ratio and in the budget deficit. Moreover, some of the countries registered an increase in exports, and there was even positive growth in Spain during the third quarter, following two years of negative growth. These trends led to the risk of a debt crisis declining significantly (Figure 5).

Figure 5
CDS spreads of Israel and selected countries,
January 2010 to December 2013
(monthly averages)



SOURCE: Bank of Israel.

Even so, growth in Europe remained fragile. Actual inflation during the period was low, evidence of the fact that demand remained weak and real economic activity remained low. Furthermore, France surprisingly entered a recession in the third quarter, and its credit rating was reduced by the S&P rating agency in November. (S&P also reduced the credit rating of the eurozone toward the end of December). Finally, the euro strengthened against the dollar during the second half of 2013, which aroused concerns of harm to exports. In view of these developments, the ECB lowered its interest rate by 0.25 percentage points in November—a historically low level.

United States

Economic activity in the US continued to recover during the reviewed period. GDP continued to grow, and the declining trend in unemployment remained in place. The lion's share of GDP in the US is comprised of private consumption, which continues to rely on low interest rates, and on the fact that home prices and share prices continued to increase.

The improvement in economic activity began during the first half of 2013, and led the Chairman of the Federal Reserve to declare at the end of May that if the improvement would continue, the Fed would reduce the volume of bond purchases. As a result of the announcement, volatility in the financial markets increased and there was a marked increase in bond yields in the US, with an expectation that the volume of purchases would be reduced as early as September. This expectation was not realized, and the Federal Reserve continued to purchase bonds at the usual pace as a result of the increase in mortgage interest rates (due

to the increase in yields), the low labor force participation rate (which reached historic lows), and the low level of the consumer confidence index. During October, a significant portion of the federal government was shut down for a period of time because the budget for 2014 was not approved, and concern arose that the shutdown would harm growth and deepen the negative impact on consumer confidence. This development, together with the fact that mortgage interest rates stabilized at high levels, aroused concern of a negative impact on the recovery of the housing market. Therefore, the Federal Reserve continued its bond purchases during the reviewed period. On December 18, the Federal Reserve announced its decision to taper the volume of purchases to $75 billion per month, starting in January, since the improvement in the labor market continued. But it announced that the federal funds rate would remain low for a relatively long time.

Japan

Japanese GDP continued to grow during the reviewed period, for the fourth consecutive quarter, against the background of the "three arrows" policy adopted by the prime minister beginning in January 2013, upon the election of a new government. This policy is intended to encourage growth, and is comprised of an increase in public expenditure in order to accelerate the economy, monetary accommodation in order to cause a depreciation of the yen and encourage consumption, and structural reforms that will enable and encourage growth. In addition, the program had another goal—to increase inflation, after deflation in prices continued during 2012. Inflation did increase during the reviewed period, in parallel with an increase in inflation expectations that took place in the fourth quarter of the year. With that, according to the International Monetary Fund, at the end of 2013, the debt-to-GDP ratio in Japan was 244 percent—a high level that increases the risk of the country's debt.[3]

Emerging economies

Growth rates in emerging economies were lower during the reviewed period than they had been in recent years, while showing marked variance, with China in the lead. Growth forecasts were revised downward (Figure 2). The emerging economies make a major contribution to global growth, inter alia through their contribution to global trade. While some of the negative impact on their growth is connected to the global crisis, another part is connected to structural problems in those economies.

3 See *IMF World Economic Outlook, April 2013.*

The Chinese economy grew by 7.8 percent in the second quarter and by 9 percent in the third quarter—lower than the rate in previous years. A large part of growth in the past was based on exports, the high volume of investments, and the migration of workers from rural areas to urban factories. Apparently, this growth model exhausted itself. Against the background of these developments, the government is trying to advance structural reforms in order to move into sustainable growth in the future. These reforms include, among others, reforms in the financial markets and reforms to change the demographic situation with the aim of development a more consumption- and service-based economy.

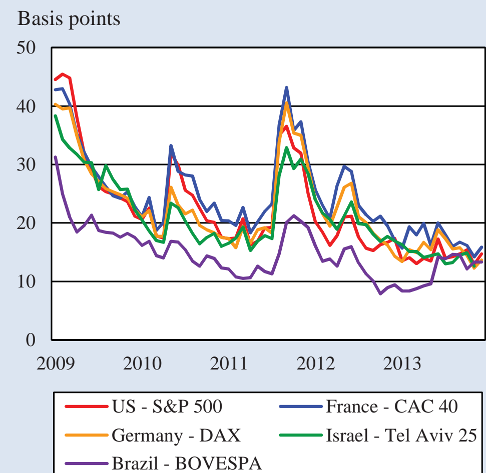
In Brazil, negative growth continued in the third quarter, reaching 1.9 percent in annual terms. Investments in Brazil are low and the budgetary deficit is high due to accommodative monetary policy, which raised inflation expectations and actual inflation to high levels. These developments led Moody's rating agency to lower Brazil's rating outlook from "positive" to "stable".

In India, expectations for 2013 are for the lowest growth rate in a decade. The Indian economy suffers from structural problems that negatively impact economic performance, including bureaucratic obstacles, low productivity, excessive regulation, and antiquated infrastructure. In addition, India suffers from a deficit in the current account.

(2) Global financial markets

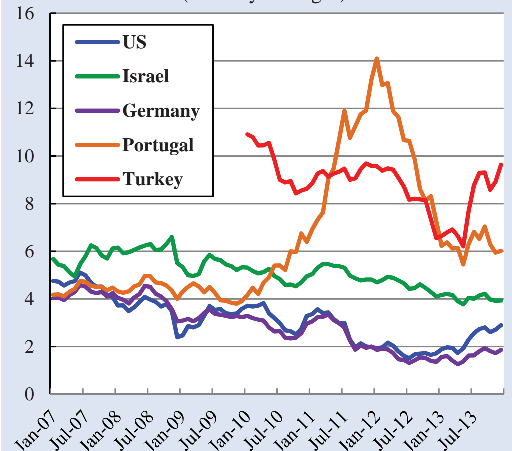
The volatility in the financial markets increased during the reviewed period. Even though global real economic activity is moderate, stock prices increased in the advanced markets, although they remained almost unchanged in the emerging markets. Developments during the reviewed period were not uniform, and can be divided into two significant subperiods: (1) the response to the speech by the Federal Reserve Chairman at the end of May concerning the possibility that the Federal Reserve would reduce the volume of government bond purchases, and (2) the notices that the Federal Reserve issued in September and October that it would continue purchasing bonds at the usual pace during those months. Following the first announcement, yields on long-term bonds worldwide increased, reaching record highs prior to the Federal Reserve's meeting in mid-September

Figure 6
Implied volatility in prices of options on stock market indices (VIX), January 2009 to December 2013
(monthly averages)



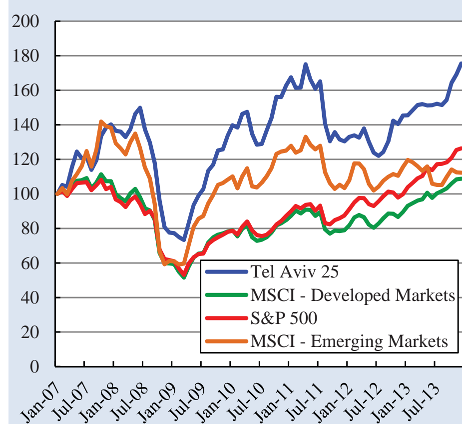
SOURCE: Bank of Israel.

Figure 7
Ten-year yields to maturity for unindexed government bonds, Israel and selected countries, January 2007 to December 2013
(monthly averages)



SOURCE: Bloomberg.

Figure 8
Global share indices (in dollar terms), January 2007 to December 2013
(monthly averages, January 2007=100)



SOURCE: Bloomberg.

(Figure 7).[4] In addition, share prices, which until then had been in an upward trend, responded with declines (Figure 8). It seems that this response was an expression of both expectations of future interest rate increases, at least in the US, and an increase in risk assessments (Figure 6). During a period when global growth was still low and fragile, such increases in interest rates and risk had negative effects. In emerging economies, for instance, there was tremendous capital outflow by foreign investors, and yields on government bonds increased more than in other countries (Figure 7). These developments created prudential risk for these countries, which was also reflected in increases in the CDS spreads. For its part, the ECB re-emphasized that its interest rate was expected to remain low for an extended period, in order to try and reduce the uncertainty in the European markets and to moderate the force of the increase in yields.

At Federal Reserve meetings in September and October, the Chairman announced that there was no intention to reduce the volume of bond purchases at least until the next meeting, which was planned for the end of December. This announcement led to a decline in risk levels in the market and to a decline in long-term bond yields. Even so, yields in many markets stabilized at higher levels than they had been at the beginning of the reviewed period. Additionally, stock market returns were higher in advanced economies during the reviewed period, but in emerging markets, they remained unchanged, against the background of foreign capital outflows.

b. Real economic developments in Israel

In order to formulate appropriate monetary policy, it is necessary to understand the state of real economic activity—both because the level of activity and changes in it have an impact on prices, and because the policy is intended to support growth and employment, among other things. However, an assessment of the state of the real economy is complicated, since such an assessment is based for the most part on quarterly National Accounts data, as well as on a wide range of monthly indicators of the level of activity, which are published with a lag and revised retroactively.

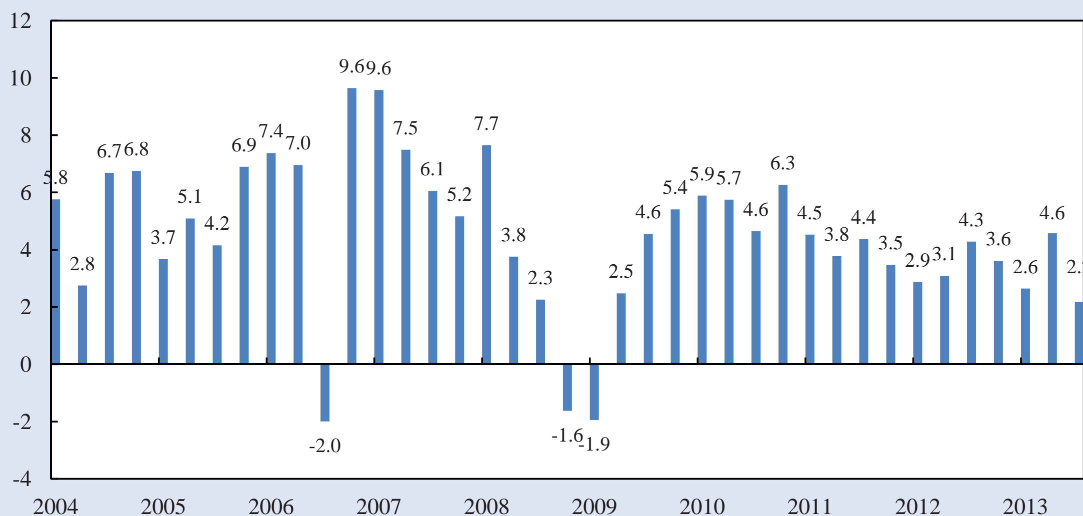
National Accounts data for the first three quarters of 2013 indicated continued moderate GDP growth at a rate slightly higher than 3 percent in annual terms, similar to the growth rate that characterized the economy in the previous two

4 During the period between the first announcement (end of May) and the second announcement (mid-September), yields on US 10-year Treasury notes increased by 90 basis points.

years. National Accounts data for the third quarter indicated a slowdown in the rate of growth, but the most recent indicators of economic activity indicate that the economy is continuing to grow at the rate that characterized it during the past two years. With that, growth was impacted by the start of natural gas production, which is a temporary effect. The Research Department assessment is that natural gas production will contribute about 0.9 percentage points to the GDP growth rate in 2013, and about 0.4 percentage points in 2014.

One of the factors moderating the growth rate during the reviewed period is the continued standstill in exports (excluding startups and diamonds) since the end of 2010, mainly due to moderate global demand.[5] In addition to the negative impact of moderation in demand in the European Union and in the US—the major destinations for Israeli exports—the delayed effect in the first half of the sharp appreciation of the shekel in terms of the

Figure 9
GDP growth rates, 2004:Q1 to 2013:Q3
(seasonally adjusted quarterly data in annual terms)



SOURCE: Central Bureau of Statistics.

effective exchange rate[6] also had a negative impact on exports.

The factors contributing to continued economic growth in the first three quarters of 2013—in addition to the start of natural gas

5 More discussion of the global situation appears in Section 1a of this report.

6 In order to obtain the nominal effective exchange rate, the exchanges rates of the shekel against the 28 currencies representing Israel's 38 major trading partners are averaged according to the trade weight with these countries out of Israel's total foreign trade. There was also a sharp appreciation in the real effective exchange rate.

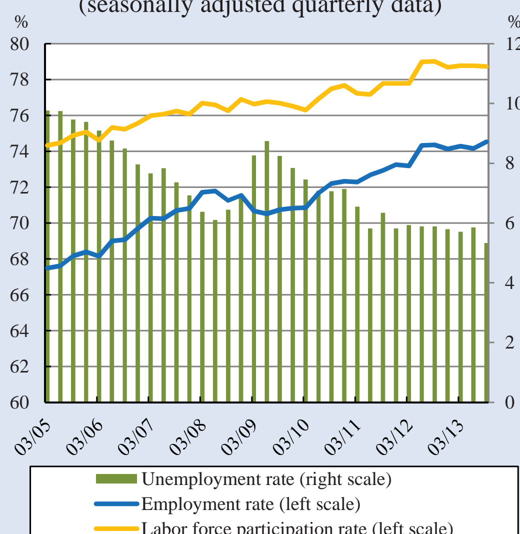


Figure 10
Employment, unemployment and labor force participation, ages 25-64, 2005-13
(seasonally adjusted quarterly data)

SOURCE: Labor Force Survey, Central Bureau of Statistics.

production—include private consumption, public consumption and investments in fixed assets. The first grew during the second and third quarters more rapidly than in recent years. It is possible that private consumption increased as a result of an increase in public "wealth"—the continued increase in home and share prices.[7]

The most recent indicators of economic activity point to the economy continuing to grow at the same rate as in the past two years (according to the Central Bureau of Statistics, growth in 2013 will be 3.3 percent), and there are signs of recovery in activity compared to the third quarter. The signs of recovery stem from a moderate improvement in global economic activity, led by the US, and from monthly foreign trade data. The latter show improvement toward the end of the third quarter and in the fourth quarter compared to the beginning of the third quarter data.

Table 1: GDP, imports and uses

(volume change from previous period, percent, seasonally adjusted, in annual terms)

	2011	2012	2013	2012:Q2	2012:Q3	2012:Q4	2013:Q1	2013:Q2	2013:Q3
GDP	4.6	3.4	3.4	3.1	4.3	3.6	2.6	4.6	2.2
Business sector output	4.7	3.4	3.7	3.5	4.6	4.1	2.3	5.7	2.1
Imports excluding defense imports, ships, aircraft and diamonds	8.9	5.2	-3.8	-13.6	-14.2	-14.6	0.9	6.2	10.8
Private consumption	3.8	3.2	4.1	0.9	1.5	3.8	4.9	6.2	5.6
of which: Private consumption excluding consumer durables	3.4	3.5	3.9	3.0	3.0	3.8	3.1	6.2	4.2
Public consumption	2.5	3.2	2.2	-1.7	-1.0	8.5	-1.2	7.9	4.5
of which: Public consumption excluding defense imports	2.3	2.8	2.3	-0.7	1.9	6.6	1.7	6.1	1.5
Gross domestic investment	15.3	6.3	0.9	-31.0	3.4	-5.0	-14.3	9.9	20.8
of which: Fixed investment	15.7	3.5	-0.9	-5.8	-6.8	-12.2	-1.4	4.4	16.9
Exports excluding diamonds	6.2	5.1	-0.7	36.6	-14.8	-10.0	14.4	0.7	-25.4
of which: Exports excluding diamonds and start-ups	6.6	4.1	-1.6	25.0	-5.5	-11.0	5.0	-7.1	-12.4

SOURCE: Based on Central Bureau of Statistics.

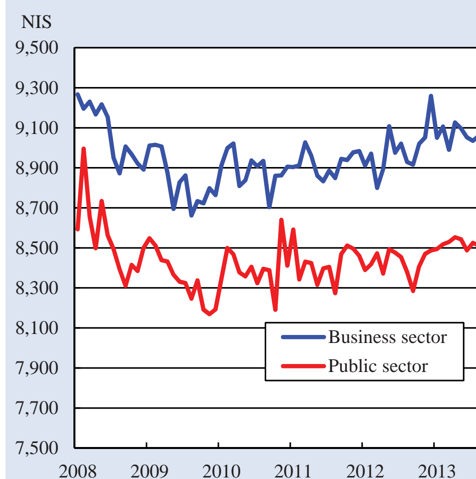
7 There is empirical evidence at least regarding home prices. See: Ribon, Sigal and Michael Kahn "The effect of home and rent prices on private consumption in Israel—a micro data analysis" Israel Economic Review, Volume 11, Number 1, January 2014.

The labor market

Even though the economy grew moderately, Labor Force Survey data for the third quarter indicate that the unemployment rate continues to decline with a moderate expansion in the employment rate and an increase in real wages. The unemployment rate among those in the primary working ages (24–65) declined at the end of the third quarter to 5.3 percent—continuing the trend of decline that began in mid-2009 (Figure 10). Labor force participation rates and employment rates stabilized at elevated levels (78.7 percent and 74.5 percent, respectively) while there was moderate expansion of employment in the third quarter. During the second half of the year, real wages increased both in the public services and the government sector and in the business and private sectors (Figure 11).

A sectoral analysis based on employee post data shows that the increase in the employment rate derives mainly from growth in the number of positions in the public services. This trend stems mostly from growth in public expenditure. In contrast, the number of employee posts in the business sector remained stable, continuing the standstill that has characterized it since 2012.

Figure 11
Average real wage per employee post, January 2008 to September 2013
(monthly data, seasonally adjusted, in 2013 prices)



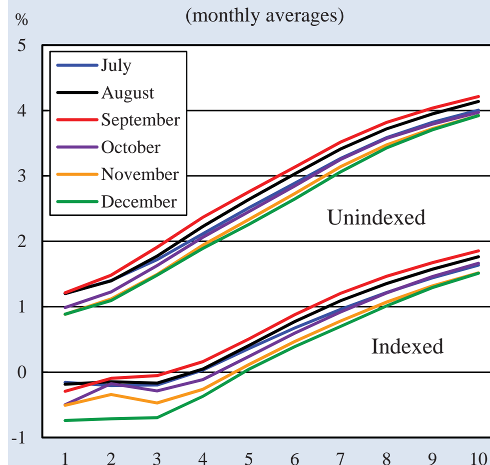
SOURCE: Central Bureau of Statistics.

c. Financial developments

The risk level in the Israeli economy, as reflected in various indicators, continued to decline during the reviewed period. The level of risk in the economy, as reflected in the 5-year CDS premium on external debt, did not develop in a uniform manner (Figure 5). In August–September, the CDS spread increased against the background of geopolitical tension, but after the tension decreased, it declined and returned to the levels that were prevalent in 2010. Short-term risks (up to one month), as reflected in the VIX index[8] (Figure 6), also continued to decline during the reviewed period (other than during the period when geopolitical tension was high), continuing the trend of decline that began at the start of the year.

Stock prices reached new record highs, similar to trends in developed markets around the world. The change in the stock index was mostly in line with the trend in developed markets (Figure 8), other than in August and September, apparently due to the increase in the perception of geopolitical risk (tension due to the situation in Syria). During the reviewed period, the TA 25 Index increased by about 11 percent, reaching historically high

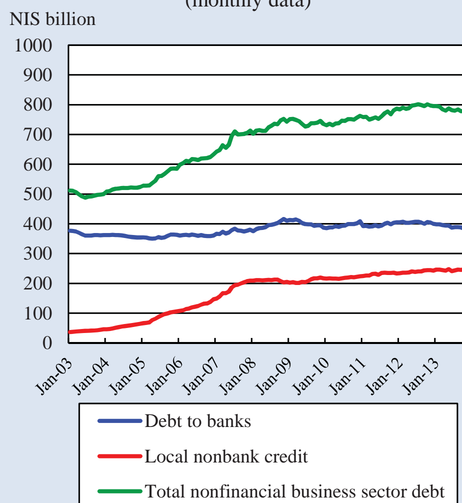
Figure 12
Yield curves of indexed and unindexed government bonds, July to December 2013
(monthly averages)



SOURCE: Bank of Israel calculations.

8 The VIX index—also known as the "Fear Index"—is derived from the prices of options traded on the TA 25 Index, and provides an estimate of expected volatility during the coming month.

Figure 13
Credit to the nonfinancial business sector, January 2003 to October 2013
(monthly data)



SOURCE: Bank of Israel.

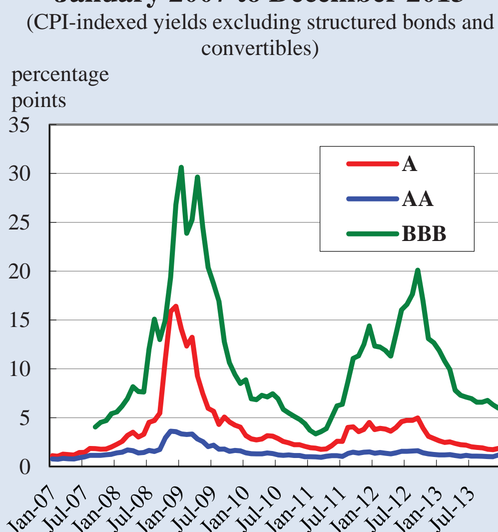
levels. The increases in share prices—alongside the decline in corporate margins, dividends and capital—led to an increase in the pricing ratios in the Israeli economy, which are at historic highs. The net P/E ratio of the TA 100 was 20.4 at the end of 2013, the dividend multiplier was 45.3, and the capital multiplier was 1.66. It is reasonable to assume that these increases reflect, inter alia, a decline in the risk premium demanded by investors.

Real and nominal yields-to-maturity on intermediate-term and long-term government bonds declined during the reviewed period, but these developments were also not uniform during the period. In August and September, both nominal and real yields increased, against the background of global factors—the increased yields worldwide due to the possibility that the Federal Reserve would reduce the volume of bond purchases—as well as domestic factors, such as the increase in geopolitical tensions, which acted to increase the credit risk and uncertainty. In the following months, declines resumed along the entire length of the curves, similar to the global trend (Figure 12). In addition, the Bank of Israel lowered the interest rate for October, which could contribute to a decline in the expected path of the Bank of Israel interest rate and support a flattening of the curves.[9]

The credit market

Credit to the business sector

Figure 14
Yield spread[1] between corporate bonds and government bonds, by rating, January 2007 to December 2013
(CPI-indexed yields excluding structured bonds and convertibles)



1 Weighted average.
SOURCE: Based on Tel Aviv Stock Exchange data.

The standstill in total credit to the nonfinancial business sector continued (Figure 13). The credit risk—as implicit in the significant decline and low level of corporate bond spreads—together with the stability in unutilized lines of credit in the banking system, indicate that the standstill stems mainly from a decline in demand, due to the moderate economic growth and moderate rate of growth in investments.

The average level of spreads in the corporate bond market continued to decline during the reviewed period, and stabilized at low levels, similar to those that were prevalent prior to the 2008 crisis (Figure 14). The average level of spreads in the market (excluding bonds of financial corporations) was about 3.75 percent during the reviewed period, a decline of about 100 basis points compared to the previous half-year. Of particular note was the decline in the spreads of corporate bonds rated BBB, which declined from about 13 percent at the beginning of the year to about 6 percent (Figure 14). However, an assessment of

9 Long-term interest rates reflect, *inter alia,* expectations of future interest rates. Therefore, a decline in long-term yields may also signal a change in these expectations.

the spreads by industry provides a more complex picture. In most industries, the spreads declined, continuing the trend that began in the previous quarter, but in the manufacturing industry and in investments and holdings, the spreads increased toward the end of the year. The balance of tradable bonds declined slightly, following negative net issuance and the debt arrangements that are taking shape, with the real estate industry being the only industry with positive net issuance.

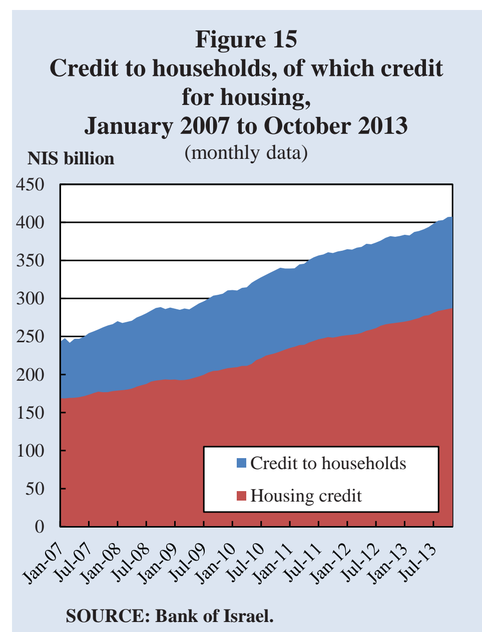


Figure 15
Credit to households, of which credit for housing, January 2007 to October 2013
(monthly data)

SOURCE: Bank of Israel.

Credit to households

During the reviewed half year, the increase in credit to households continued at the rate that has characterized it during the last three years. The growth continued to derive for the most part from housing credit (Figure 15).

Housing credit at the beginning of the reviewed period continued to be issued mostly at variable interest rates, and the share of monthly payment in borrowers' income remained high. Taking this into account, in August the Supervisor of Banks published restrictions on the issuing of housing loans, which took effect in September (and became fully applicable in November), and which apply to the payment to income ratio, the repayment period, and the portion of the loan that may be issued at variable rate interest. These macroprudential measures join measures that were taken over the past few years in order to reduce the risk both to borrowers and to the banking system.

An assessment of mortgages issued since the restrictions came into effect shows that the restrictions have reduced the risk from the new credit. This is reflected in a decline in the rate of mortgages at variable rate interest out of total new mortgages, an increase in the level of equity, and a decline in the mortgage payment to income ratio.

d. Fiscal policy

The budget deficit for 2013 was 3.15 percent of GDP, lower than the ceiling of 4.65 percent of GDP set by the government when the budget was approved. The gap between the deficit and the ceiling stems from lower expenditures than were approved, and from one-time tax receipts.

At the end of July, the Knesset approved the budget for 2013 and 2014. The budget included an immediate increase in direct and indirect tax rates, a decision to continue raising direct taxes in 2014, and a marked decline in the growth of expenditures compared to plans that had been approved to that point. The budget's approval strengthened trust in Israel's fiscal policy and

contributed to an improvement of its position in the financial markets, which was reflected in the approval of Israel's credit rating by the major rating agencies.

The lower-than-expected deficit stems from expenditures lower than what was approved, one-time tax receipts, and changes made by the Central Bureau of Statistics in how it estimates GDP, which reduced the deficit-to-GDP ratio by about 0.25 percent of GDP.[10] As to the expenditure side, the under-performance of the budget is mostly in the "miscellaneous" item and in interest expenses. As to the revenue side, tax revenues were higher than forecast, mainly due to one-time receipts from the sale of Israeli companies to foreign investors, and due to tax payments on "trapped profits".

In view of assessments of a further decline in interest expenses in 2014, as well as in view of some rescheduling of new investments in transportation infrastructure, the government decided to cancel the plan to increase income tax rates at the beginning of 2014, and to reduce planned expenditures in the reserve and interest items. These adjustments are not expected to increase the deficit to a level higher than the target of 3 percent of GDP upon which the budget was based.

e. The exchange rate

The appreciation of the shekel continued during the reviewed period, although at a more moderate pace than during the previous half year. During the reviewed period, the shekel appreciated by 2.5 percent in terms of the nominal effective exchange rate. The development of the exchange rate during the reviewed period was not uniform. Toward the end of the first half of the year, the shekel depreciated in terms of the nominal effective exchange rate, against the background of a number of developments: The Chairman of the Federal Reserve declared in May that there was a possibility that the Fed would reduce the volume of bond purchases (a declaration which contributed to a reduction in the long-term interest rate gap between Israel and the US); the Bank of Israel declared a foreign exchange purchasing program totaling $2.1 billion due to the expected improvement in the current account as a result of the start of natural gas production from the Tamar well; and the Bank of Israel decided in May to reduce the interest rate twice (in mid-May and for June). Following the dissipation of the effect created by the Federal Reserve Chairman's declaration, the shekel resumed

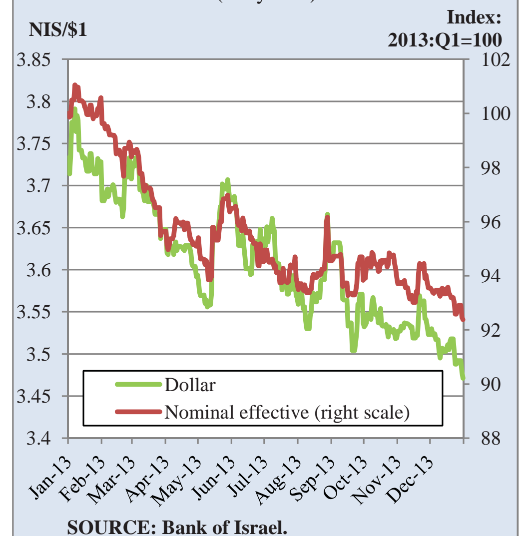
10 More information on this issue appears in Recent Economic Developments, number 136.

its appreciation in terms of the nominal effective exchange rate (Figure 16). There were a number of forces supporting the strengthening of the shekel during this period: Monetary policy worldwide remained accommodative, thereby maintaining Israel's positive interest rate gaps vis-a-vis the world's major economies (although those gaps narrowed during the reviewed period); there were continued high volumes of direct investments against the background of positive real economic activity; and there were continued expectations that the surplus in the current account would improve, against the background of the start of natural gas production in the second quarter of 2013.

Toward the end of August, the trend reversed, and the nominal effective exchange rate of the shekel declined. Among the factors supporting this decline were the increase in geopolitical risk, which was also reflected in an increase in Israel's CDS spreads (Figure 5); and the increase in uncertainty in the markets due to assessments that the Federal Reserve would reduce the volume of purchases in the bond market—assessments which contributed to increases in bond yields in the advanced economies (which reached their peak in September) and to a narrowing of the effective yield gap vis-à-vis Israel.

During September, with the moderation of geopolitical risks and the decline in volatility in global markets, the shekel again strengthened. Against the background of this strengthening, the Bank of Israel purchased foreign currency in October and December, in addition to the purchases made as part of the program intended to moderate the effect on the exchange rate of natural gas production. The Bank of Israel's intervention in the foreign exchange market was intended to moderate the serious fluctuations in the exchange rate that are not in line with basic economic conditions. Over the entire reviewed period, the shekel appreciated by about 2.5 percent in terms of the nominal effective exchange rate, and by about 4.5 percent against the dollar.

Figure 16
The NIS/$ exchange rate and nominal effective exchange rate, 2013
(daily data)

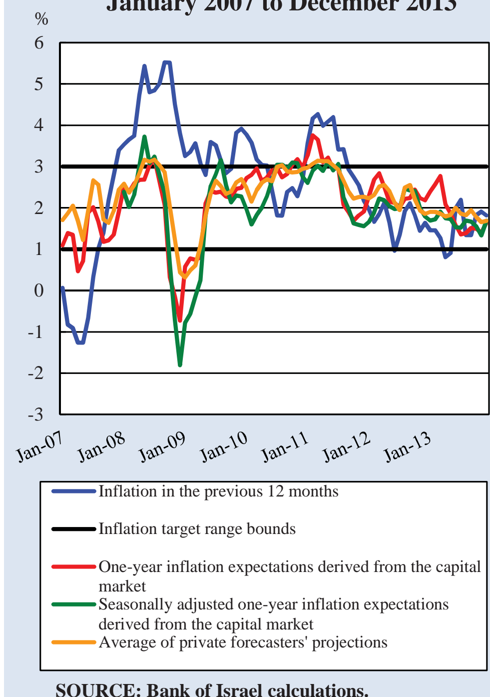


SOURCE: Bank of Israel.

f. Inflation

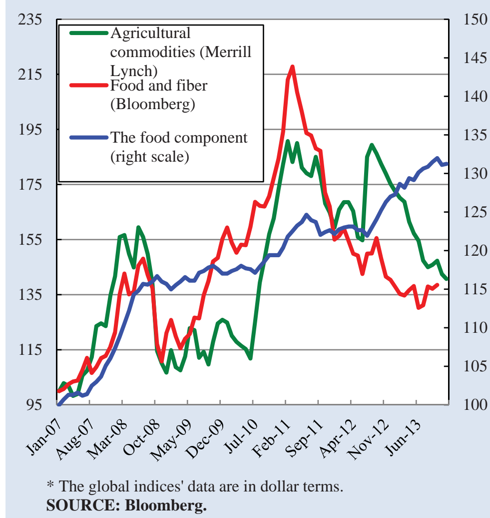
Inflation in the past 12 months was slightly below the midpoint of the price stability target range, and inflation expectations remained below the center of the range, similar to the first half of the year (Figure 17). The housing index and the food index contributed to an increase in the CPI. The Consumer Price Index increased by 0.5 percent during the reviewed period, and by 0.7 percent on a seasonally adjusted basis—an annual rate that is slightly below the center of the price stability target range. In 2013, the CPI increased by 1.8 percent, slightly below the center of the target range. Actual inflation (over the

Figure 17
Inflation and forecasts of inflation, January 2007 to December 2013



SOURCE: Bank of Israel calculations.

Figure 18
The food component in the CPI and global food indices*, January 2007 to December 2013
(January 2007=100)



* The global indices' data are in dollar terms.
SOURCE: Bloomberg.

preceding 12 months) was slightly below the center of the price stability target range for most of the year, and in the reviewed half-year. Low demand abroad, combined with the strengthening of the shekel, contributed to a moderation of prices, which was reflected, inter alia, by the fact that the energy item made a small contribution to the CPI during the reviewed period. The decline in global demand also contributed to a decline in global food and commodity prices, but this was not reflected in the CPI during the reviewed period (Figure 18).

The components that contributed prominently to an increase in the pace of inflation (Figure 19) were (a) housing prices (rents), which continue to lead the increase in the CPI during the past few years—the housing index increased by about 3 percent in the past year—and (b) food prices, which contributed 3.3 percent in the past year. In contrast, the components that contributed prominently to a moderation in the rate of inflation were (a) energy prices, against the background of low global demand, and (b) transport and communication.

During the reviewed period, various indicators of inflation expectations showed that the moderating trend of inflation is expected to continue in the coming year. Inflation expectations for the next 12 months from the various sources declined during the reviewed period to about 1.6 percent. This level derives from the fact that demand continued to demonstrate weakness during this period. In contrast, forward expectations for the coming years remained stable at about 2.5 percent.

It is worth noting that during the reviewed period, there were one-time changes that acted in opposite directions and impacted the development of actual inflation in the past 12 months. The factors that acted to increase prices in the past 12 months included the increase in VAT in June, the increase in taxes on tobacco products and alcoholic beverages, and the increases in electricity and water prices. The factor that moderated inflation was the continued decline in communications prices as a result of the structural changes that led to increased competition in the cellular communications market. The assessment is that these factors together contributed to an increase of 0.4 percent in the CPI.

Figure 19a
Cumulative rates of change in CPI components
(percent, in annual terms)

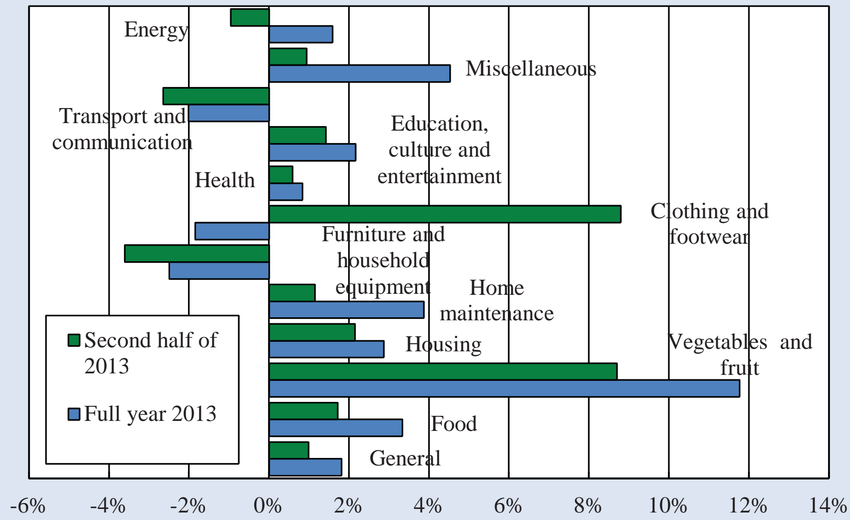
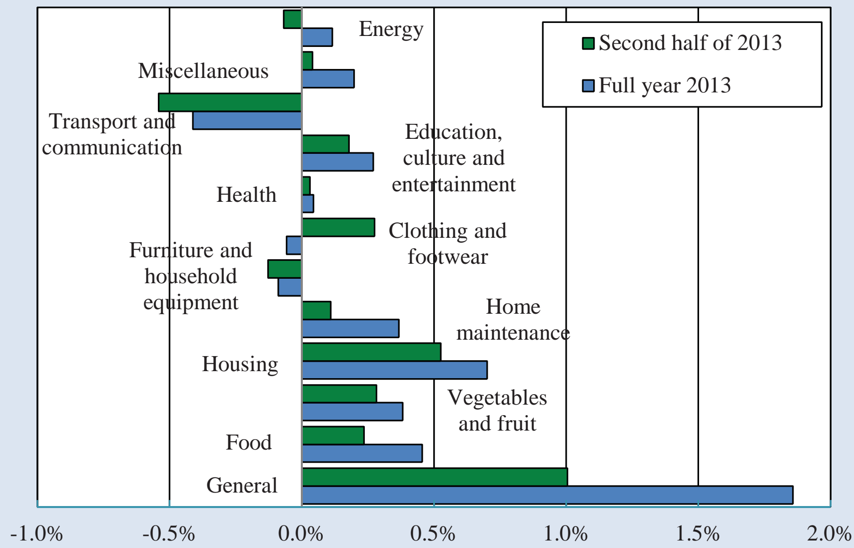
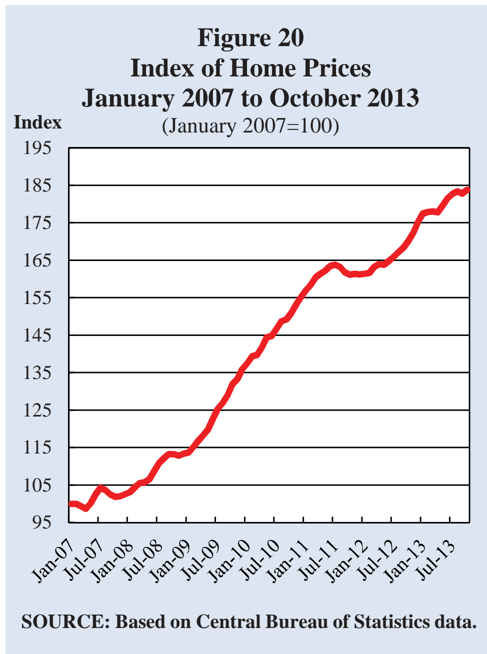


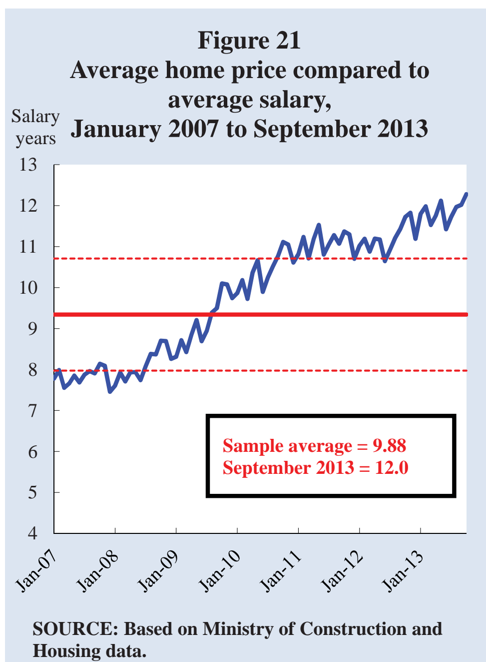
Figure 19b
Contribution of CPI components to changes in the CPI
(percent, in annual terms)



SOURCE: Based on Central Bureau of Statistics data.

g. The housing market





The trend of increase in home prices that began in 2008 continued during the reviewed period, even though it seemed in the first quarter of 2013 that it had moderated and perhaps even halted (Figure 20). In the past 12 months (November 2012–October 2013), home prices increased by 8 percent, similar to the annual rate of increase over the past ten months, and the volume of new mortgages and the number of transactions stabilized at high levels. The number of transactions even reached a yearly peak in 2013. In addition, the ratio between the average home price and the average wage per employee post, which expresses the costliness of housing prices, continued to increase during the reviewed period (Figure 21).

One of the fundamental factors affecting long-term housing prices is the rate of growth of the population. The assessment is that in total over the past three years, the number of building starts exceeded the growth in the number of households. Even though it takes time from the moment construction of a home begins until it is ready for occupancy, this data may moderate the effect on home prices of the shortage of homes that was created as a result of low building volumes in the previous decade. The number of building starts continued to grow this year (November–October), and increased from about 42,000 housing units in 2012 to 44,000 units[11] this year. Along with the increase that has taken place in recent years in building starts, the volume of building completions has also continued to increase. This year, 42,000 housing units were completed. With that, the response of housing supply to demand remained slow.

Alongside the growth in demand for housing services, there is an asset motive that also affects home prices, since homes do not serve only as residences, but also as investments for their owners. This applies to owners who live in their home, and to investors who put the homes they own on the rental market. In 2011–12, policy measures intended to reduce demand for investment homes took effect—taxation and credit measures such as the decision that mortgages to finance the purchase of an investment home shall not exceed 50 percent of the price—and it seems that these measures have reduced the volume of

11 In order to cope with housing demand, in 2011 the government established the National Housing Committees (NHCs), which shorten the time necessary for approval of construction plans by the District Planning Boards from five years to one.

investors' activity.[12] However, since monetary policy around the world remained highly accommodative, the costs of financing remained low (Figure 22), encouraging households to continue purchasing homes.

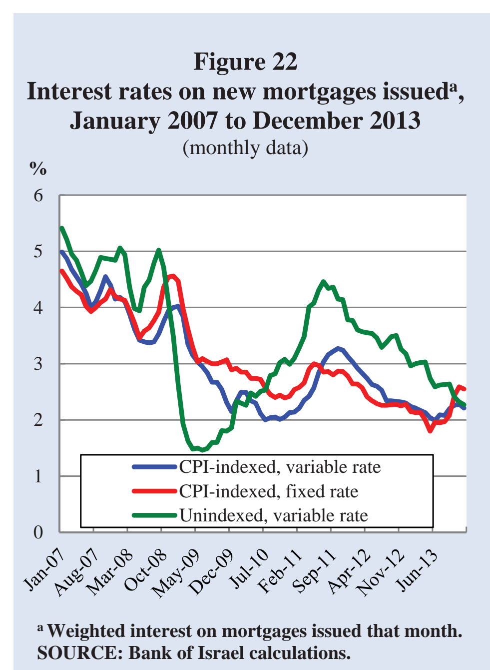


Figure 22
Interest rates on new mortgages issued[a], January 2007 to December 2013
(monthly data)

[a] Weighted interest on mortgages issued that month.
SOURCE: Bank of Israel calculations.

Unconventional monetary policy—goals and means

At the beginning of the recent global economic crisis, which began at the end of 2007 with effects continuing still in 2013, there was a marked negative impact, in some cases absolute, on the effectiveness of conventional monetary policy, which is based primarily on using the central bank's interest rate as a tool to stabilize the economy. As a result, many central banks had to adopt instruments complementary to the interest rate in order to stabilize the economy. These tools are referred to in the economic literature as unconventional monetary policy. Following is a description of the goals and means of such policy worldwide and in Israel. First, however, we clarify the concept of conventional monetary policy.

What is conventional monetary policy?

Most central banks operate, in routine times, via the interest rate that they set on short-term instruments, through which they affect the monetary base. A key short-term tool for injecting liquidity in many central banks is the provision of loans to commercial banks (or taking loans from commercial banks—that is, accepting deposits—when absorbing liquidity).[1] These are overnight loans which renew on a daily basis. Their volume changes in line with banks' demand. This is all to achieve the target interest rate[2]—the interest on 24-hour loans in interbank trade.

1 Another common instrument is the buying or selling of short-term (up to 1-year) government securities.
2 Also referred to below as "the monetary interest rate" or "the central bank interest rate".

12 More information on this issue appears under the heading "Home purchasing patterns by domestic investors, 2003–12" in Recent Economic Developments, number 136.

In order to achieve the target interest rate, the central bank uses the short-term instruments noted above in order to bring supply of the monetary base in line with demand for it, as reflected in banks' demand for reserves ("liquidity demand"). Banks' demand for reserves (and thus for central bank loans) is derived from the public's demand for credit supplied by the banks. In other words, within the framework of conventional monetary policy, the central bank declares a target interest rate and strives to achieve it by bringing the supply of the monetary base in line with the quantity demanded derived from, inter alia, the target interest rate.[3]

In this regard, it should be noted that the central bank can also increase (or decrease) the monetary base through open market operations using long-term instruments, such as by purchasing government or corporate bonds. Such activity could serve as an alternative to providing loans to banks, in terms of its effect on the monetary base. In other words, demand for the monetary base—derived from the monetary interest rate—can also be met by open market operations in long-term instruments. However, in routine times, central banks generally do not operate in this manner.[4] As will be seen below, central banks operate this way when, in addition to setting the level of the monetary interest rate, they are also interested in achieving other objectives.

Conventional monetary policy is based on the approach that the expected future path of the monetary interest rate affects the term structure of interest rates in the market, which in turn impacts on aggregate demand and economic activity.[5] The effectiveness of such policy is thus contingent on there being a very strong link between the monetary interest rate (and its expected future path) and market interest rates. One of the problems in the beginning of the last crisis was a severe malfunctioning of the financial markets, including a negative impact on—sometimes even a complete break of—the link between the target interest rate and market interest rates, which meant a severe negative impact on the efficiency of routine policy.

A special situation, which also characterized several major countries during the last crisis and negatively impacted the efficiency of conventional policy, is created when the central bank interest rate declines to zero. In such a case, the central bank provides banks (and through them, the public) with all the quantity of the monetary base desired, at no cost, (as long as they are able to put up suitable collateral). Since the monetary interest rate cannot decline, it cannot be used to affect market interest rates. In order to reduce market interest rates, unconventional monetary policy is needed.

Objectives set by central banks around the world during the recent economic crisis and the unconventional means they used to achieve them

During the crisis, central banks worked vigorously toward two objectives: (1) to restore the proper functioning of asset and credit markets, and (2) to reduce the term structure of market interest rates. In order to achieve these goals, central banks adopted several unconventional measures. These can be classified in four categories:

a. Targeted supply of liquidity—to banks, nonbank institutions, and specific markets

b. Purchase of nongovernment financial assets—mortgage-backed securities, corporate bonds, and tradable securities

c. Purchase of long-term government securities

3 Demand is determined by the banks and the public, and is derived from the target interest rate declared by the central bank.

4 Among other reasons, because this is a less efficient method to influence the monetary interest rate.

5 Demand, in turn, impacts on costs of production, which impact on the rate of inflation.

d. Improved communication with the public through forward guidance—a commitment, contingent on developments, to set a low monetary interest rate for a lengthy period of time.

The first two measures were aimed at achieving the first objective, and the last two measures were aimed at achieving the second objective. Nonetheless, all four mechanisms listed help in achieving both objectives. The four will be reviewed below.

a. Targeted supply of liquidity

At the end of the 1990s, after Japan's economy entered a recession, its central bank reduced the target interest rate (its call rate) to 0 percent, and in order to stop the deflation at that time, the Bank of Japan bought short-term government securities in order to increase the monetary base, as it assessed that that would increase aggregate demand and aid the economy to exit the recession. These activities lasted from 2001 until 2006, and the Bank of Japan called them "quantitative easing".[6] This targeted supply did not achieve its goals[7], because the Bank of Japan carried it out through short-term instruments, and when the interest rate on such instruments is 0 percent they are essentially perfect substitutes for the public's deposits in banks. Thus, this activity did not impact market interest rates, and it turned out that increasing the monetary base in and of itself does not contribute to increased demand. The banks did not utilize the excess reserves created via those operations to extend credit[8], the public was not interested in credit, and the activities to inject liquidity by the central bank ended up as an increase in the quantity of the banks' excess reserves. The monetary base increased (an issue of definition), but credit and/or broader monetary aggregates in effect did not. (In any case, it is market interest rates that impact demand, and those were not affected by the increase in the banks' excess reserves.)

The Japanese experience taught that when the interest rate is near 0 percent, there is no advantage to targeting the supply of liquidity through short-term government instruments, with the goal of increasing the monetary base. However, supplying liquidity may help if it is targeted at dealing with a specific segment of the market, and also when the target interest rate is greater than 0. For example, after the real estate bubble in the US burst, the losses of many financial and other institutions increased greatly. As a result, there was heightened concern of default by banks and other institutions, and this was reflected in, among other things, a freeze in the credit market—banks tended to hold on to the funds they received and held off granting loans. In order to thaw this freeze, many central banks acted to increase the credit targeted to banks and other financial institutions, as well as the credit to specific other entities, such as small businesses.

The ECB also acted to increase banks' liquidity, but did so through a long-term instrument: it extended long-term loans to banks in exchange for collateral in the form of loans to the public (carried out through Repo transactions).

6 In the current crisis, quantitative easing has generally been used to describe the purchase of all types of government securities (short- and long-term) to increase the monetary base. The term "quantitative" reflects the fact that the operation is accompanied by an announcement of the quantity being purchased, and when the interest rate is 0 percent it increases the monetary base by a similar amount. It should be emphasized that despite the use of the word "quantitative", in the current crisis the use of this tool was not intended to increase the quantity of the monetary base, but to reduce long-term market interest rates.

7 For an analysis and explanation, see Michael Woodford (2012): "Methods of Policy Accommodation at the Interest-Rate Lower Bound", a paper in "The changing policy landscape", a publication from a symposium in Jackson Hole, Wyoming, sponsored by the Federal Reserve Bank of Kansas City, pp. 185-289.

8 If the banks would have been interested in extending credit, they would not have needed to wait for the central bank's injections. They could have simply signaled the desire to borrow (for example, by raising the interest rate they offer the public on their deposits), and the central bank would have provided the demand.

b. Purchase of nongovernment financial assets

As noted above, there was greatly increased concern at the beginning of the crisis of defaults by banks, financial institutions, and companies. One of the expressions of this concern was a marked increase in spreads, that is, the gap between the yield to maturity on corporate bonds and the yield to maturity on government bonds with the same term to maturity, as well as the spread between the interbank interest rate and the monetary interest rate.[9] In the US, for example, the spread on corporate debt and on mortgage-backed securities increased greatly. This increase reflected a freeze in the asset market. In order to thaw this freeze, the Federal Reserve, as well as many central banks, adopted a policy of massive purchases of corporate bonds, including tradable securities and mortgage-backed securities. The Federal Reserve called these activities "credit easing". The activities contributed to reduced spreads in the markets, to a decline in the interest rate on mortgages, and to the resuscitation of the nonbank credit market. (That market had dried up during the crisis, and the credit easing allowed companies to raise funds by issuing corporate bonds at reasonable costs.)

c. Purchase of long-term government securities

These purchases were conducted primarily by the Federal Reserve and the Bank of England, with the goal of reducing long-term market interest rates and increasing asset prices, and thus supporting demand for investment and for consumption. These purchases can be divided into 2 types: (1) quantitative easing—purchases of long-term bonds in return for increasing the monetary base, and (2) **"Operation Twist"**—purchases of long-term government bonds while selling short-term government securities.

The central bank's purchases raise the price of long-term bonds (lower their yield to maturity) and change the composition of the public's assets portfolio[10]: the share of long-term bonds in the portfolio declines, while the share of short-term deposits (or short-term bonds) increases—the portfolio becomes more liquid.

Empirical research on the US economy has found that this policy had an important effect on the market. For example, in 2011 and 2012, the Federal Reserve launched its second quantitative easing program (QE2), and within the framework of that program it bought $600 billion worth of 10-year Treasury notes. It has been estimated that this reduced the yield to maturity on those securities by 0.2 percentage points. A decline of this magnitude through conventional monetary policy would have required a reduction of the monetary interest rate by 0.75–1.0 percentage points.

Beginning in December 2012, the Federal Reserve began purchasing $85 billion on a monthly basis—$45 billion in government bonds and $40 billion in mortgage-backed securities, and increased the monetary base by that amount. In this case, in contrast to previous quantitative easing programs, the Federal Reserve did not set a specific date for terminating the policy. Beginning in May 2013, the market began to formulate the assessment that the date was approaching when the Fed would begin reducing or "tapering" the amount of the monthly purchases. As a result, long-term interest rates in the US and worldwide began to increase.

9 The central bank's interest rate impacts on the interest rates that financial intermediaries offer businesses and households, and an important link in this mechanism is the wholesale trade in very large sums of money that banks transfer between themselves (interbank trade). In the current financial crisis, concerns developed among financial intermediaries about the financial resilience of their counterparties. They therefore demanded very high risk premiums in order to continue trading in the wholesale market, and sometimes halted such trading altogether.

10 Central bank purchases force the public to change its asset portfolio allocation, denoted in the literature as "portfolio rebalancing".

In the middle of December 2013, the Federal Reserve decided to reduce the scope of the monthly purchases by $10 billion, beginning in January 2014.

d. Improved communication with the public—forward guidance

Economists generally believe that when a central bank shares its assessments regarding future developments with the public, it makes an important contribution to stabilizing inflation expectations. Against this background, it has become customary at several central banks to publish macroeconomic forecasts, including about the expected path of the monetary interest rate, on a regular basis.

However, forward guidance includes another component—essentially it is a form of a commitment by the central bank to maintain a low interest rate for a longer than "usual" time. Such action is intended to maintain long-term interest rates at the current low level, through an attempt to convince the public that even when the rate of inflation increases, the central bank will not hurry to raise the interest rate. Maintaining the nominal interest rate at a low level while the inflation rate is increasing means a decline in the real interest rate, and its being left at a low level. To the extent that the public is convinced that there will be an unusually low level of the real interest rate in the future, it can dampen the impetus to save and support the desire to consume and to invest.[11]

Forward guidance has been adopted by the Bank of England, the Bank of Canada, the Bank of Japan, and the US Federal Reserve. The Federal Reserve has been announcing since the beginning of January 2009 that it intends to maintain the federal funds rate at 0 percent for "an extended period" of time. In August 2011, it sharpened its message and announced that it will leave the interest rate at its low level until the middle of 2013. In December 2012, the Federal Reserve switched from a commitment based on time to a commitment based on economic conditions, as it announced that it will leave the interest rate at its currently low level at least until the unemployment rate declines to less than 6.5 percent or until the market's inflation expectations increase to 2.5 percent. The Bank of England made a similar move and announced that it will not increase the interest rate until the unemployment rate declines to below 7 percent, and with the stipulation that financial stability will be maintained and inflation will remain low.[12] The effectiveness of these policy moves, as they were carried out, has been debated in the economic literature.

What unconventional monetary policy tools did the Bank of Israel utilize during the crisis?

The global crisis had a moderate negative impact on Israel's economy, relative to the core countries (the US, Europe, the UK, Japan, et al.), but it still left its mark—primarily after the collapse of Lehman Brothers in September 2008. Uncertainty greatly increased, stock prices declined sharply, there was a marked increase in spreads in the corporate bond market, and raising private equity essentially halted. In response to this, the Bank of Israel implemented an extremely accommodative monetary policy, which was reflected in a rapid decline in the monetary interest rate, from 4.25 percent in September 2008 to 0.5 percent in March 2009.

11 An intuitive explanation of the logic behind this move is as follows: Since the nominal interest rate at present is bound to be non-negative the public suffers a higher than required real interest rate. Using forward guidance attempts to convince the public that in the future they will be "compensated" by the interest rate being kept at a lower than "required" level for the same period of time that it suffered a higher than required interest rate.

12 Professor Michael Woodford presents the following criterion: The Federal Reserve will commit not to raise the federal funds target rate until nominal GDP returns to the level it would have attained had the crisis not occurred at all.

In addition, the Bank of Israel implemented an unconventional tool for a limited time. Between February and September 2009, it purchased government bonds (at a total amount of NIS 18 billion) with the goal of reducing long-term interest rates relative to the monetary interest rate. However, against the background of the proper functioning of financial markets in Israel, the Bank of Israel—in contrast to central banks in core countries—did not need to purchase non-government assets or to take other steps.

Another unconventional tool used by the Bank of Israel, at various times since the beginning of the crisis, is purchases of foreign exchange.[13] Early in 2008, Israel's economy grew at a rapid pace, the monetary interest rate was still relatively high, and the relative risk of the economy declined. All these were reflected in a massive capital inflow to the economy, which spurred a marked appreciation of the shekel. In order to moderate the volatility in the exchange rate, and with the intention of increasing Israel's foreign exchange reserves, in March 2008 the Bank began to purchase foreign exchange, after about a decade during which it had not intervened in the foreign exchange market.[14]

13 The unconventional tools that were noted above referred mainly to core countries. Purchases of foreign exchange primarily served countries that were not affected directly by the crisis, and which suffered capital inflows as a result of the accommodative monetary policies put in place by the core countries.

14 An expansion of this issue can be found in Chapter 3 of the Bank of Israel Annual Reports for 2009 thorough 2012.

2. MONETARY POLICY AND ITS IMPLEMENTATION

After the Monetary Committee reduced the interest rate three times in the first half of 2013—the interest rates for January, in mid-May and for June—the rate remained unchanged at 1.25 percent for July–September. The Committee lowered the rate for October by 0.25 percentage points to 1 percent, and the rate remained at that level until the end of the reviewed period. The interest rate reduction for October was intended to support the continued growth of economic activity in view of the continued stagnation in exports against the background of moderate global growth and the continued appreciation of the shekel. In September, October and December, the Bank of Israel purchased foreign currency in spot transactions as part of its foreign exchange purchasing policy, in addition to the foreign exchange purchases as part of the program declared by the Bank in May that is intended to offset the effect of the start of natural gas production. During the reviewed period, home prices continued to climb at a high rate due to the low interest rate on mortgages, and because the supply of homes is responding slowly to demand due to the slow pace of

marketing land and issuing building permits. The high volume of new mortgages is a source of risk for borrowers and, as a direct result, for the banking system. In order to reduce the risk inherent in the new mortgages, in August the Supervisor of Banks published restrictions on the granting of housing loans. These restrictions took effect in September (with full applicability in November), and apply to the payment to income ratio, the share of the loan that may be issued at variable rate interest, and the term until final repayment of the loan. These measures reduce macroprudential risk, and moderate the transmission between demand for mortgages and the Bank of Israel interest rate, thus enabling greater flexibility in decisions on the interest rate such as the decision to lower the interest rate for October. Actual inflation and inflation expectations were slightly below the center of the price stability target range during the reviewed period.

The Bank of Israel interest rate affects individuals' consumption and savings decisions, the volume of investment in the economy, the exchange rate, and through it, exports and imports. Through these channels, reducing the interest rate acts to increase activity in the economy, including in the construction industry. On the other hand, lowering the interest rate has a certain effect on the expansion of demand in the housing market through its effect on alternative yields and interest rates in the mortgage market. The Monetary Committee assessed that the macroprudential measures taken by the Supervisor of Banks in order to reduce the financial risks in the mortgage market—particularly the restrictions imposed in the past and during the reviewed period on the rate of payment out of income, the portion of the loan that may be issued at variable rate interest and the final period for repayments—markedly reduced the impact of the Bank of Israel interest rate on the interest rate for mortgages. Taking this into account, and in view of the assessment that the rapid increase in home prices derived to a large extent from a lack of supply, the Committee emphasized that the main measure that must be taken in order to support a slowdown in the pace of price increases is to expand supply by accelerating the planning processes and increasing the volume of land available for construction.

The following is a review of monetary policy on a monthly basis, and the Research Department's staff forecast which was known at the time. The staff forecast is one of the important inputs guiding the Monetary Committee in its interest rate decisions. It is updated on a quarterly basis, and is based on a wide range of sources of information on the global and domestic economies. The forecast also reflects the judgments of those who prepare it,

and is formulated with the aid of a structural macroeconometric model developed by the Research Department. The model provides a framework for analyzing the forces affecting the economy, and also serves to examine the effect of interest rate changes on the economy, and to analyze risks.

The interest rate decisions for July, August and September

In June 2013, the Bank of Israel interest rate was 1.25 percent. The Monetary Committee left the rate for July, August and September unchanged, with all three decisions being reached unanimously. In August, the Committee decided to convene to decide upon an interest rate for October[13], because the volatility in the financial markets increased due to expectations that the Federal Reserve would reduce the volume of its bond purchases, and because geopolitical concerns had increased. The real economic picture that developed during the third quarter of 2013 reflected continued stability of growth.

In June–August, the Committee members tried to assess whether the growth rate of the economy was stable and fluctuated around the level registered during the previous two years, or whether it was declining. The trends of the monthly economic indicators in June indicated the possibility that there was a decline in the growth rate of the economy in the second quarter. These included, among others, a sharp decline in the Consumer Confidence Index in May, an increase in unemployment data, and a decline in the Purchasing Managers' Index. In addition, the second revision of National Accounts data for the first quarter indicated a continued standstill in exports (excluding diamonds and startups). With that, the Monetary Committee assessed that if the increase in long-term yields in the advanced economies continues—an increase that took place during that period because the Chairman of the Federal Reserve declared in May that the Fed may reduce the volume of bond purchases—it would weaken the forces for appreciation of the shekel, thereby supporting exports.

In June, the Research Department revised its projection. The growth forecast for 2013 remained unchanged from the March forecast, but it included a significant downward revision in the uses component: The forecast projected growth in public consumption—which supports economic growth—in view of expectations that the budget would be approved in July. It also projected a decline in private consumption—due to an increase in

13 Even though the Monetary Committee decided in February to avoid making interest rate decisions in months that contained major holidays, because only a small amount of relevant data are published in those months.

indirect taxes—and included a downward revision in the export forecast in view of downward revisions of global growth forecasts and of the growth of global trade. This downward revision (of growth in global trade) also contributed to a downward revision of the growth rate for 2014, from 4 percent to 3.2 percent. With that, the staff forecast noted that the monetary policy implemented in previous months, particularly the 0.5 percentage point reduction in the interest rate since the previous staff forecast, supports economic activity and the current growth rate levels.

In July and August, the various economic indicators were more positive than in June. The third revision of growth data for the first quarter was revised upward, and the first estimate of growth data for the second quarter was high. These diminished concerns that there would be a further deterioration of the growth rate of the economy. The first estimate of economic growth for the second quarter showed a more rapid increase in growth than in past years, but the rate was affected by the start of natural gas production. The Research Department assessed that, excluding this effect, the economy continued to grow at the levels that had characterized it during the previous two years. Taking all this into account, the Monetary Committee assessed that the two reductions in the interest rate that it decided upon in May (for mid-May and for June) were in line with economic conditions for that period.

During the period, inflation expectations were below the center of the target range, and actual inflation in the past 12 months ranged around the midpoint of the target range, given that economic activity both in Israel and abroad remained moderate, with global activity acting by way of reducing the prices of imported inputs. Due to this, the Monetary Committee assessed that the inflation environment during this period did not necessitate a response by monetary policy.

During the third quarter, the annual rate of increase in home prices remained high. With that, data became available in June and July showing that home prices had declined in March–May.[14] In addition, the Central Bureau of Statistics made downward revisions to the change in prices for some of the previous months.[15] The Monetary Committee assessed during these months that these data were affected by temporary factors, such as the Ministry of Finance's temporary order that expired

14 The change in home prices, according to the Central Bureau of Statistics Survey of Home Prices, is obtained with a lag of two months.

15 The Central Bureau of Statistics revises the data because it obtains further data with a lag regarding transactions already completed.

in May.[16] In August, home prices resumed their increase, with an upward revision of the change in prices in previous months. In addition, the number of transactions continued to increase. Against the background of these developments, the Supervisor of Banks published restrictions in August on the granting of housing credit.

One of the factors that moderated the pace of growth during this period was the continued standstill in exports (excluding diamonds and startups), against the background of the continued standstill in global trade and the strengthening of the shekel. Throughout this period, the shekel continued to strengthen against the major currencies, following the temporary depreciation created by the measures in May—the two interest rate reductions (for mid-May and for June) and the declaration that the Bank of Israel would purchase $2.1 billion in order to offset the expected improvement in the current account as a result of the start of natural gas production. However, this picture changed toward the end of August: Europe moved to positive growth following six quarters of negative growth, and expectations were that this growth would continue; and the United States continued to see positive indicators that supported the assessment that the Federal Reserve would reduce the volume of bond purchases toward the end of September. These led to increases in long-term yields in the US and Europe, and to a reduction in the effective interest rate spreads vis-à-vis Israel. The Monetary Committee's assessment in August was that it was possible that the interest rate reductions around the world were near to winding down, which was expected to support exports and moderate the forces for appreciation. Due to the expected volatility in the markets as a result of expectations of an announcement by the Federal Reserve, and due to the increasing geopolitical concerns, the Monetary Committee saw fit to return to holding an interest rate discussion in September (and to return to a schedule of 12 decisions per year).

The interest rate decision for October

The members of the Monetary Committee reduced the interest rate for October by 0.25 percentage points to 1 percent. The decision was made by a majority of three to two. The monthly indicators of the state of the economy that became available in September continued to indicate a growth rate

16 The temporary order by the Ministry of Finance was intended to lower the cost of homes by granting an exemption from betterment tax on the sale of two homes.

similar to that which had characterized the past two years. At the same time, the shekel resumed its appreciation as the geopolitical concerns moderated, even though the Bank of Israel continued to purchase foreign exchange in addition to the purchases as part of the program intended to offset the effect of natural gas production. In addition, foreign trade data for the third quarter continued to indicate a standstill in exports, against the background of the continued standstill in global trade. In the US, contrary to previous assessments, the Federal Reserve decided to continue its bond purchasing program at the current pace in view of disappointing macroeconomic data.

The trends of monthly indicators of the state of the economy continued to point to the economy maintaining its growth rate of the previous two years. These included the increase in the Consumer Confidence Index and the stability of the Climate Index, which is based on the Business Tendency Survey. With that, a number of other indicators, together with the Research Department's updated staff forecast, raised doubts concerning the possibility that the economy would continue growing at the current pace which was boosted by public and private consumption and by natural gas production. In September 2013, it became apparent that public consumption would underperform relative to the budget, since the government operated for most of the year subject to expenditure restrictions based on the previous year's budget, and this was expected to have a moderating effect on the growth rate during the upcoming quarters. The marked growth in private consumption supported economic activity in the first two quarters, but was not expected to continue in the upcoming quarters. This was based on the assessment that private consumption increased due to temporary factors, such as consumers bringing forward purchases in order to avoid the increase in VAT that came into effect in June, as well as the assessment that consumption was expected to moderate due to the increase in income tax rates at the beginning of 2014.

Toward the end of August and at the beginning of September, against the background of geopolitical concerns and expectations that the Federal Reserve would reduce the volume of bond purchases, there was a decline in the exchange rate of the shekel against the major currencies. This decline was supported by the Bank of Israel's intervention in the foreign exchange market (which came in addition to the purchases as part of the program announced by the Bank in May that was intended to moderate the effect of natural gas production on the exchange rate), and by a further announcement at the beginning of October that the

Bank would purchase $3.5 billion in order to offset that effect in 2014. Despite this, the shekel resumed its appreciation in September, prior to the interest rate decision for October, once the geopolitical concerns had abated and the Federal Reserve announced that it would continue purchasing bonds at the current pace. The Federal Reserve's announcement surprised the global markets and strengthened the assessment within the Monetary Committee that a slowdown in the recovery of the advanced economies was apparent. It contributed to the continuing low levels of global demand, the continuing appreciation of the shekel and the continuing standstill in exports.

Against the background of these factors, the members of the Monetary Committee voted in favor of reducing the interest rate by 0.25 percentage points. At this discussion, there was disagreement among the members, the main points of which concerned the following factors:

The housing market—The Committee members who supported leaving the interest rate unchanged noted that vigorous activity in the housing market continued, and expressed the concern that lowering the interest rate further would affect savings patterns. The Committee members who supported lowering the interest rate noted the measures taken by the Supervisor of Banks in the previous month that were intended to moderate the effect of the Bank of Israel's interest rate on the housing market.

The economic growth environment—The Committee members who supported leaving the interest rate unchanged assessed that the current pace of growth was consistent with the level of activity in foreign economies, and that the full effect of the two reductions in May (for mid-May and for June) had not yet run its course. The Committee members who supported lowering the interest rate emphasized the assessments that the pace of growth was expected to decline in the coming quarters, against the background of the decline in exports, the appreciation of the shekel, and the slower-than-expected global recovery, which was reflected in the Federal Reserve's decision to continue its current pace of bond purchases.

The interest rate decisions for November and December

The interest rate for November and December was left unchanged, and both decisions were unanimous. The interest rates in advanced economies remained low during the reviewed months. The Federal Reserve continued its bond purchasing program apace, global growth forecasts continued to be revised downward, and the European

Central Bank lowered its interest rate by 0.25 percentage points. These developments reinforced the assessment among the members of the Monetary Committee that global growth is still moderate and fragile, and that it thereby continues to negatively impact exports. Since the appreciation in terms of the nominal effective exchange rate continued, the Bank of Israel continued to intervene in the foreign exchange market during October, which came in addition to the purchase program intended to moderate the effect of natural gas production on the exchange rate. At the same time, the Monetary Committee assessed that the low interest rate level provides a response to these developments.

Table 2:
Forecasts of inflation rate and interest rate for the coming year

(percent)

	Bank of Israel Research Department	Capital markets[a]	Private forecasters[b]
Inflation rate[c]	1.7	1.7	1.7
(range of forecasts)			1.50-2.00
Interest rate[d]	1.25	1.0	1.25
(range of forecasts)			(0.75-1.50)

[a] Average for the month of December.

[b] Inflation and interest rate forecasts are after the publication of the CPI reading for December.

[c] Inflation rate over the coming 12 months.

[d] Interest rate at the end of the fourth quarter of 2014. Capital markets forecast derived from Telbor rates.

SOURCE: Bank of Israel.

The monthly indicators that became available in October indicated that the pace of growth remained slightly lower than its level of the past two years. Foreign trade data raised concerns of a slowdown—goods exports (excluding ships, planes, fuel and diamonds) were 10 percent lower than in the second quarter. The first estimate of National Accounts for the third quarter strengthened the concern raised by foreign trade data that exports had been adversely affected. The data indicated that exports contracted and reached their lowest point since 2010. With that, private consumption continued growing at a higher rate than it had in the past two years, and there was also a high level of growth in fixed capital formation.

Even though the nominal effective exchange rate remained stable during these months, the Committee members noted the continued appreciation of the shekel during the past year and its

negative impact on exports. During this period, the International Monetary Fund lowered its global growth forecast in view of the further deterioration in the emerging economies, as well as in view of weak data in Europe, which led the ECB to lower its interest rate by 0.25 percent in November. Furthermore, the Federal Reserve continued its bond purchasing program apace. The fragility of global growth during the reviewed period worried the Monetary Committee members, since it made expansion of exports difficult.

The first indicators for the fourth quarter, which became available in November, were more encouraging. Foreign trade data for October indicated that exports grew relative to the previous month, consumer confidence indices improved, and the Composite Index increased, similar to previous months.

Over the course of the reviewed period, the inflation environment remained moderate, and inflation expectations provided by various sources remained below the center of the price stability target range.

Prices in the housing market continued to increase rapidly. In July–September, there was an increase of about 0.8 percent, and previous index readings were revised upward. With that, it seems that since the Supervisor of Banks took measures in the area of mortgages, there was a decline in the risk implicit in mortgages as reflected in the leverage rate and in the rate of repayment out of income. The Monetary Council Members emphasized that the government must expand the supply of homes.

The interest rate decisions for January and February

The interest rate for January and February remained unchanged, and the decision for January was unanimous. During the reviewed months, the trend of slow recovery in the global economy continued, led by the US. In view of the improvement in the US economy, the Federal Reserve reduced the volume of bond purchases by $10 billion per month to $75 billion, starting in January. Alongside this, the Fed declared that the federal funds rate would remain low for an extended period.

Monthly indicators that became available indicated some acceleration in growth and in exports compared to the previous quarter. Foreign trade data indicated an improvement over the previous quarter, there was prominent growth in employment in recent months (as a result of the increase in the number of positions in the public sector), and the Composite State of the Economy Index continued to increase. The Federal Reserve

indicated an improvement in employment data and real economic activity in the US, with the unemployment rate for November declining to 7 percent, and GDP growth in the third quarter being revised upward to 4.1 percent in annual terms. In view of this, the Federal Reserve announced on December 18 that it would reduce the volume of its bond purchases beginning in January from $85 billion to $75 billion. Alongside this announcement, the Fed declared that the interest rate would remain low for an extended period. The Monetary Committee assessed that the improvement in the US economy, together with the upward revisions in forecasts formulated by foreign financial institutions regarding the scope of global trade, are expected to support the continued recovery of exports. With that, the situation in the eurozone—another main destination for Israeli exports—remained mixed. There was positive growth in Spain during the third quarter, for the first time in two years, but the macroeconomic picture in Italy and France remained weak.

Home prices, which are measured by the Central Bureau of Statistics' Survey of Home Prices and are not included in the Consumer Price Index, declined by 0.1 percent in September–October, and previous index readings were revised downward. Furthermore, data on transactions showed some moderation, and data on building completions showed an increase (the number of building completions reached 41,000 units). Moreover, an assessment of data on mortgages issued since the Supervisor of Banks' restrictions took effect (in September) showed that the restrictions reduced the risk implicit in new credit. This was reflected in a decline in the portion of mortgages issued at variable interest rates out of total new mortgages, an increase in the amount of equity, and a decline in the ratio of mortgage payment to total income. The Monetary Committee members agreed that these are positive developments, but since it has been only a short time, it is still too early to determine whether this is a change in trend.

In December, the Monetary Committee members received the Research Department's updated staff forecast. According to the forecast, the inflation rate in 2014 will be 1.8 percent—slightly below the center of the price stability target range—and the Bank of Israel interest rate will increase only toward the second half of the year, to 1.25 percent. GDP growth in 2013 is expected to be 3.5 percent (compared with the previous forecast of 3.6 percent), and 2.6 percent excluding the contribution of natural gas production from the Tamar site (similar to the previous forecast). In 2014, GDP growth is expected to be 3.3 percent (compared with the previous forecast of 3.4 percent), and 2.9 percent excluding

the effect of natural gas production (2.7 percent in the previous forecast). Excluding the contribution of natural gas production, the 2014 growth forecast represents an improvement over the previous forecast, stemming mainly from an improvement in the global trade forecast and recovery in the US economy.

Table 2 shows that for 2014, the Research Department's forecast for inflation is similar to the assessment of external forecasters and expectations derived from the capital market. Regarding the interest rate expected one year forward, the expectations derived from the capital market are slightly lower than the average assessment of the forecasters and the assessment of the Bank of Israel's Research Department.

In view of the forecast that real economic activity will continue to recover and inflation will be near the center of the target range, and in view of the moderate data regarding changes in home prices, the Monetary Committee decided to leave the interest rate for January unchanged. (The discussion regarding the interest rate decision for February will be reviewed in the next report.)

Table 3: Monetary policy tools—monetary deposits and *makam*

(monthly deposits, NIS billion)

	2013	Daily	Weekly	Monthly	Total deposits
January	35	33	30	98	119
February	31	33	30	93	120
March	27	32	30	89	110
April	31	30	30	91	122
May	29	30	30	89	123
June	24	28	29	81	124
July	32	27	25	84	125
August	26	27	25	79	125
September	33	25	25	83	113
October	31	28	30	89	125
November	32	29	30	90	125
December	34	30	30	94	125
Average	30	29	29	88	122

Appendix Table 1
The inflation and interest rate environment

(change rate)

	07/13	08/13	09/13	10/13	11/13	12/13
Yield to maturity (monthly averages)						
3-month *makam*	1.2	1.2	1.2	1.0	0.9	0.9
1-year *makam*	1.2	1.2	1.2	1.0	0.9	0.9
5-year unindexed notes	2.5	2.6	2.8	2.5	2.3	2.3
10-year unindexed bonds	5.3	5.4	5.4	5.3	5.2	5.2
20-year unindexed bonds	-0.2	-0.2	-0.3	-0.5	-0.5	-0.7
1-year CPI-indexed notes	0.4	0.4	0.5	0.2	0.1	0.1
5-year CPI-indexed notes	1.6	1.8	1.9	1.7	1.5	1.5
10-year CPI-indexed bonds	1.0	1.0	1.0	1.0	0.9	1.0
Yield spread between government bonds and corporate bonds rated AA-AAA (percentage points)*	6.4	6.0	4.2	4.2	4.5	4.4
Stock market (percent change during the month)						
Tel Aviv Stock Exchange (overall)	1.0	-1.1	4.8	1.6	4.6	-0.9
Tel Aviv 25 Index	1.1	-2.1	7.3	1.8	5.4	-2.1
Foreign exchange market (percent change during the month)						
NIS/$	-1.4	1.3	-2.1	-0.5	0.1	-1.5
NIS/€20	0.2	1.2	-0.2	0.6	-0.1	-0.3
Nominal effective exchange rate	-0.8	0.9	-0.8	0.1	-0.4	-1.3
Risk indices derived from shekel-dollar options trade (monthly averages)						
Implied volatility	9.9	8.7	9.7	8.5	7.7	7.6

* The calculation was changed to CPI-indexed bonds, excluding convertible bonds, with a yield of up to 60 percent and a duration longer than six months.

**The spreads between each corporate bond series and the comparable duration "Galil" bond.

SOURCE: Bank of Israel calculations.

Appendix Table 1
Rates of change in the domestic asset markets

(monthly average)

	07/13	08/13	09/13	10/13	11/13	12/13
Inflation environment (percent)						
Monthly change in the CPI	0.3	0.2	0.0	0.3	-0.4	0.1
Private forecasters' projections of the montly CPI (average of projections prior to publication of the CPI)	0.3	0.4	0.2	0.0	-0.2	0.2
Change in the CPI over preceding 12 months	2.2	1.3	1.3	1.8	1.9	1.8
Inflation expectations for the coming year as derived from the capital market	1.4	1.4	1.5	1.5	1.4	1.6
Private forecasters' projections of inflation in the coming year	1.9	1.8	1.9	1.8	1.7	1.7
Inflation expectations for various terms*						
Inflation expectations for the short term (the second and third years)	2.4	2.6	2.6	2.7	2.8	2.8
Inflation expectations for the medium term (the fourth through sixth years)	2.4	2.4	2.3	2.4	2.4	2.3
Inflation expectations for the long term (the seventh through tenth years)	2.4	2.3	2.3	2.2	2.4	2.4
The interest rate and interest rate spreads						
Bank of Israel interest rate	1.25	1.25	1.25	1.01	1.00	1.00
Real interest rate for the year derived from the zero curve	-0.16	-0.2	-0.3	-0.5	-0.5	-0.7
Short-term interest rate spread between Israel and the US	1.00	1.00	1.00	0.76	0.75	0.75
Short-term interest rate spread between Israel and Europe	0.75	0.75	0.75	0.51	0.70	0.75
Private forecasters' projections of the change in the Bank of Israel interest rate (average of projections prior to publication of the decision)	-0.1	-0.1	-0.1	0.0	0.0	0.0
Private forecasters' projections of the interest rate in one year	1.1	1.1	1.3	1.2	1.1	1.1
Long-term nominal interest rate differential between Israel and the US	1.4	1.4	1.4	1.4	1.2	1.0
Long-term real interest rate differential between Israel and the US	1.2	1.2	1.2	1.3	1.0	0.8

* Inflation expectations are measured by the difference in yields between indexed and unindexed shekel bonds. The measured expectations also include a risk premium component, which grows as the expectation horizon lengthens.

SOURCE: Based on Central Bureau of Statistics data and reports by private forecasters.