Bank of Israel

INFLATION REPORT

October-December 2010

33

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Letter of the Governor accompanying the Inflation Report for October–December 2010

This Inflation Report, covering the fourth quarter of 2010, is submitted to the government, the Knesset and the public as part of the process of assessing the inflation rate in relation to the inflation target set by the government. The Report was prepared in the Senior Monetary Forum of the Bank of Israel, headed by the Governor, the forum in which the Governor makes decisions on the interest rate.*

In the fourth quarter of 2010 the recovery of economic activity and employment that had started in mid-2009 continued, and indications of increased inflationary pressures are evident. The CPI increased by 0.7 percent in the fourth quarter of 2010; excluding the seasonal components—fruit and vegetables, and clothing and footwear—it increased by 0.2 percent in the quarter. The 1.4 percent increase in the energy and food components of the index was faster than that in the other items, and they pulled the overall index upwards. The housing component (based on rentals), the prime inflationary factor in the previous months, moderated in the fourth quarter. Inflation over the previous twelve months increased slightly in the fourth quarter compared with the third, to 2.7 percent. According to the survey of house prices, the purchase prices of houses accelerated in October–November following two months of slower increases.

Indicators of real economic activity in the fourth quarter—from the Bank of Israel Companies Survey, the composite state-of-the-economy index, and nowcasting models for that quarter—pointed to a continuation of the trend of expansion at a rate similar to that in the previous quarter. According to the latest data available, investments and exports increased rapidly, and private (including current) consumption increased moderately after remaining stable in the third quarter. The forecast for the fourth quarter is partly based on the National Accounts data for the third quarter, which showed a GDP growth rate of 4.4 percent, steady private consumption, continued rapid increase in investment, and stable goods and services exports.

Labor market data for the third quarter of 2010 and indicators relating to the fourth quarter show a relatively low rate of unemployment (from a historical perspective), although it did increase in the fourth quarter as a result of a higher participation rate in the labor market. At this stage, however, no significant wage pressures are evident. Although the real and nominal wage both increased in the third quarter, unit labor costs (which take labor productivity into account) declined in that quarter. The Companies Survey, however, shows companies in most industries reporting greater (albeit only slightly greater) difficulty in recruiting skilled workers, indicating a convergence to full employment.

The growth trend in the global economy continued in the third quarter of 2010. Growth in the advanced economies, however, is still low relative to potential, despite the increased growth rate in the US and Japan in the third quarter. In Europe the growth rate slowed a little, and the labor markets in the advanced economies are as yet showing no signs of recovery, and rates of unemployment are still high. Several indicators suggest that the faster recovery in the emerging market economies (faster than in the advanced economies) continued in the fourth quarter, and against that background the increases in interest rates in the emerging markets together with the fact that the expected timing of increases in interest rates in the advanced economies (mainly in the US and Europe) was put back to the end of 2011 continued to encourage capital inflows into the emerging markets, as well as into Israel.

In the course of the fourth quarter the Bank of Israel continued with the gradual process of increasing the interest rate, with the primary intention of firmly settling the inflation rate within the target inflation range, while supporting economic activity and preserving financial stability. Thus the interest rate for October was increased by 25 basis points to 2 percent, and was kept at that level in November and December, as well as in January of 2011. Consistent with the monetary policy goals and particularly with the recent increase in inflation expectations, the Bank of Israel further increased its interest rate to 2.25 in February 2011.

Balance of payments figures show that in the fourth quarter the flow of capital into Israel mainly took the form of purchases of makam (short-term bills issued by the Bank of Israel) and deposits in Israeli banks by nonresidents rather than direct investments (FDI) or purchase of shares. This brought the share of makam held by nonresidents to about a quarter of the total stock of makam. The implication is that this capital inflow, which is motivated mainly by short-term considerations, affects the exchange rate. In order to reduce the influence of the short-term inflows on the exchange rate, the Bank of Israel has been intervening in the foreign exchange market.

In order to improve its ability to analyze transactions and trends in the foreign exchange market, the Bank of Israel imposed in January 2011 a reporting obligation on Israeli residents and nonresidents who perform transactions in foreign exchange swaps and forwards of more than $10 million in one day. Nonresidents who perform transactions in makam and short-term government bonds of more than NIS10 million in one day are also required to report details of the transactions. In addition, to strengthen the Bank of Israel's ability to achieve the objectives of its monetary, foreign exchange and financial stability policies, the Bank of Israel further imposed a reserve requirement on banking corporations for foreign exchange derivative transactions with nonresidents. A 10 percent reserve requirement applies to NIS/foreign exchange swap transactions and NIS/foreign exchange forwards.

The nominal effective exchange rate of the shekel and the real exchange rate remained basically unchanged at the beginning of the fourth quarter, but in the second half of the quarter they showed appreciation of the shekel, following the widening of the interest rate differential between Israel and the leading economies in October, and against the background of the surplus in the current account.

In light of the considerable increases in house prices (relative to the overall increase in the CPI) and in the volume of housing credit, and despite assessments that there was no bubble in the housing market, in October 2010 the Bank of Israel introduced macroprudential measures aimed at increasing the interest rate on floating interest rate mortgages, aimed at reducing the exposure of the public and the banks to interest rate and credit risks in the housing market.

The main dangers confronting Israel's economy are: (a) the uncertainty in the global economy regarding growth, particularly uncertainty about the handling by some European countries and the US of their fiscal deficits (the degree of fiscal consolidation required and their ability to implement it), and its effect on the global economy and particularly on Israel's economy via the demand for Israel's exports; and (b) the apparent upward trend in prices in the commodity markets around the world, which is likely to boost inflation world wide and in Israel.

The Bank of Israel will continue to monitor economic developments in Israel and world wide and will continue to act to keep inflation within the target range, while supporting real economic activity and financial stability. The path of the interest rate will be determined in accordance with the future inflation environment, economic conditions, global developments, including the path of interest rates abroad, and taking into account developments in the exchange rate of the shekel.

Stanley Fischer

Stanley Fischer
Governor, Bank of Israel

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Summary*

- **Inflation:** The CPI rose by 0.7 percent in the fourth quarter of 2010 (the quarter reviewed). The main reason for the rise in the index was the increase in energy and food prices, against the background of their increases world wide. The rate of inflation over the previous twelve months was within the inflation target range, and in December it was 2.7 percent. Inflation expectations for all periods were close to the upper limit of the inflation target range throughout the period reviewed.

- **The global economic environment:** The recovery process in the global economy continued during the fourth quarter, with the emerging market economies growing faster than the advanced economies. At the same time there was a rise in the risk level of European countries experiencing debt crises. Against the backdrop of different rates of growth, interest rates were higher in the emerging economies than in the advanced ones, which encouraged the flow of capital into the former and in some of them led to more active policies of intervention in the foreign currency markets and the imposition of restrictions on capital flows. In light of the low rates of growth in the major advanced economies and uncertainty about their sustainability, their central banks are expected to start increasing their interest rates only at the end of 2011.

- **Real activity:** In the third quarter of 2010 Israel's GDP grew by 4.4 percent (in annual terms), lower than the rate in the third quarter, due to a slower increase in exports and a decline in private consumption. Indicators of economic activity in the fourth quarter point to continued growth at a rate similar to that in the third quarter.

- **The exchange rate:** At the beginning of the fourth quarter the nominal effective exchange rate showed no significant change, and in the second half of the quarter it reflected shekel appreciation of 4 percent, against the background of the interest rate differential between Israel and the leading economies, and the surplus in the current account.

- **The financial markets:** Share price indices in Israel increased in the fourth quarter, in line with the trends in the leading stock markets, and in contrast with developments in those European countries which were experiencing debt crises, where the risk level rose and share prices fell.

- **Monetary policy:** In the fourth quarter of 2010 the Bank of Israel continued along the path of gradually returning the interest rate to its normal level, with the intention of firmly settling inflation within the target range, while supporting real economic activity and maintaining financial stability. To achieve its policy objectives, the Bank of Israel employed a variety of the tools available to it—its interest rate, intervention in the foreign currency market, and macroprudential measures. The Bank increased the rate of interest for October by 25 basis points, to 2 percent, and kept it at that level up to and including January 2011, increasing it again for February, to 2.25 percent. In the course of the fourth quarter the Bank bought about $5.2 billion, partly countering the forces acting to strengthen the shekel. After the end of the quarter reviewed herein, the Bank of Israel imposed an obligation on nonresidents to report derivative transactions in foreign currency or *makam* (short-term Bank of Israel bills), and on Israelis to

* The monetary regime within which the Bank of Israel operates is aimed at achieving price stability, defined as inflation rate of between 1 percent and 3 percent a year. (For details see Box 1 in the Bank of Israel Inflation report No. 17, July–December 2005.)

report certain foreign currency transactions. The Bank also imposed a liquidity requirement on banks for derivative transactions in foreign currency vis-à-vis nonresidents. In light of the rapid increase in house prices and the amount of housing credit, and because of their possible effect on the stability of the financial system, the Bank of Israel Supervision Department introduced measures to reduce the financial risk in the housing market (macroprudential steps).

- **The Bank of Israel Research Department forecast:** The Research Department assesses that inflation in the next twelve months will be 2.6 percent, with the interest rate increasing gradually to reach 3.3 percent in the last quarter of 2011.

1. THE BACKGROUND AND INFLATION

In managing monetary policy, the Bank of Israel monitors developments in the global environment, in inflation, and in real and financial activity in Israel. By monitoring the entire range of developments, it is possible to discern the markets' reaction and the likely implications of this reaction on inflation, and thus to determine the level of interest rate suited to the attainment of the inflation target in the near future while encouraging employment and growth, and maintaining stability in the financial markets. During the fourth quarter of 2010, the Bank of Israel continued the gradual process of restoring the interest rate to its normal level, and adopted a policy conforming to its assessment of the following effects on the economy: (1) the continued recovery in the global economy with the attendant uncertainty regarding its sustainability; (2) the very low levels of central bank interest rates in the major economies, the expectation that they will remain at those levels for a considerable time, and the measures of quantitative easing adopted in those countries; (3) the continued rebound in the real sector, and the reduction in excess production capacity; (4) the fact that the inflation environment is within the inflation target range, even though it is in its upper part; (5) the rapid increase in house prices; and (6) the continued pressures for shekel appreciation.

Described below are the principal developments in the global economy, the exchange rate, real activity, financial activity and inflation, developments which make up the background against which the Bank of Israel made its monetary policy decisions.

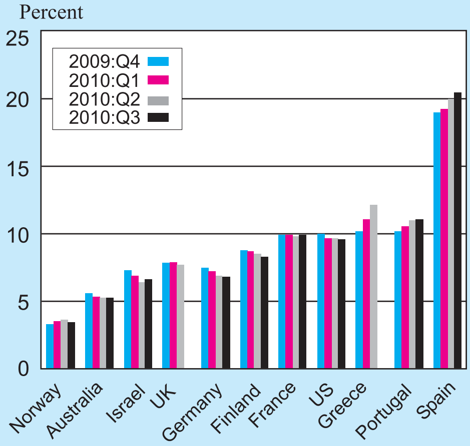
a. The global environment

(1) Real activity world wide

The growth trend in the global economy continued in the second half of 2010. In the advanced economies growth was moderate, and was based on monetary expansion. National accounts data[1] for the third quarter of 2010 and indicators of real economic activity in the fourth quarter show that there was positive growth in most countries in the second half of 2010. Growth in the advanced economies, however, was slower than that which generally characterizes countries exiting from recessions. There was accelerated growth in the third quarter in the US, to a rate of 2.6 percent, and in Japan, to 4.5 percent, whereas in Europe growth slowed to about 1.5 percent. In all those countries there is as yet no evidence of recovery in the labor

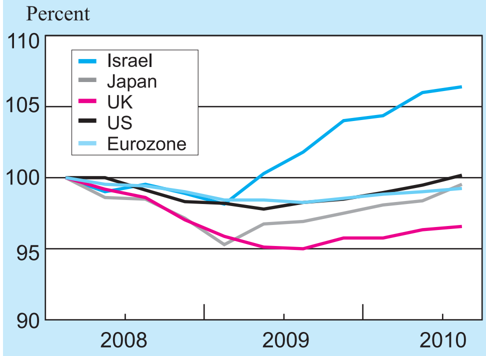
[1] National accounts data are given in annual terms, seasonally adjusted.

Figure 1
Unemployment Rates in Selected Countries, 2009:Q4 to 2010:Q3



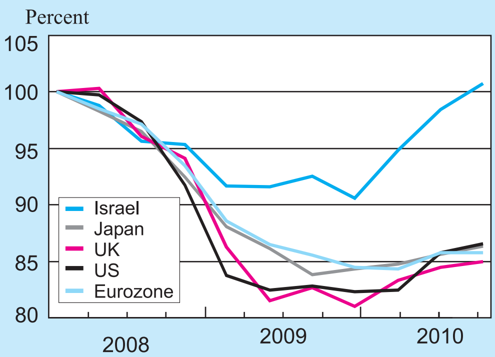
SOURCE: Based on OECD data.

Figure 2
Private Consumption in Selected Countries, 2008 to 2010:Q3, at constant prices (index 2008:Q1 = 100)



SOURCE: OECD.

Figure 3
Fixed Capital Investment in Selected Countries, 2008 to 2010:Q3, at constant prices (index 2008:Q1 = 100)



SOURCE: OECD.

market, and unemployment remains high (Figure 1). Against the background of their high rates of unemployment, private consumption in the advance economies is showing only a slow rate of recovery (Figure 2), and fixed investment is significantly lower than its pre-crisis level (Figure 3). Moreover, Europe is not recovering at a uniform pace, and countries with debt problems are showing low or even negative rates of growth against the background of measures taken to reduce their fiscal debts.[2] It seems, therefore, that growth in the advanced economies is based mainly on exceptional monetary expansion, and in the US and Japan also on fiscal incentive programs. Concern that the ending of these programs would harm the recovery resulted in the US government announcing that it would continue with the incentive program,[3] and the Japanese government announcing a taxation program intended to provide relief for the business sector.

In the second half of 2010 the growth trend in the emerging market economies also continued. Nevertheless, whereas China and India continued to show rapid growth rates in the third quarter, others recorded a slowdown in their rate of recovery. Thus, Brazil's growth rate dropped from 7.2 percent in the second quarter to only 2.1 percent in the third. The slowdown in recovery rates was due to two main factors. The first was the decline in the expansion of world trade (Figure 4), and the second was the reduction in excess production capacity following several months of rapid growth. According to indicators of real economic activity, the growth trend continued in the emerging market economies also in the fourth quarter.

2) Financial stability around the world

The risk level of most financial markets around the world declined in the fourth quarter, against the background of encouraging macroeconomic data and the announcement of another quantitative easing program in the US. In contrast, the risk level of several European countries suffering debt crises rose. Following the publication of buoyant macroeconomic figures in the fourth quarter, and against the background of the expectations of another program of quantitative easing in the US and its actual announcement, the risk level of financial markets declined (the implied volatility of options fell, Figure 5) and the leading share indices increased (Figure 6). Concurrently the yield on US and eurozone government bonds increased. This increase apparently reflected a rise in investors' expectations

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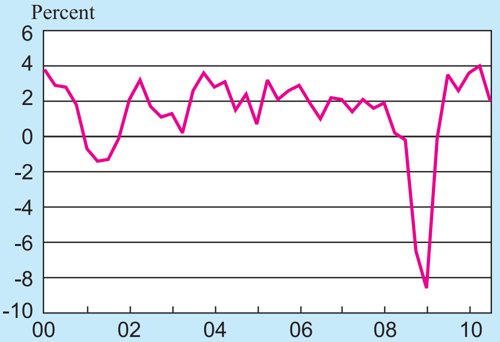
[2] For a detailed discussion of programs to reduce fiscal debts in European countries, see Box on page 13 in Inflation Report No. 31.

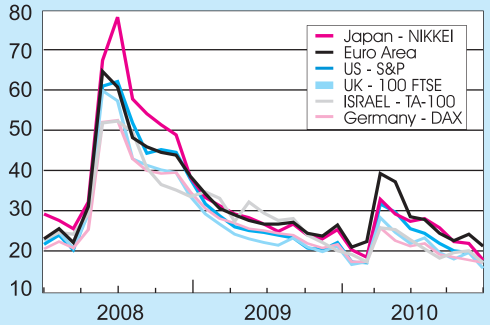
[3] See the White House memorandum dated December 10, 2010.

Figure 4
World Trade in Goods and Services (quarterly rates of change, 2000 to 2010:Q3)



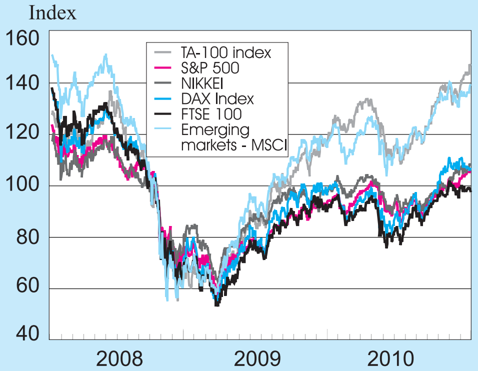
SOURCE: OECD.

Figure 5
Implied Volatility Derived from Share Options in Selected Countries, June 2008 to December 2010 (monthly averages)



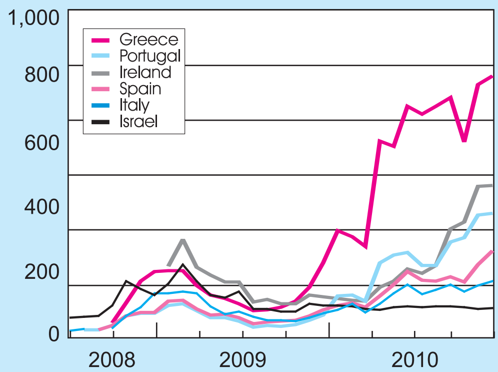
SOURCE: Bloomberg.

Figure 6
Share Indices Around the World (Based on Dollar Prices), 2008 to December 2010 (daily data, 15 September 2008 = 100)



SOURCE: Bloomberg.

Figure 7
CDS Spreads in Selected Countries, June 2008 to December 2010, (monthly averages)



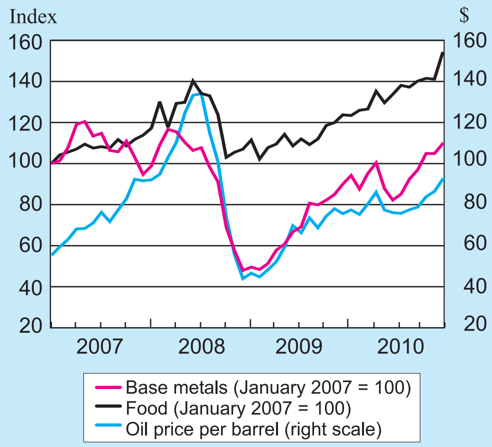
SOURCE: Bloomberg.

regarding future growth, although some of the increase may have derived from the higher risk on bonds due to large fiscal debts and the continued fiscal incentive program in the US. In contrast to the situation described above, the financial risk of some European countries with debt problems increased. CDS spreads of Belgium, Greece, Ireland, Italy, Portugal, and Spain widened (Figure 7), and they are now at high levels. At the same time the rating agencies reduced the rating of those countries or warned of future reductions in their rating. The rise in financial risk of European countries with debt crises increased the financial risk of European banks and led to a drop in the price of their shares, due to their exposure to those countries' bonds. The rise in the leading share price indices around the world at the same time as the fiscal debt problem in some European countries intensified is evidence of the fact that investors assess that the probability of the European debt problem leading to another global crisis and recession has declined.

(3) Global inflation

Commodity and energy prices increased steeply in the fourth quarter, continuing the trend that had started at the beginning of 2009. Commodity and energy price indices continued to follow their upward trend in the fourth quarter, with further steep increases (Figure 8). Food price indices rose by about 10 percent in the quarter, surpassing their previous peak level recorded in mid-2008, metal prices increased by 13 percent, and oil prices by 18 percent. There were three main reasons for the increase in commodity and energy prices: first, an increase in demand, mainly from the emerging market economies, resulting from their economic growth; second, weather conditions and fires that reduced supply; and third, in the assessment of investment houses around the world there are speculative forces that contribute to the sharp increases in the commodity and energy markets. Whereas the second and third reasons relate to passing conditions, the increase in global demand is likely to have a long-term effect on commodity prices.

Figure 8
Price Indices of Base Metals, Food, and Oil, 2007 to December 2010



SOURCE: Bloomberg.

In the fourth quarter of 2010 inflation in the advanced economies remained at a low level, while the emerging market economies recorded high inflation rates. As a result of excess production capacity and slack labor markets, inflation in the advanced economies remained low (Table 1) (except for the UK, where inflation exceeded an annual rate of 3 percent due to the increase in VAT and depreciation of the pound sterling). In the emerging economies significant inflationary pressures are evident as a result of their rapid growth rates and the increase in

Table 1
The CPI and Selected Components in Israel and Abroad

(percent change)

	Israel				US				Europe			
	2009	2010	2010: Q3*	2010: Q4*	2009	2010	2010: Q3*	2010: Q4*	2009	2010	2010: Q3*	2010: Q4*
CPI	**3.9**	**2.7**	**5.0**	**3.0**	**2.7**	**1.5**	**0.9**	**1.4**	**0.9**	**2.2**	**0.3**	**4.4**
CPI (seasonally adjusted)[a]			**5.0**	**3.4**			**2.7**	**3.5**			**2.1**	**4.0**
Energy[b]	13.0	-0.4	3.1	11.8	18.2	7.8	-3.2	16.1	1.8	11.0	0.8	15.5
Food (excluding fruit and vegetables)	1.1	2.0	3.5	2.7	-0.5	1.5	1.8	1.3	0.7	1.5	0.9	3.1
Fruit and vegetables	8.4	16.0	71.0	-3.4	-3.0	1.4	-4.5	12.9	-1.5	3.2	-2.6	5.1
Housing	5.6	4.9	14.3	-2.9	-0.3	0.3	-0.3	-0.8	1.7	1.3	1.4	1.0
CPI excluding energy, food, and fruit and vegetables	**3.4**	**2.5**	**3.0**	**2.8**	**1.8**	**0.6**	**0.7**	**0.7**	**1.0**	**1.1**	**0.4**	**3.1**

[a] The estimates of the CPI (seasonally adjusted) for Israel are Bank of Israel calculations. The estimates of the CPI (seasonally adjusted) for Europe do not include tobacco products.
[b] An index made up of several components of the CPI.
* In annual terms.
SOURCE: Based on Central Bureau of Statistics, ECB, Eurostat, and US Bureau of Labor Statistics data.

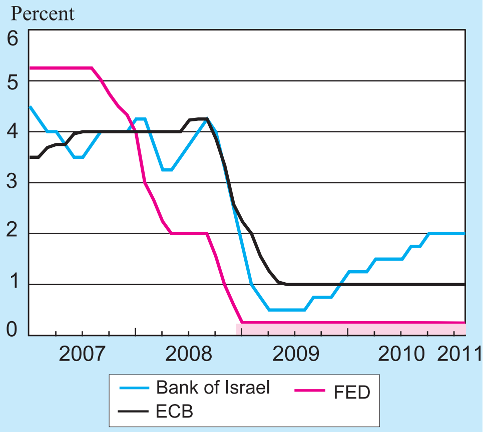
food prices, which constitute a major component in the CPI in those countries. Thus inflation rose to high levels in most of those countries in the fourth quarter. For example, in China inflation reached 4.5 percent in 2010, and in Brazil, 6 percent.

(4) Monetary policy world wide

Monetary policy in the advanced economies was highly expansionary, and in the US it became even more so in the fourth quarter. In light of excess production capacity, the expectation of a slow and lengthy recovery process, and the low inflation environment, the central banks of the major advanced economies held their interest rates at the near-zero rates they had reached in 2009 (Figure 9), and are not expected to start increasing the rates before the end of 2011. Moreover, the US Federal Reserve announce another program of quantitative easing that included the purchase of some $600 billion of government bonds, and the European Central Bank (ECB) announced that it would continue with full allocation of liquidity tenders (tenders in which the total amount requested is supplied)—tenders which had been expected to end in the fourth quarter.

In the emerging economies and in advanced economies that had not been caught up in the maelstrom of the latest financial crises, policymakers had to strike a balance between maintaining price stability and dealing with the pressures for appreciation of their currency. Hence, in the fourth quarter

Figure 9
The Short-Term Interest Rate in Israel, the US and the Eurozone, 2007–January 201



SOURCE: The Bank of Israel, the ECB and the FED.

the policy of intervening in the foreign currency market was pursued more actively. In the emerging economies and in those advanced economies that had not been greatly affected by the latest financial crises, policymakers had to deal with inflationary pressures on the one hand, and with appreciation of their currencies that would probably impact on their exports and growth, on the other. Hence, interest rate policies of the central banks in those countries differ from one another. Thus, for example, China's central bank increased its interest in December, the second increase in three months, after it avoided doing so since the outbreak of the crisis; Turkey's central bank, in contrast, decided to cut its interest rate for December, one of its considerations being the need to reduce the capital inflow into Turkey caused by the interest rate differential between it and the major economies. With the aim of dealing directly with the appreciation of their currencies and capital inflows into their economies, several countries increased their intervention in the foreign currency market, both directly by trading in the market, and by tightening the restrictions on capital flows. (See table in Box below for details of foreign currency policy steps in some other economies.)

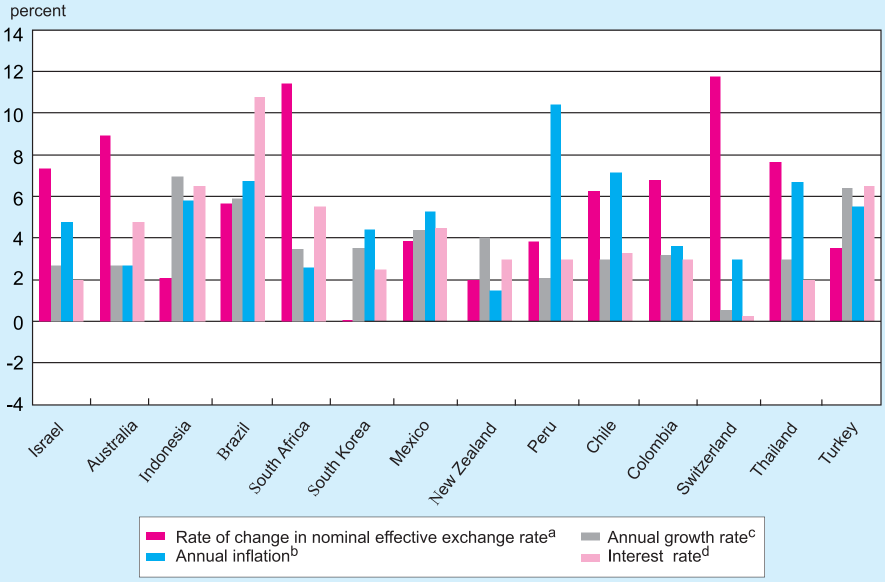
Intervention in the foreign currency market in economies abroad

In the past year, many countries have faced a challenge similar to that confronting the Israeli economy—rapid recovery of the real sector relative to the large developed markets, resulting in higher interest rates and the development of capital inflow and appreciation pressures. This box shows that various countries have coped with their recent capital inflows and the acceleration of pro-appreciation forces by intervening directly in their foreign currency markets and imposing restrictions on capital inflows.

As the global economy began to climb out its global crisis in 2009, the pace of the recovery varied from country to country. In countries that rested at the focus of the financial crises, foremost the large developed markets, the recovery has been typified by sluggishness and severe uncertainty about the extent of its perseverance and has been based mainly on expansionary policies. In contrast, countries outside the focus of the financial crises, most of which are in the emerging market class, rebounded more quickly and posted higher growth rates than the large developed markets did.

Due to the different rates of recovery, different macroeconomic conditions have taken shape between the large developed markets and those outside the focus of the financial crises (see figure). Given the developed markets' recessionary levels of activity, inflation remained restrained, interest rates stayed at the low levels that had been established pursuant to the global crisis, and, in some countries, quantitative easing programs continued. In the emerging markets, in contrast, the rapid recovery caused excess production capacity to contract appreciably, resulting in higher inflation

Macroeconomic Data on Selected Countries that Intervene in the Foreign Currency Market



[a] Rate of change of the nominal effective exchange rate during 2010 (excluding Colombia where the figure is for the rate of change in the exchange rate against the dollar). A rise means appreciation of the currency.
[b] Rate of inflation during 2010.
[c] Rate of growth from 2009:Q3 to 2010:Q3.
[d] Interest rate level at the end of 2010.

SOURCE: Bloomberg, BIS, and central banks.

rates. In response to the upturn in inflation, several central banks began to raise their rates, which had surpassed those in the large developed markets to begin with. The interest spread and the difference in growth rates between countries outside the focus of the crisis and the large developed markets, and the expectation that these macroeconomic conditions would persist for much time to come, made investment in countries in the former class much more advisable. Consequently, large-scale capital inflows to these markets ensued.

The large capital inflows conduced to several risks. First, capital inflows have a pro-appreciation effect; indeed, countries outside the spotlight of the financial crises have experienced significance rates of appreciation.[1] By harming export profitability, this appreciation may dampen exports and slow the recovery. The capital inflows also pose a risk to the stability of the financial system because they may induce a surge in demand for financial assets, increase the amount of credit in the economy, and, for these reasons, lead to the development of asset price bubbles.

In view of the risks originating from large capital inflows and to offset the pro-inflow and pro-appreciation forces somewhat, several countries have begun operating in their foreign currency markets in the past year and countries already active in these markets have intensified their policy measures. Policy measures relating to the foreign currency market fall into two main groups: direct intervention in domestic foreign currency trading and the revision of restrictions on capital flows.

[1] In Japan, although it is a developed economy that was badly hurt by the crisis and has been recovering from it slowly, there has been considerable appreciation, prompting the Bank of Japan to intervene in the foreign-currency market in September 2010 by selling large quantities of yen.

Direct intervention in foreign currency trading takes place when the central bank sells domestic currency or buys foreign currency, sometimes as part of a program for the buildup of the foreign reserves. By acting in this manner, the central bank attempts to influence the exchange rate directly and to enhance the stability of the financial system by increasing the foreign reserves. The main changes in the restrictions on capital flows are: increasing taxation on nonresidents' investments in order to make them less worthwhile and stem the capital inflow; restricting the volume of foreign currency transactions the domestic banks may undertake; increasing their reserve requirements, and imposing a liquidity provision on them for their foreign currency transactions; and easing the restrictions on local investors' foreign investments, which may induce a larger capital outflow (and, in turn, reduce the net capital inflow). An itemization of main countries' measures in foreign currency markets appears in the table below.

Foreign Currency Market Intervention in Main Countries*

	Exchange rate policy		
Country	Direct intervention	Restriction of capital flows	Description
Australia	√		The Reserve Bank of Australia is active in the foreign currency market. In each month from 04/2002 to 11/2010, it intervened in foreign currency trading, mainly by buying. Total purchases (up to November) were $5.8 billion.
Indonesia	√	√	Bank Indonesia extended the payback term for monetary loans. Since monetary loans in Indonesia are not tradable, the significance of this act was the prolongation of the investors' holding period. The central bank also announced that the reserve requirement on FX deposits would be raised from 1 percent to 8 percent, effective June 2011. Also, it is believed that the central bank bought FX in November.
Brazil	√	√	A non-convertible currency regime.** Since 2005, Banco Central do Brasil has been buying FX in order to depreciate its currency, the real (as part of a reserves buildup program). The bank bought $3 billion in August and is believed to have stepped up its purchases considerably to $7.6 billion in October. Also, the tax rate on foreign investments in domestic bonds was raised twice in October, from 2 percent to 6 percent. The central bank also

Country	Direct intervention	Restriction of capital flows	Description
	Exchange rate policy		
Brazil (cont.)	√	√	announced that from April 4, 2011, a liquidity reserve would apply to the commercial banks on short selling of dollars: the banks will have to allocate 60 percent of the difference between the amount of the transaction of the short sale and $3 billion or their equity, whichever is lower. The amount set aside will not bear interest.
South Africa	√		The South African Reserve Bank has been making occasional FX purchases; the extent of its intervention may increase in the future.
South Korea	√	√	The Bank of Korea has been buying FX over the past year. Consequently, the foreign reserves have been growing—to $293 billion in October. Concurrently, restrictions have been imposed on domestic commercial banks' foreign exchange transactions. Also, the Finance Ministry announced its intention of taxing banks and financial institutions' FX liabilities, possibly starting in the second half of 2011.
Mexico	√		The Bank of Mexico operates in the FX market, and from March 2010 to the end of the year it bought some $4.5 billion of foreign currency.
New Zealand	√		The Reserve Bank of New Zealand is active in FX trading as part of its foreign reserves management policy. In 2010 (up to November) it sold FX in the sum of NZD 754 million.
Philippines	√	√	In October, the Central Bank of the Philippines raised the permitted quota of FX holdings by residents. Also, it is believed to have bought FX in November.
Peru	√	√	Non-convertible currency regime.** The central bank operates on the FX market, and bought $9 billion of foreign currency in 2010. Also, nonresidents' interest income is taxed at 30 percent. Pension funds received permission to increase their external investments.

		Exchange rate policy	
Country	Direct intervention	Restriction of capital flows	Description
Chile	√	√	Non-convertible currency regime.** In January 2011, the Central Bank of Chile announced a plan to increase the foreign reserves by $12 billion by making periodic FX purchases in 2011. The bank also announced its intention of allowing pension funds to increase their holdings of foreign assets. In October, the Minister of Finance announced the establishment of a committee for the implementation of measures to improve export profitability.
Colombia	√		Non-convertible currency regime.** The Bank of the Republic has been making daily purchases of at least $20 million and is expected to continue doing so in the first quarter of 2011.
Switzerland	√		Between March 2009 and June 2010, the Swiss National Bank bought 200 billion Swiss francs' worth of FX. Although it has stopped intervening in the FX market at the present writing, the possibility of its resuming in the future has not been ruled out.
Thailand	√	√	Thailand has imposed a 15 percent tax on foreign investors' interest and capital gains on domestic bonds, effective Oct. 13, 2010. Measures to ease capital outflow have been decided on. Also, the Bank of Thailand is believed to have bought FX in November.
Turkey	√		The Central Bank of Turkey is making daily FX purchases as part of a program to build up the reserves. In October, it announced that it was increasing its maximum daily purchase from $40 million to $80 million. Also, the interest rate on FX deposits has fallen from 2.5 percent to 0.25 percent.

* Sources of data: Reuters, J.P. Morgan, and central bank sites.

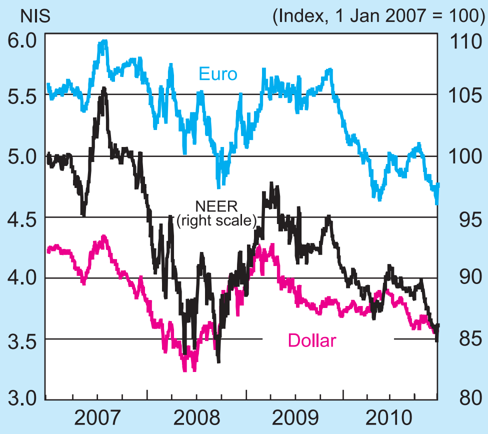
** A non-convertible currency regime is one in which the conversion of domestic currency to foreign currency is subject to restrictions.

b. Development of the shekel exchange rate

In the first half of the reviewed quarter, the nominal effective exchange rate was basically unchanged;[4] in the second half of the quarter, the currency appreciated considerably. In the first half of the reviewed quarter, much as in the third quarter, the nominal effective exchange rate (NEER) was basically unchanged (Figure 10). Appreciation resumed in the second half of the quarter, following the trend since the second quarter of 2009—the NEER appreciating by a steep 4 percent overall and by 3.3 percent and 5.3 percent against the USD and the EUR, respectively. In real effective exchange rate (REER)[5] terms, the NIS appreciated by 2.5 percent during the quarter.

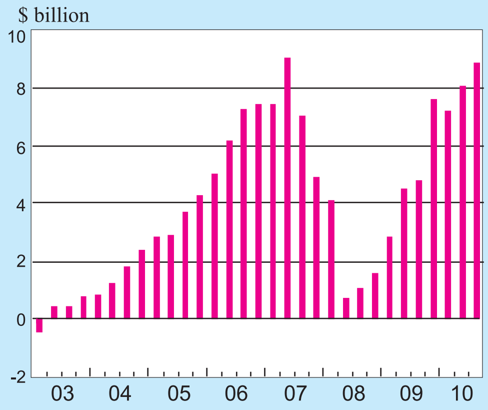
The forces that induced protracted appreciation persisted with even greater intensity in the reviewed quarter. Several pro-appreciation forces were at work in the fourth quarter of 2010: (1) the interest spread between Israel and the large economies, which widened due to the rate increase in October. The interest spread is abetting capital inflow, mainly of short-term nature, as reflected in the 25 percent average share of nonresidents in *makam* holdings in the reviewed quarter (in the second quarter, the rate was 20 percent on average; in 2008, before the crisis erupted, it was only 1 percent); (2) the current account surplus, which has been trending upward since the second half of 2008 (Figure 11); (3) Israel's low excess production capacity relative to the large economies with which Israel does most of its foreign trade; this creates pressure for real appreciation (which may be reflected in nominal appreciation or an increase in domestic prices); (4) the large gas discoveries, which according to estimates may turn Israel into a gas exporter instead of a gas importer, inducing an increase in the current account surplus. At the end of the reviewed quarter, there were reports about the discovery of a large quantity of gas in the Leviathan field as well; much of this resource, according to estimates, will be earmarked for export. In contrast to these factors, the Bank of Israel's purchases of foreign currency in October and December had an attenuating effect on the appreciation.

Figure 10
The NIS/$, NIS/Euro and the Nominal Effective Exchange Rate, 2007 to December 2010
(daily data)



SOURCE: Bank of Israel.

Figure 11
The Current Account, Running Four-Quarter Totals, 2003-2010:Q3



SOURCE: Based on Central Bureau of Statistics data.

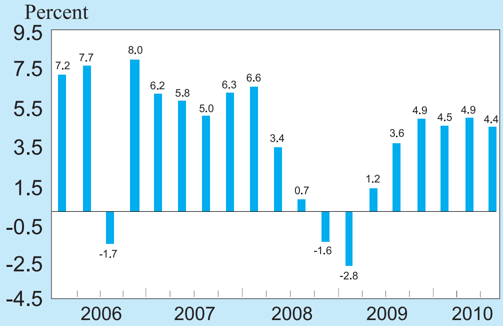
[4] The nominal effective exchange rate is calculated as the weighted average of the exchange rate of the NIS against 28 currencies (which represent 38 countries), on the basis of the weight of Israel's trade with those countries.

[5] The real effective exchange rate is defined as the effective nominal exchange rate, adjusted for Israel's price level relative to that of its trading partners.

c. Real developments

The National Accounts data for the third quarter of 2010 show that the rate of economic growth has slowed. In the third quarter of 2010, GDP grew by 4.4 percent, down from 4.9 percent in the second quarter[6] (Figure 12). The growth of business sector output also slowed to 5.1 percent in the third quarter, from 5.9 percent in the second (Table 2). Contributing factors in the growth slowdown were a 0.3 percent decrease in private consumption, the first decrease since the recovery from the crisis began in the second quarter of 2009, and a meager 0.1 percent increase in exports. The slowing of export growth took place against the backdrop of the deceleration of growth in global trade and an improvement in the terms of trade. Fixed investment continued to recover pursuant to the trend since the beginning of the year and was even 2.4 percent higher than its pre-crisis level (in the first quarter of 2008). The increase in investment attests to optimism about the consolidation of growth and to the need to increase production capacity in view of steadily rising capital utilization rates (as evidenced by the data in the Bank of Israel Companies Survey). Residential construction investment increased by 12.7 percent in the third quarter and was 23 percent

Figure 12
GDP, Quarterly Growth Rates, 2006–2010:Q3
(annual rates, seasonally adjusted)



SOURCE: Based on Central Bureau of Statistics data.

Table 2
GDP, Imports and Uses
2007–2010:Q3

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

	2007	2008	2009	2009: Q2	2009: Q3	2009: Q4	2010: Q1	2010: Q2	2010: Q3
GDP	5.3	4.2	0.8	1.2	3.6	4.9	4.5	4.9	4.4
Business sector output	5.9	4.7	0.1	1.9	3.2	5.0	5.9	5.9	5.1
Imports excluding defense imports, ships, aircraft and diamonds	13.7	7.2	-12.3	0.3	15.4	6.7	12.0	14.2	-5.2
Private consumption	6.3	3.0	1.7	8.6	6.5	8.8	0.9	6.1	-0.3
of which: Private consumption excluding consumer durables	5.1	1.8	2.6	6.3	3.7	8.3	2.2	3.7	1.6
Public consumption	3.1	2.6	2.5	5.4	-1.9	2.5	1.4	0.7	8.3
of which: Public consumption excluding defense imports	3.7	2.7	4.0	7.0	0.0	1.3	-1.6	1.2	7.5
Gross domestic investment	11.3	2.4	-8.9	-18.3	-3.4	-36.1	87.0	-18.2	5.0
of which: Fixed investment	14.7	3.9	-5.8	-2.4	5.0	-6.1	17.7	18.5	16.1
Exports excluding diamonds	10.3	11.3	-10.0	-5.5	11.5	31.4	3.8	19.1	-1.0
of which: Exports excluding diamonds and start-ups	10.9	10.5	-9.5	0.4	11.2	25.7	5.8	20.0	-2.4

SOURCE: Based on Central Bureau of Statistics data.

[6] National accounts data are given in annual terms, seasonally adjusted.

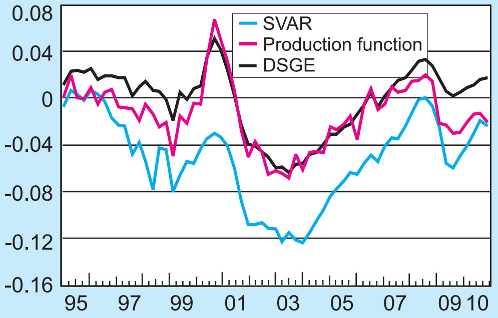
higher than at the beginning of 2008, reflecting the response of the supply side of the construction industry to rising housing prices. The ongoing recovery from the crisis has reduced excess production capacity considerably, even though it still exceeds the pre-crisis level (Figure 13).

Preliminary estimates of the 2010 National Accounts show that the economy has recovered from the late-2008 crisis and grew during 2010 at a 4.5 percent pace, not far from the pre-crisis rate. Continued domestic growth, however, will depend heavily on continued global recovery and growth of world trade.

The indicators of real activity in the reviewed quarter suggest that the trend of expansion in the previous continued. According to the Bank of Israel's nowcasting models,[7] the pace of growth in the third quarter was more-or-less maintained in the reviewed quarter. The Companies Survey and the Composite Index data for the reviewed quarter also point to the continued expansion of business activity, tracing to growth in both domestic uses and exports. The increase in credit card purchases and the increase in imports of consumer and capital goods, culled from the foreign trade data (in current USD), indicate that private consumption and investment continued to grow. The increase in exports may be adduced from the Companies Survey data, which report upward movement in manufacturing exports and exports of goods.

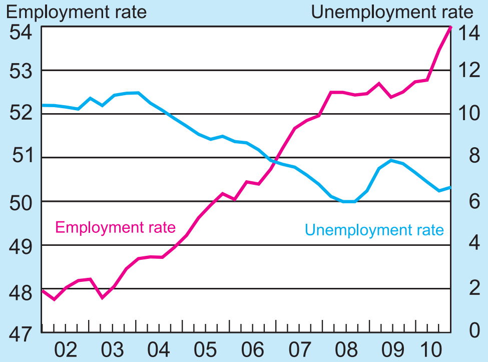
The labor market recovery has reduced unemployment rates to relatively low levels, although the rate rose somewhat during the third quarter, chiefly due to an increase in labor supply. For the time being, there is no evidence of significant wage pressures. The employment rate went up in the third quarter (Figure 14) as did the labor force participation rate, reflecting the response of supply to the increase in activity. The unemployment rate edged upward to 6.6 percent, largely due to a higher participation rate, after a lengthy decline that began with the rebound from the recession. While the third quarter unemployment rate surpassed the pre-crisis level, it was relatively low from a long-term perspective. Similarly, the proportion of persons employed part time unwillingly fell considerably; its current level, 3.7 percent of total employment, matches the pre-crisis level. For the time being, there is no evidence of significant wage pressures. Real and nominal wages declined in the third quarter, as did unit labor cost (Figure 15). According to the

Figure 13[a]
Indices of the Output Gap
1995-2010:Q3



[a] For details of the calculation of the output gap using the production function and SVAR, see Chapter 2, p. 69, in the Bank of Israel Annual Report, 2008.
The output gap based on the DSGE model reflects deviations of GDP from the productivity trend, and not necessarily inflationary pressures.
The output gap can be derived from the relative level of each index compared to its level in the past, and not from its absolute level.
SOURCE: The Bank of Israel.

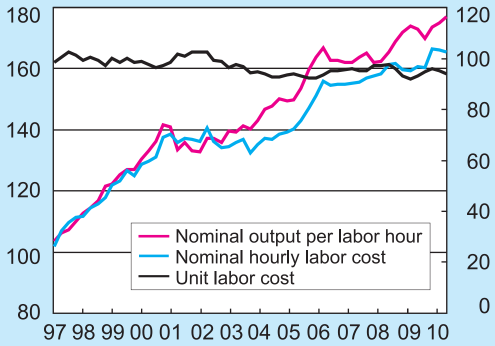
Figure 14
The Employment Rate and the Unemployment Rate,[a]
2002-2010:Q3
(seasonally adjusted, quarterly, percent)



[a] Unemployment rate - percent of labor force (aged 15-64);
Employment rate - percent of working-age population.
SOURCE: Labour Force Surveys of the Central Bureau of Statistics.

[7] For elaboration on nowcasting models, see G. Dafnai and J. Sidi (2010), "Nowcasting Israel GDP Using High Frequency Macroeconomic Disaggregates," Bank of Israel Discussion Paper 2010.16, and T. Kriaf (2011), "A Nowcasting Model for GDP and its Components," Bank of Israel Discussion Paper 2011.01.

Figure 15
Index of Gross Unit Labor Costs in the Business Sector, 1997-2010:Q3 (quarterly, seasonally adjusted)



SOURCE: Central Bureau of Statistics Manpower Survey.

Companies Survey, firms in most industries are already reporting greater difficulty in recruiting skilled workers, possibly signaling a future development of wage pressure if the labor market continues to improve.

The government deficit in 2010 undershot the original budget program, mainly due to unexpectedly strong tax collection. The total government deficit in 2010 was 3.7 percent of GDP as against 5.5 percent in the original budget program. The reason was unexpectedly strong tax collection. Total tax receipts were 7 percent higher than in 2009 (in real terms, net of legislative changes and nonrecurrent revenues) as a result of upturns in both indirect and direct tax revenues. The rate of increase in tax revenues in the reviewed quarter resembled that in the previous quarter, indicating the continuation of economic growth.

In December, the government approved the state budget for 2011–2012. According to the new budget, the government will stay within its deficit and expenditure ceilings and will lower the debt/GDP ratio by 3 percentage points by the end of 2012, strengthening the credibility of fiscal policy and its own commitment to lowering the deficit and the debt/GDP ratio. Within the framework of the budget, the government decided to raise indirect taxes on energy and cigarettes; these measures are expected to raise the prices of these products and, in turn, affect the Consumer Price Index.[8]

d. Financial developments

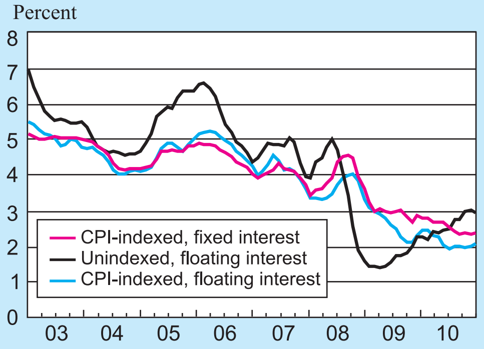
The domestic equity markets posted strong increases in the reviewed quarter. After upturns in the previous quarter, domestic equity prices advanced rapidly in the reviewed quarter, similar to the performance of leading equity indices abroad (Figure 6). The implied standard deviations of equity indices widened mildly at the beginning of the quarter but receded considerably in December (Figure 5), returning to the April 2010 level (before the upturn in risk levels occasioned by the worsening of Europe's debt crisis). From a long-term perspective, the leading world equity indices have been trending up steadily since the beginning of 2009. During this time, the indices in Israel and emerging markets posted much stronger increases than those in developed countries. Some of the capital inflow to the emerging markets and Israel may have been directed to the equity markets,

[8] The taxes on cigarettes were raised in July 2010, pushing up the CPI by 0.1 percentage point. The fuel excise tax was increased in January 2011, pushing up fuel prices and inducing a projected 0.1 percentage-point increase in the January CPI.

allowing these markets to post higher rates of increase than counterparts in the developed markets. The positive news about the gas discoveries also contributed to the stronger increase of equity prices in Israel than abroad.

The upward trend in mortgage lending continued against the background of low interest rates. Despite guidelines from the Banking Supervision Department in May,[9] the trends that have typified developments in the mortgage loan market have not changed direction. In the second half of 2010 (up to November), outstanding credit to households increased by 4.8 percent, mainly due to a similar rate of increase in outstanding housing loans, which account for 68 percent of household credit. Total new mortgage lending in the second half of 2010 was NIS 25 billion, 23 percent higher than in the second half of 2009, reflecting the low interest rate on such loans (Figure 16). Interest on indexed mortgage loans is at a historical low and rates on unindexed adjustable rate mortgage (ARM) loans are also low although trending upward due to rate increases by the Bank of Israel. Due to the upturn in interest on unindexed ARM loans, the share of such loans in total new mortgage lending is continuing to trend down and came to 47.5 percent at year's end.

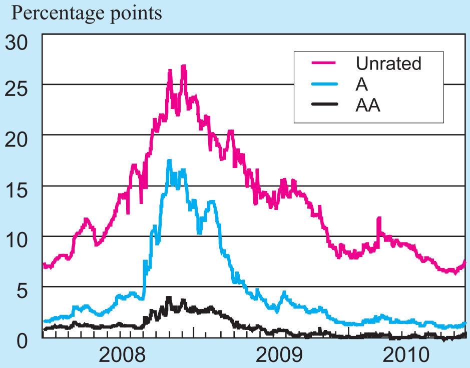
Figure 16
Rates of Interest on New Mortgages, 2003 to December 2010



SOURCE: The Bank of Israel.

Outstanding business sector credit increased modestly in the second half 2010, pursuant to developments since the beginning of 2009. In the second half of 2010 (up to November), outstanding credit to the business sector edged ahead by a gentle 1 percent, with increases in credit from banks and tradable bonds partly offset by a downturn in outstanding credit from abroad (largely due to currency appreciation). Even though the moderate increase in outstanding business credit was accompanied by vigorous growth in business sector output, no problem in domestic credit supply appears to exist. This may be adduced from the Bank of Israel Companies Survey, which reports no exceptional financing difficulties in the business sector. Accordingly, the stability of business credit probably originates in sluggish demand due to corporate profitability that allows firms to finance investments with sources of their own.

Figure 17
The Average Weighted Yield Gap between CPI-Indexed Corporate Bonds, by Rating, and CPI-Indexed Government Bonds, 2008 to December 2010 (daily data)



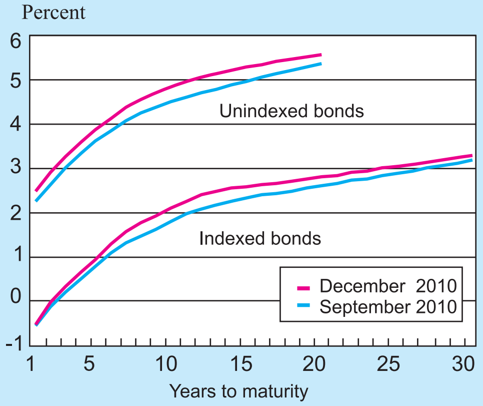
SOURCE: Based on Tel Aviv Stock Exchange data.

Most of the directives concerning institutional investments in non-government bonds (the Hodek Committee conclusions) went into effect at the beginning of the reviewed quarter.[10] The directives are expected to mitigate financial risk in the corporate bond market because they are meant in major part to improve the

[9] For elaboration on the Department's guidelines regarding developments in housing-loan risks, see Bank of Israel press release, May 24, 2010.

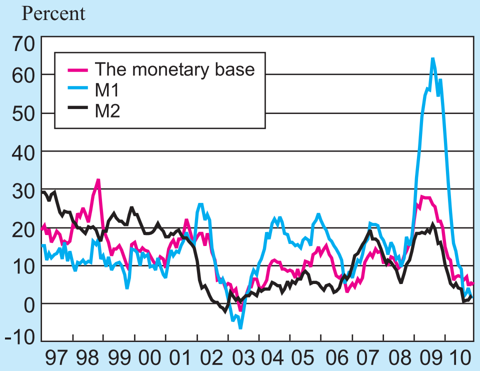
[10] See memorandum from the Ministry of Finance Capital Market, Insurance, and Savings Division, July 14, 2010.

Figure 18
Yield To Maturity Curves of Indexed and Unindexed Government Bonds, September 2010 and December 2010
(monthly averages)



SOURCE: Bank of Israel.

Figure 19
The Monetary Aggregates, 1997 to December 2010
(rates of change over previous twelve months)



SOURCE: Bank of Israel.

process of analysis that precedes the purchase of bonds, although in the short term they may dampen institutional investors' demand for these instruments.

During the reviewed quarter, real middle- and long-term yields went up while real short-term yields were basically unchanged. Real yields to one-year durations were unchanged at around -0.5 percent (Figure 18) and rose by 0.2 percentage point, on average, to durations exceeding three years. The increase in yields took place against the background of rising yields on U.S. government bonds but was milder than in the U.S., allowing the spread between the countries to narrow. The relatively small upturn in Israel yields reflects the decline in the relative risk of Israel's government paper in view of the unexpectedly low domestic deficit as against expansionary programs in the U.S. In addition, Israel's small deficit is expected to reduce the government's capital-raising needs, also abetting a decline in yields.

The annualized growth rate of the narrow money aggregates accelerated mildly in the reviewed quarter but stayed under the long-term growth rate. After a period of declines that began in the third quarter of 2009 with the onset of rate hiking by the Bank of Israel, the annual rate of increase in narrow money aggregates accelerated slightly during the reviewed quarter (Figure 19). At the end of the quarter, the annual growth rates of M1 and M2 were 3.7 percent and 3.2 percent, respectively—lower than their long-term rates of increase, reflecting an adjustment in the level of the aggregates to the gradual rate hiking process.

e. Inflation and inflation expectations

The Consumer Price Index rose more vigorously in the reviewed quarter than the rate implied by the seasonal trajectory that corresponds to the inflation target, mainly due to upturns in energy and food prices. The CPI rose in the reviewed quarter by 0.7 percent (Figure 20) and by 0.8 percent[11] in seasonally adjusted terms,[12] reflecting an annual inflation rate in excess of the 3 percent upper bound of the inflation target. The main factors behind the CPI increase were increases in energy and food prices at 2.8 percent and 0.7 percent, respectively, pursuant to steep and ongoing increases in corresponding prices abroad. Another contributing factor was clothing and footwear prices,

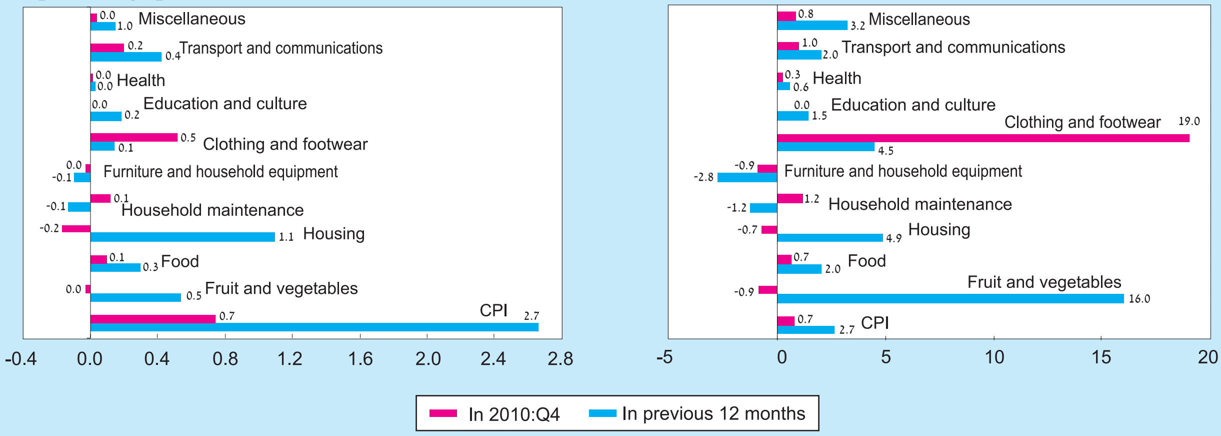
[11] The seasonal adjustment of the CPI data is based on processing by the Bank of Israel. For elaboration on the adjustment and the main reason for performing it, see Box 1 in Inflation Report 30.

[12] According to the Central Bureau of Statistics estimate, the seasonally adjusted index went up by 1.2 percent in the reviewed quarter.

Figure 20

Contribution of the Components of the CPI to the Changes in the CPI in the Previous 12 Months and in 2010:Q4
(percentage points)

Changes in the Components of the CPI in the Previous 12 Months and in 2010:Q4
(percent)



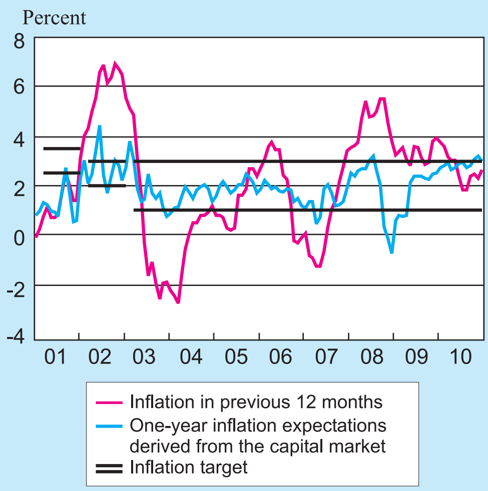
SOURCE: Based on Central Bureau of Statistics data.

which rose by 19 percent during the quarter mainly for seasonal reasons. The housing component declined by 0.7 percent, mainly for seasonal reasons. This decrease follows a lengthy period of significant upturns, but developments in one quarter cannot sustain inferences about a change in trend.

During the reviewed quarter, inflation in the previous twelve months remained within the inflation target range (1–3 percent). The rate of inflation in the trailing twelve months was largely unchanged in the reviewed quarter and rested at 2.7 percent at the end of the quarter. Thus, the annual inflation rate remained within the target range, as it has since May 2010 (Figure 21). The main contributing factor to the index increase in the past year was the housing component; net of housing, the CPI rose by only 1.9 percent. Fruit and vegetables also contributed to the increase, mainly due to weather-related damage that is expected to have only a temporary impact on the CPI. In the second half of the year, the increase in food and energy prices made a significant contribution to the upward movement of the CPI.

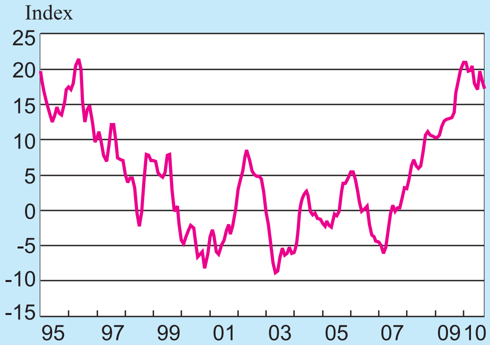
Inflation developments in the past year offer no evidence that the level of real domestic activity had an upward effect on prices during this time, notwithstanding the increase in utilization and employment rates. The inflation rate in the past year has been in the upper portion of the inflation target. Net of the housing and fruit and vegetable components, however, the inflation rate is lower, in the bottom segment of the target. Accordingly, the level of real economic activity does not seem to have generated upward pressure on prices in the past year;

Figure 21
Inflation in Previous 12 Months, Inflation Expectations and Inflation Targets, 2001 to December 2010
(monthly averages)



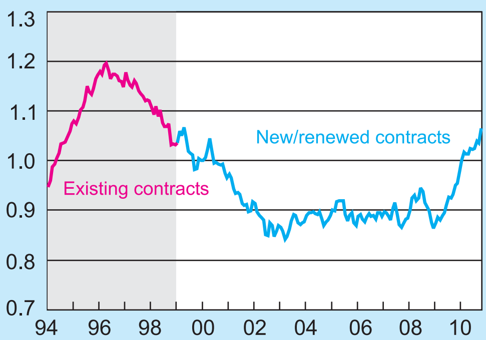
SOURCE: Based on Central Bureau of Statistics data.

Figure 22
Change in House Prices,
1995 to October 2010
(over previous 12 months)



SOURCE: Based on Central Bureau of Statistics data.

Figure 23
Ratio of Apartment Prices to Rent,
1994 to October 2010
(January 2000 = 1)



SOURCE: Based on Central Bureau of Statistics data.

this is due to excess production capacity that still exists (Figure 13) despite continuing increases in utilization and employment rates. During this time, the ongoing appreciation trend and the low inflation environment in leading foreign economies had a restraining effect on inflation, whereas the upturns in commodity prices abroad and the increase in inflation expectations had pro-inflation effects.

House prices (which are not included in the CPI) continued to rise in the second half of 2010, albeit at a slower pace than before. Long-term historical analysis shows that they have not deviated significantly from the fundamentals in the housing market. In the second half of 2010 (up to October), the index of prices of owner occupied houses continued to rise, by 6.8 percent. Observation of the annual rates of change in the house price index shows that the acceleration in the rise of house prices stopped, and the rate of their increase actually slowed in the second half of 2010 (Figure 22). Tests performed by the Bank of Israel on the basis of several models and indices show that despite the rapid pace of increase in house prices, today's price level does not deviate significantly from that implied by the fundamentals of the housing market, i.e., the factors that affect the discounted value of housing services.[13] This is because house prices were much lower than those implied by the fundamentals before the price increases began in 2008.

During the reviewed quarter, the Office of the Prime Minister, the Ministry of Finance, and the Ministry of Construction and Housing announced a series of measures that were meant to attenuate in the increase in house prices. They include an increase in purchase tax on investment dwellings in order to dampen demand for this kind of investment and a supplemental exemption on land betterment tax on investment dwellings,[14] possibly allowing the supply of houses to expand.

Inflation expectations—as implied by the capital markets and in forecasters' estimations—remained around the upper bound of the inflation target during the reviewed quarter. The forecasters' average inflation outlook to one year ahead was basically unchanged at slightly under the upper bound of

[13] For elaboration on the fundamentals of the housing market and a detailed look at the indices that are examined for the estimation of housing prices relative to the fundamentals, see Box 3.2 in the Bank of Israel Annual Report for 2009.

[14] The real-estate tax laws contain several clauses that give exemptions from land-betterment tax. The most common of them is an exemption on the sale of one dwelling every four years even if the seller owns another dwelling. The measure recently announced awards an exemption from land-betterment tax even if four years have not passed since the previous sale of a dwelling. This measure was announced as an ad hoc provision for the coming two years, after which the legislative status quo ante will prevail again.

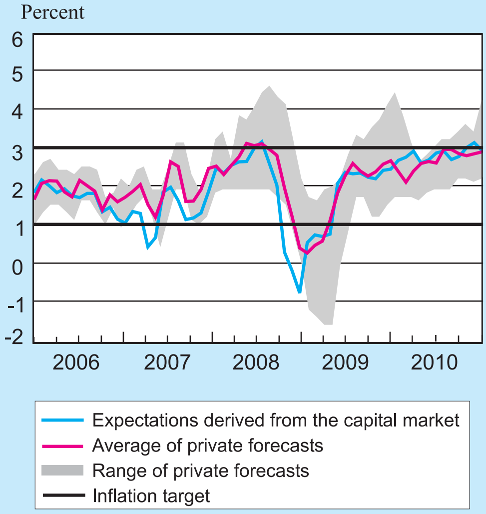
the inflation target (Figure 24) and the expected interest rate to twelve months ahead rose by 0.3 percentage point, to 3.1 percent. Capital market implicit one-year-ahead inflation expectations also hovered around the upper bound of the inflation target. Expectations turned up slightly in October and November, overshooting the upper bound, and fell back to the target range in December. Capital market implied inflation expectations to the medium and long-term rose gently during the reviewed quarter and ended the quarter slightly under the upper bound of the inflation target (Figure 25). The forecasters' estimates and the capital market's expectations of inflation in 2011, in the upper part of the target, may reflect their belief that the Bank of Israel, in its current monetary policy decisions, assigns relatively large weight to support of the real recovery along with the maintenance of price and financial stability. The fact that long-term inflation expectations have remained within the target range throughout this time attests to the credibility of economic policy in both its monetary and its fiscal senses.

2. MONETARY POLICY

To attain its main objectives—price stability, support of growth and employment, and financial stability—the Bank of Israel wielded its tools: the interest rate, intervention in the foreign currency market, and operations related to housing credit. In its monetary policy decisions, the Bank of Israel kept in mind the full range of developments and indicators in the reviewed quarter that may affect the attainment of the main policy goals: price stability as a central objective, support of economic growth and employment, and financial stability. It was in view of the aforementioned developments in the reviewed quarter and in pursuit of its policy goals that the Bank of Israel employed its toolkit during the quarter: moderate rate increases, purchases of foreign currency, and macroprudential measures to mitigate financial risk in the housing market.

Importantly, even though it is useful to employ several policy tools to attain various policy objectives, these tools do not exist independently of each other. For example, one of the channels of pass-through via which rate hiking restrains inflation is the currency appreciation induced by widening the interest spread between Israel and the leading economies. The purchase of foreign currency, in contrast, has an anti-appreciation effect. In its monetary policy decisions in the reviewed quarter, the Bank of Israel took these effects into account and raised its rate in a moderate way while increasing its purchases of foreign currency.

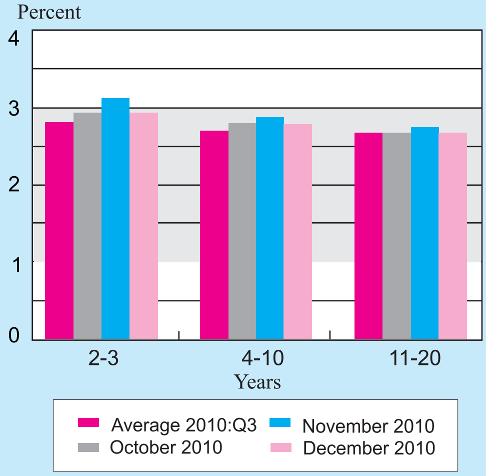
Figure 24
Inflation Expectations for the Next Year Derived from the Capital Market and According to Private Forecasters, 2006 to December 2010[a]
(monthly averages)



[a] From April 2007, the real yield used in the calculation of inflation expectations is based on the entire yield curve.

SOURCE: Based on private forecasters' reports and capital market data.

Figure 25
Inflation Expectations Derived from the Capital Market for Periods More Than One Year Ahead
(averages)



SOURCE: Bank of Israel.

In the reviewed quarter, the Bank of Israel continued to slow the pace of monetary expansion gradually in view of the continued economic recovery and raised the interest rate moderately. The Bank of Israel interest rate was raised from 1.75 percent in September to 2 percent in October and remained at that level from November 2010 to January 2011, and the rate for February was increased to 2.25 percent. The rate at the end of the reviewed quarter was still under its “normal” (long-term equilibrium) level. The Bank’s main goals in its interest decisions were to set inflation firmly within the target range—taking into account the increase in inflation in the reviewed quarter at a rate surpassing the seasonal trajectory consistent with the target, and the fact that inflation expectations were close to the upper bound of the target—and the attenuation of price increases in the housing market. As part of the gradual reversion of the monetary policy tools to normal conditions, the Bank of Israel decided in December to widen the spread around the interest rate at the commercial banks’ lending and deposit windows from ±0.25 to ±0.5 percentage points.

In the fourth quarter of 2010, the Bank of Israel continued to intervene in the foreign currency market. Pro-appreciation short-term forces acted beyond the long-term forces in the reviewed quarter, appreciation which could harm export profitability and, in turn, the activity of the export sector and real activity. To weaken these forces, the Bank of Israel continued to purchase foreign currency in the reviewed quarter: $3,375 million in October, none in November, and $1,815 million in December. The total purchases in the reviewed quarter exceeded that in the previous quarters of 2010 by a wide margin. Concurrently, the NIS appreciated in the reviewed quarter after showing no change in the previous quarter, indicating that the pro-appreciation forces gathered strength at this time.

After the end of the quarter reviewed herein, the Bank of Israel imposed an obligation on nonresidents to report derivative transactions in foreign currency or *makam*,[15] and on Israelis to report certain foreign currency transactions. The Bank also imposed a liquidity requirement on banks for derivative transactions in foreign currency vis-à-vis nonresidents.[16]

Given the steep increase in house prices and the expansion of credit for housing, the Bank of Israel reverted to the use of macroprudential tools, instructing the banks to increase their reserve allocation against housing loans granted at

[15] For details see the Bank of Israel press release dated January 19, 2011.

[16] For details see the Bank of Israel press release dated January 20, 2011.

adjustable interest rates and with high loan to value ratios. In view of the low interest environment, which makes leveraging inexpensive and enhances the advisability of investing in houses due to paltry alternative returns, house prices continued to rise swiftly in the second half of 2010, albeit a little more slowly than before. An analysis by the Bank of Israel[17] found that part of the increase in house prices in the past year traces to rate cutting by the Bank of Israel, and part to the house supply shortage. If the precipitous increase continues, it may cause house prices to deviate from the level implied by the fundamentals and then induce a sharp downturn in real estate prices—threatening the financial system with destabilization.[18] Furthermore, most new mortgage loans in the past year have been at adjustable rates and in large amounts relative to borrowers' income. Thus, once the benchmark rate goes up, so will the borrowers' paybacks. Consequently, some borrowers may face difficulty in honoring their payback undertakings, with possible adverse implications for the stability of the banking system and the economy at large. Therefore, during the reviewed quarter, the Banking Supervision Department instructed the banks, pursuant to guidelines issued earlier in the year,[19] to increase their capital allocation against highly leveraged ARM loans.[20] Once implemented, this instruction will require banks to make higher provisions for ARM loans and will come at a cost to the banks.

3. UPDATE OF FORECASTS

a. The global environment

The IMF expects global economic growth to continue in 2011, but at a slower pace than in 2010, and foresees much more vigorous growth in emerging markets than in developed countries. The global growth rate is expected to slow to 4.4 percent in 2011 as against 5 percent in 2010, and the emerging markets are expected to grow much more vigorously than the developed countries (Table 3). The rate of increase in global trade

[17] The frame of this analysis is described in Recent Economic Developments 125 (May–August 2009), Part 2.

[18] For a survey of the implications of the decline in real-estate prices abroad, see Bank of Israel Annual Report for 2009, Chapter 2, Box 2.4.

[19] In February, the Banking Supervision Department presented the banks with a guideline concerning purchasing groups. In May, the Department issued instructions about developments in risks occasioned by housing loans (see Bank of Israel press release, May 24, 2010).

[20] The Department's instruction does not apply sweepingly to all ARM loans. For details, see "Questions and Answers about the Supervisor of Banks' Guidelines on Leveraged Adjustable-Rate Mortgage Loans," Bank of Israel, Oct. 28, 2010.

Table 3
GDP Growth in 2009, and IMF Forecasts for 2010 and 2011

(percent)

	Actual 2009	Estimate 2010	Forecast 2011
Average GDP growth			
Global	-0.6	5.0	4.4
Advanced economies	-3.4	3.0	2.5
US	-2.6	2.8	3.0
EU	-4.1	1.8	1.5
Japan	-6.3	4.3	1.6
Emerging markets	2.6	7.1	6.5
Inflation (annual average)			
Advanced economies	0.1	1.5	1.6
Emerging markets	5.2	6.3	6.0

SOURCE: IMF World Economic Outlook Update, January 2011.

is also expected to slow, to 7.1 percent. In the IMF's estimation, the global economic recovery depends on two evenly weighed processes: the expansion of private demand (consumption and fixed investment) in developed countries, allowing them to carry out the requisite fiscal tightening already in early 2011, and the downsizing of current account deficits in the U.S. and other developed markets, coupled with the reduction of surpluses in the emerging markets of Asia. The IMF also noted that even though no new recession is foreseen in the main outlook, most of the risks to the outlook are of downward effect.

Global inflation in 2011 is expected to be at a similar level to that in 2010. According to the IMF, inflation in developed countries will remain recessionary in 2011 and will decline slightly in emerging markets, to 6 percent. The anticipated inflation slowdown in emerging markets traces mainly to an anticipated slowing of the rate of commodity price increases. Thus, oil prices, which surged in 2010 by 27.8 percent, are projected to rise by 13.4 percent in 2011, and the prices of non-oil commodities, which increased by 23 percent in 2010, are expected to rise by 11 percent in 2011.

b. Real domestic activity in Israel[21]

In 2011, Israel's growth rate is expected to decline somewhat due to the contraction of the excess production capacity and slower rates of increase in exports and private consumption. Gross Domestic Product is expected to grow by 3.7 percent in 2011,[21] approximating the outlook in the previous report. The expected deceleration relative to the 4.5 percent growth rate in 2010 will trace to several factors in concert. (1) The rapid growth in 2010 and the labor market and investment data for the year show that the excess production capacity that had formed during the global crisis continued to contract. Now that this process is running out of steam, the growth rate should slow from the rapid pace that typifies the emergence from a recession to the rate of increase in productivity and the labor force. (2) The export growth rate is projected to fall below that of global trade (3.8 percent as against 8 percent) for reasons including continued real appreciation. (3) The increase in private consumption is also expected to decelerate due to an expected slowdown in the

Table 4
Economic Indicators

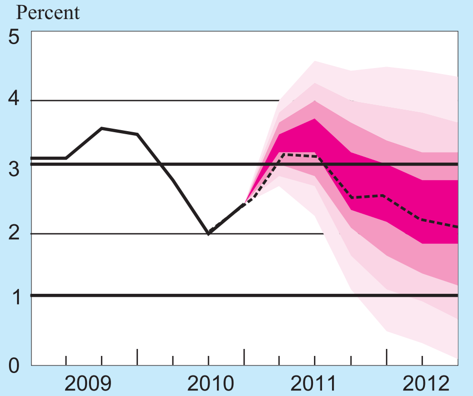
(rates of change, percent, unless stated otherwise)

	Actual 2009	Estimate 2010	Forecast[a] 2011
GDP	0.8	4.5	3.7
Private consumption	1.7	4.7	3.5
Fixed investment	-5.8	9.9	8.8
Public consumption	2.5	3.7	1.7
Imports (civilian, excluding ships, aircraft and diamonds)	-12.3	9.4	5.3
Exports (excluding diamonds)	-10.0	9.8	3.8
Current account ($ billion)	7.5	6.9	5.4
Unemployment rate	7.5	6.7	6.2
Public deficit (percent of GDP)	5.3	4.2	3.3
Gross debt (percent of GDP)	79.2	76.3	74.7

[a] The Bank of Israel forecast on 27 December 2010.The forecasts of the public deficit and the debt/GDP ratio in 2011 depend on the policy that the government adopts.
SOURCE: Based on Central Bureau of Statistics data.

[21] The outlook was formulated on the basis of data available as of December 27, 2010, when the January 2011 interest decision was made. Accordingly, it did not internalize the preliminary growth estimates published by the Central Bureau of Statistics on December 29. On the basis of indicators and estimates that have accumulated since then, subsequent data are likely to allow the outlook to be adjusted upward.

Figure 26
Actual Inflation and Fan Chart[a] of Expected Inflation,[b] 2009-12
(cumulative increase in prices in previous four quarters)

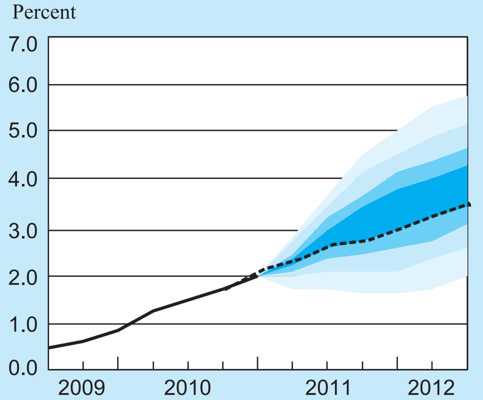


[a] The center of the fan chart is based on the Bank of Israel Research Department assessment.
The width of the chart is based on the Department's medium-scale DSGE (dynamic stochastic general quilibrium) model. The full fan covers 66 percent of the distribution of expected inflation.

[b] The dotted line is the middle of the fan chart shown in the previous Inflation Report (No. 32, July to September 2010).

SOURCE: Bank of Israel.

Figure 27
Actual Bank of Israel Interest Rate and Fan Chart[a] of Expected Interest Rate,[b] 2009-12



[a] The center of the fan chart is based on the Bank of Israel Research Department assessment. The width of the chart is based on the Department's medium-scale DSGE (dynamic stochastic general equilibrium) model. The full fan covers 66 percent of the distribution of the expected interest rate.

[b] The dotted line is the middle of the fan chart shown in the previous Inflation Report (No. 32, July to September 2010).

SOURCE: Bank of Israel.

increase in consumption of durable goods after two years of rapid growth (influenced by the low interest rate, among other things). However, fixed investment should continue to expand briskly, buoyed by continued low interest rates. (4) The growth of demand will probably be increasingly based on the expansion of imports, due to real appreciation since the middle of 2009 and the continued rapid increase in investment (which is typically very import intensive even when the rising share of construction investment in total fixed investment is taken into account).

c. Inflation estimates and the balance of inflation risks

In the estimation of the Bank of Israel Research Department,[22] the inflation rate in the coming twelve months will be in the upper part of the target range and will be paralleled by gradual rate hiking. The inflation rate in the past twelve months was 2.7 percent, not far from the midpoint of the target range. In the Research Department's estimation, the inflation rate twelve months out will be 2.6 percent. At the end of the first half of 2011, inflation in the previous twelve months will probably be around or slightly below the upper bound of the target; later on, it is projected to settle within the bounds of the target. Concurrently, the Bank of Israel interest rate is expected to rise gradually from its low current level to 3.3 percent at year's end (Figures 26–27). This estimate reflects the effects of several contrasting forces—some abetting inflation and others restraining it.

The pro-inflation factors include surplus housing demand (which will remain a significant factor in coming months), the expansion of demand for GDP, and the increase in global commodity prices. In our estimation, the contraction of excess housing demand will be limited, meaning that the slowing of the increase in the housing component of the CPI will be very gradual and that this component will continue to contribute to inflation. The growth in demand for GDP, reflected in the narrowing of the excess production capacity, may have a pro-inflation effect by raising domestic factor prices, especially labor cost, and in firms' efforts to improve profitability. Although nominal wage is expected to continue rising rather vigorously this year, one of the factors behind the wage increases is that, during the past year, the real wage increased to a lesser degree than did labor productivity. Therefore, inflation pressures from the labor market seem limited for the time being but may gather

[22] The inflation estimate in this report is part of a staff forecast that the Bank of Israel Research Department formulates each quarter. For an explanation of the Department's staff forecasts and their underlying models, see Inflation Report 31 for April–June 2010, Section 3.c.

strength as demand continues to expand or amid wage struggles by large unions. Another pro-inflation factor is the rising level of foreign-currency-denominated prices of global commodities, including agricultural produce and oil. Apart from their direct effect, the pro-inflation factors described above also have an indirect effect: the public's expectations (as adduced by private forecasters, implied by the capital market, and reported in the Bank of Israel Companies Survey) of above-target inflation may have an inflationary effect in the present, due to their impact on wage accords and pricing decisions in the present.

Conversely, the main factor that is expected to restrain inflation is currency appreciation in terms of the nominal effective exchange rate (cumulative appreciation of around 10 percent since the middle of 2009 till the end of 2010). Although appreciation has a dampening effect on the prices of imported goods, the pass-through from the exchange rate to consumer prices is not immediate but gradual. Accordingly, one may surmise that import prices have not yet fully adjusted to the new exchange rate level, meaning that their downward adjustment will continue in the first half of 2011. Furthermore, the underlying conditions that argue in favor of nominal appreciation continue to exist, including the current account surplus (which is expected to decline) and the interest spread versus other countries, which is expected to continue widening against the background of the narrowing of Israel's excess production capacity as against ongoing large excess capacity in the U.S. and Europe. Additional factors that will attenuate import prices are expectations of low inflation abroad (1.6 percent on average in the developed countries) and very low central bank interest rates (0.0–0.25 percent in the U.S., 1.0 in Europe), which are expected to persist in the next few months; this also has a restraining effect on the pace of domestic rate hiking.

The inflation outlook is slightly higher than that presented in the previous quarter and the expected interest rate path was adjusted upward. Figures 26–27 compare the current estimates with those in the previous Inflation Report (October 2010). The 2.6 percent inflation outlook for the next twelve months is slightly higher than that in the previous report (2.5 percent to the end of 2011) and the interest path was adjusted upward. Thus, Figures 26–27 show an upward adjustment of the expected trajectories of inflation and interest, even though—during the last quarter of 2010—both have evolved as was expected in the previous inflation report. The main reason for the adjustment of the outlook is price developments abroad: increases in commodity prices and expectations of a faster upturn in the prices of imported final products (that is, denominated in foreign currency).

The markets' inflation expectations are slightly higher from those of the Bank of Israel Research Department (Table 5). Inflation expectations to one year ahead, as implied by the capital market, were around 3.0 percent at the end of December, similar to their level when the Inflation Report for the previous quarter was written. These expectations exceed the estimate in this report (2.6 percent) for reasons including lower expectations of the Bank of Israel rate one year out (2.8 percent according to the *makam* curve as against 3.3 percent in the forecast presented here). The private forecasters' expectations also rested at 3.0 percent on average at the end of December—higher than those in the previous quarter's Inflation Report (2.8 percent). The difference between the forecasters' inflation outlooks and those of the Research Department may be that the forecasters average outlook includes some amount of currency depreciation; indeed, as in the forecast presented here, the forecasters expect continued gradual rate hiking, bringing the rate to slightly more than 3.0 percent a year from now.

Table 5
Assessments of Inflation over Next Twelve Months

(percent)

	Target	Capital market[a]	Private forecasters[b]	Companies Survey[c]	Bank of Israel's forecast
Average	2	3.2	3.0	2.6	2.6
Range	1-3		2.5-3.7	1.0-4.0	

[a] January average.
[b] After publication of the December CPI.
[c] Range of assessments (covering 90 percent, i.e., excluding the tails). Based on companies' responses received in the second half of December.
[d] Bank of Israel Research Department assessment.
SOURCE: Bank of Israel.

The main risk factor to this outlook originates in global developments. The main outlook assumes that global economic activity—and global trade in particular—will continue to expand despite the problems that the important economies have been facing: debt in several European countries, weakness in global labor markets, and the continuing crisis of the U.S. real estate sector. However, there is also a risk that these problems will drag the large economies back into a recession that will combine harm to activity with a decline in global inflation (for reasons including a downturn in commodity prices). These developments may push the expected onset of rate hiking abroad farther into the future and even induce additional unconventional monetary policy measures. Such a scenario would presumably be harmful first and foremost to the Israeli export sector, reducing the current account surplus and dampening GDP growth. If the downturn is accompanied by a financial crisis or a serious increase in uncertainty, it may also occasion the contraction of domestic demand, particular for private consumption and fixed investment. A decrease in demand (for exports, private consumption, and investment) would also be expressed in the restraint of domestic inflation. The effect of such a scenario on the exchange rate is unclear: the lower interest trajectory abroad would strengthen appreciation pressure, while the narrowing of the current account surplus would weaken it. If such a scenario comes to pass, the pace of rate increase will slow.

As an additional and converse risk, the increase in commodity prices and prices of imported goods may accelerate and be longer lasting. Such a possibility, coupled with brisk demand for domestic product, menaces the inflation and interest trajectory in an upward direction by making it more likely that the increase in prices of imported intermediates and goods will be absorbed by end prices.

The Bank of Israel will continue to monitor economic developments in Israel, abroad, and in the financial markets. It will adjust its toolkit—the path of monetary interest in particular—to attain its goals of price stability, encouragement of employment and growth, and support of the stability of the financial system.

Appendix Table 1
The Domestic Assets Markets, December 2009 to June 2010

	07/10	08/10	09/10	10/10	11/10	12/10
Yields to maturity (monthly average, percent)						
3-month *makam*	1.6	1.8	1.8	1.9	2.0	2.1
1-year *makam*	2.1	2.2	2.3	2.4	2.4	2.4
Unindexed 5-year bonds	3.7	3.5	3.7	3.6	3.7	3.9
Unindexed 20-year bonds	5.9	5.7	5.5	5.5	5.6	5.7
CPI-indexed 1-year bonds	-0.8	-0.5	-0.5	-0.6	-0.8	-0.5
CPI-indexed 5-year bonds	0.9	0.8	0.8	0.7	0.7	1.0
CPI-indexed 30-year bonds	3.4	3.2	3.2	3.0	3.1	3.3
Yield gap between government bonds and private bonds rated AA–AAA[a] (percentage points)	1.2	1.1	1.2	1.1	1.1	1.0
private unrated bonds excluding real estate[a] (percentage points)	11.2	10.0	9.2	8.4	8.2	8.1
Share market (percentage change during the month)						
General share price index	1.4	2.6	6.5	4.1	-2.7	5.4
Tel Aviv 25 index	5.3	1.5	8.0	3.9	-2.2	6.4
Foreign currency market (percentage change during the month)						
NIS/$	-2.5	1.0	-4.0	-0.8	1.3	-3.6
NIS/€	3.5	-1.6	2.9	0.7	-4.7	-1.1
Nominal effective exchange rate	0.6	-0.0	-0.4	0.0	-1.6	-2.0
Risk indices derived from the trade in NIS/$ options in the Tel Aviv Stock Exchange (monthly averages, percent)						
Implied standard deviation	8.1	7.8	7.1	9.2	8.8	8.0
Probability of depreciation greater than 3%	2.8	2.8	1.7	3.6	2.6	2.2
Probability of appreciation greater than 3%	1.0	0.9	0.9	2.4	1.9	1.3

[a] CPI-indexed bonds, excluding convertibles, with a yield of up to 60 percent, and with a duration of more than one year.
SOURCE: Bank of Israel.

Appendix Table 2
The Inflation Environment and Interest Rates, January to June 2010

(percent, monthly averages)

	07/10	08/10	09/10	10/10	11/10	12/10
Inflation environment (percent)						
Monthly change in CPI	0.5	0.5	0.3	0.3	0.1	0.4
Forecasters' predictions of monthly CPI (average of forecasts prior to publication of CPI)	0.8	0.3	0.2	0.2	0.3	0.1
Annual change in CPI	1.8	1.8	2.4	2.5	2.3	2.7
One-year inflation expectations derived from the capital market	3.0	2.7	2.8	3.0	3.2	3.0
Forecasters' one-year inflation predictions	3.0	3.0	2.9	2.9	2.9	2.9
Short term (second and third years forward)	2.8	2.9	2.8	2.9	3.1	2.9
Medium term (fourth to sixth years forward)	2.5	2.5	2.8	2.7	2.8	2.8
Long term (seventh to tenth years forward)	2.7	2.7	2.7	2.7	2.7	2.6
Interest rates and interest rate differentials						
Bank of Israel interest rate	1.50	1.75	1.75	2.00	2.00	2.00
Derived real interest rate	-1.4	-1.0	-1.0	-1.0	-1.1	-0.9
Short-term interest rate differential between Israel and the US (prior to decision on the next month's rate)	1.25	1.50	1.50	1.75	1.75	1.75
Short-term interest rate differential between Israel and the eurozone (prior to decision on the next month's rate)	0.50	0.75	0.75	1.00	1.00	1.00
Forecasters' predictions of nominal interest rate for next month (prior to the decision)	0.1	0.1	0.1	0.2	0.0	0.1
Forecasters' predictions of interest rate a year hence	2.75	2.75	2.81	2.90	3.00	3.10
Long-term (10-year) nominal interest rate differential between Israel and US	1.9	1.9	2.0	2.0	1.9	1.7
Long-term (10-year) real interest rate differential between Israel and US	0.9	0.9	0.9	1.2	1.2	1.1

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