



Bank of Israel

INFLATION REPORT

January-March 2009

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1 May 2009

Bank of Israel

Letter of the Governor accompanying the Inflation Report for January–March 2009

This Inflation Report, covering the first quarter of 2009, is submitted to the government, the Knesset and the public as part of the process of monitoring the inflation rate and the achievement of 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.

Prices rose at a much slower rate in the second half of 2008 than in the middle of the year, against the background of the dampening of world commodity prices and declining domestic demand. The Consumer Price Index (CPI) declined by 0.1 percent in the first quarter of 2009, also due partly to seasonal factors. Excluding seasonal factors, the CPI rose in that quarter by 0.5 percent. The rate of inflation over the previous twelve months was 3.6 percent at the end of the first quarter of 2009, above the upper limit of the inflation target range, and significantly lower than the rate in the middle of 2008. At the end of 2008, one-year inflation expectations fell considerably, and in the first quarter of 2009 they settled slightly below the 1 percent lower limit of the inflation target.

The effects of the global crisis on Israel's economy, which at first were milder than its effects on other economies, have since become quite evident in the contraction of economic activity in all industries, with a significant negative impact on exports and domestic uses. At the same time, the financial markets stabilized in the first quarter of 2009: following steep declines in prices of financial assets in the last quarter of 2008, they leveled in 2009:Q1, and the yield gaps between corporate and government bonds steadied and even contracted during the quarter, with some renewal of corporate issues. This may indicate expectations of some easing of the economic situation, but its reflection in the labor market, which generally reacts with a lag to changes in real activity, is likely to take longer.

With the increased severity of the slowdown in economic activity world wide, governments continued to pursue expansionary fiscal policies intended to support the stability of their financial sectors and to promote real activity. Central banks continue to pursue expansionary monetary policies by means of interest rate cuts and other measures.

The Bank of Israel pursued its expansionary monetary policy with the intention of dampening the impact of the global crisis on real activity while preserving financial stability and maintaining price stability. Since the beginning of 2009 the Bank of Israel has cut the interest rate by 2 percentage points, from 2.5 percent in December 2008 to 0.5 percent in May 2009. In addition to cuts in the interest rate, in February the Bank started to buy government bonds in the secondary market, with the aim of supporting the reduction in yields, which provide a benchmark for the determination of medium- and long-term interest on credit in the economy. The Bank also continued its purchases of foreign currency which started about a year ago.

To fix the interest rate at the level declared by the Bank of Israel each month requires the sterilization of the banks' excess liquidity. Otherwise, the shortest term interest rate would fall below the declared rate. The purpose of the foreign currency and government bonds purchases is to help implement an expansionary monetary policy when the possibility of reducing the short-term interest rate has been exploited virtually to the full. All this, to encourage economic activity and to prevent the economy from slipping into an environment of continuous price reductions.

According to Bank of Israel assessments, private forecasters' predictions, and expectations derived from the capital market, the rate of inflation in the year ahead is expected to be close to the lower limit of the inflation target range. The revision of the assessments compared with those in the previous Inflation Report is due to the change of the underlying conditions: on the one hand, the steeper decline in world trade, which acts to slow domestic activity even further, and on the other, the expectation of a moderate increase in world commodity prices. A continued slowdown in global economic activity, with an intensification of the slowdown in domestic activity and stability or reductions in commodity prices abroad, are likely to be reflected in lower, possibly even negative, inflation.

The Bank of Israel will continue to monitor developments in Israel and abroad, and will act to keep inflation within the target range, while encouraging real activity and maintaining financial stability.

Alongside the Bank's monetary policy, which will be implemented using all available tools, the new government should adopt the appropriate fiscal policy to support real economic activity and to reduce the impact of the recession. To enable activity to expand, it is important to ensure the proper functioning of the banking system and the capital market, thus making it easier to finance the activity of the business sector. This, while maintaining the stability of the financial system—a prerequisite for the renewal of sustainable economic growth.

A handwritten signature in cursive script, reading "Stanley Fischer".

Stanley Fischer
Governor, Bank of Israel

CONTENTS

Summary	7
I. THE BACKGROUND AND INFLATION	
a. The global environment	8
b. The exchange rate and the balance of payments	11
c. Real economic developments	12
d. Financial developments	15
e. Inflation in 2009:Q1	19
II. MONETARY POLICY	22
III. REVISED FORECASTS	25
a. The global environment	25
b. Real economic activity in Israel	26
c. Assessments regarding the exchange rate and the balance of payments	27
d. Assessments regarding the development of inflation and the balance of its risks	27
Box: Monetary policy given a zero interest rate	29

Summary

- **Inflation:** The Consumer Price Index (CPI) fell in the first quarter of 2009 by 0.1 percent; seasonally adjusted it increased by 0.5 percent. In the last twelve months it rose by 3.6 percent, but it did not change uniformly and its development indicates a lower inflation environment than that prevailing before the worsening of the global crisis in September 2008. The background to the sharp fall in the inflation environment was the decline in demand and the drop in world commodity, energy and fuel prices compared with their levels in mid-2008. Inflation expectations also fell and settled below the lower limit of the inflation target range.
- **Real activity:** In the last quarter of 2008 real economic activity contracted, the output gap widened, and the rate of unemployment increased. Preliminary indicators suggest that aggregate demand continued to decline in the first quarter of 2009. The slowdown in economic activity was mainly the result of the decline in exports against the background of the fall in world trade. The drop in demand, the increase in uncertainty and the impact on the public's wealth support the assessment that the moderate level of activity will continue also in the next quarters.
- **The financial markets:** The financial markets stabilized in the first quarter of 2008 compared with the previous quarter, but the risk level remains high. Share prices in the Tel Aviv Stock Exchange (TASE) steadied to some extent, the risk premium on corporate bonds was reduced, and there was renewed raising of capital from nonbank sources; these did not revert to the levels prevailing prior to the deterioration of the crisis in September 2008. Against the background of the expansionary monetary policy, the real yield curves of government bonds moved downwards, the nominal effective exchange rate showed shekel depreciation, and for the first time since the third quarter of 2007, there was also real effective depreciation.
- **Around the world:** the effects of the financial crisis are evident in real economic activity in both advanced and emerging market economies, where together with reduced levels of activity, low levels of inflation were recorded. The IMF expects the fiscal aid programs in the advanced economies to lead to increased government deficits in 2009 in those countries, up to about 7 percent of their GDP. The slowdown in economic activity and concern over deflation in the short term resulted in expansionary monetary policies that included interest rate cuts and quantitative easing.
- **Monetary policy:** Continuing the actions it took in the last quarter of 2008, the Bank of Israel followed an expansionary policy to bring inflation into the target range, to stabilize the financial markets, and to support economic activity. To achieve these objectives the Bank used three tools: the interest rate, purchases of foreign currency, and purchases of government bonds. In the first quarter the Bank reduced the rate of interest till it reached an unprecedentedly low level of 0.5 percent in April, and it stayed at that level in May. In February the Bank started buying government bonds on the secondary market to lower their yield and thus support the reduction of medium- and long-term interest rates. These purchases average about NIS 200 million a day, and the Bank's intention is to buy bonds to a total of between NIS 15 billion and NIS 20 billion. The Bank also continued to buy an average of \$100 million a day of foreign currency to increase the level of the forex reserves and to support the exchange rate.
- **Forecast:** Against the background of the effects of the crisis spreading to world trade and to domestic demand, the forecasts are for the output gap to widen, GDP to contract by 1.5 percent in 2009, and unemployment to rise to 7.7 percent on average (meaning a level of 8.5 percent at the end of the year). GDP is expected to grow by 1 percent in 2010. Inflation, measured over the previous twelve months, is expected to enter the target range in the second quarter of 2009, and in light of the widening of the output gap, is expected to be around the lower limit of the target range at the end of 2009.

* The monetary regime within which the Bank of Israel operates is aimed at achieving price stability, defined as an inflation rate of between 1 percent and 3 percent a year. (For details see Box 1 on page 11 in the Bank of Israel Inflation Report No. 17, July–December 2005.)

I. THE BACKGROUND AND INFLATION

a. The global environment

The first quarter of 2009 was characterized by the continuation of the global financial crisis and its rapid spread to real economic activity in both the advanced and the developing economies. Updated data for the second half of 2008 indicate a slowdown in economic activity and in some countries—headed by the US—even contraction, alongside a rise in unemployment. As indications regarding the extent and intensity of the crisis accumulate, expectations for global economic growth in 2009 are revised downwards with ever-increasing frequency (Figure 1). Concurrently, and further to the events of the last quarter of 2008, additional financial institutions throughout the world have had to request government aid, and some of them have collapsed. In view of the situation and against the backdrop of expectations that the recession will worsen, central banks continued to adopt an expansionary policy by reducing interest rates and injecting liquidity; plans for fiscal expansion were implemented and direct aid was extended to sectors affected by the crisis, and financial institutions were—at least in part—nationalized.

Alongside the deepening of the crisis in the real economy, initial signs of stabilization were evident in the capital markets. After the fall in share prices in stock markets all over the world in the first half of 2008, and the acceleration of this trend in September, share-price indices stabilized from November, and in March 2009 they even rose (Figure 2). The last increase in share prices was made in the context of the Fed’s assessment of a possible economic recovery in the US towards the end of the year, of some stabilization in the banking sector, and the first signs of an upturn in the real-estate market there.

Global inflation

After plummeting in the second half of 2008, world prices of commodities, energy, and food stabilized during the first quarter of 2009. In recent years, in view of strong growth in the emerging economies, global prices of commodities, energy, and food rose, reaching a peak in mid-2008. As the crisis spread to the real economy and expectations of a decline in demand from the emerging economies grew, prices plunged in the second half of 2008 (Figure 3). Only in the first quarter of 2009, after relative tranquility in the markets, did prices stabilize. According to the Bloomberg indices, prices of basic metals rose by 14.2 percent,

Figure 1
Changes in 2008 in the Forecasts of 2009 World Growth



Figure 2
Share Price Indices around the World, January 2008 to March 2009 (adjusted by dollar exchange rate, daily data, 15 Sep 2009 = 100)

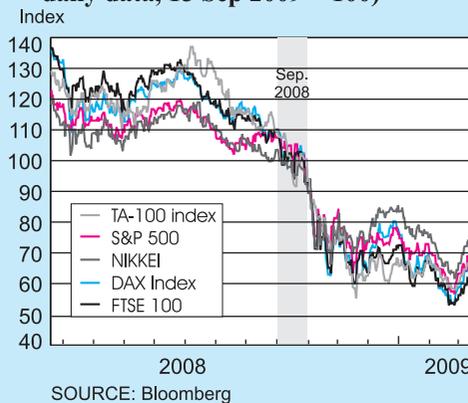


Table 1
The CPI and Selected Components in Israel and Abroad, 2007, 2008 and 2009

	(percent change in previous twelve months)								
	Israel			US			Europe		
	2007	2008	March 2009	2007	2008	March 2009	2007	2008	March 2009
CPI	3.4	3.8	3.6	4.1	0.1	-0.4	3.1	1.6	0.0
Energy	14.4	-9.5	-9.4	17.4	-21.3	-23.0	9.2	-3.7	-1.2
Food (excluding fruit and vegetables)	6.3	9.1	4.9	4.8	5.9	4.4	5.1	3.5	0.0
Fruit and vegetables	7.0	-2.0	-6.5	5.9	3.4	2.4	3.1	2.8	-0.2
CPI excluding energy, food, and fruit and vegetables	1.6	3.6	5.2	2.4	1.8	1.8	1.9	1.8	1.5

SOURCE: Based on Central Bureau of Statistics, ECB, Eurostat, and US Bureau of Labor Statistics data.

of food by 0.1 percent, and that of a barrel of Brent oil by 10.1 percent.^{1,2}

In the advanced economies the increase in prices that had stemmed from the supply side was replaced by moderate inflation—due to the contraction of demand. Before the crisis spread to the emerging economies the global economy was characterized by a constant rise in the prices of commodities, energy, and food. This was due to the rapid expansion of these economies, led by China (and by expectations of their continued growth). The decline in demand in the advanced economies had an adverse effect on the exports of the emerging economies, moderating their growth rate and causing commodity prices to decline. As global prices of commodities fell, the inflation rate of the advanced economies plummeted—as may be expected in an economic environment that has experienced a negative demand-side shock—and there are now apprehensions of deflation, at least in the near future.

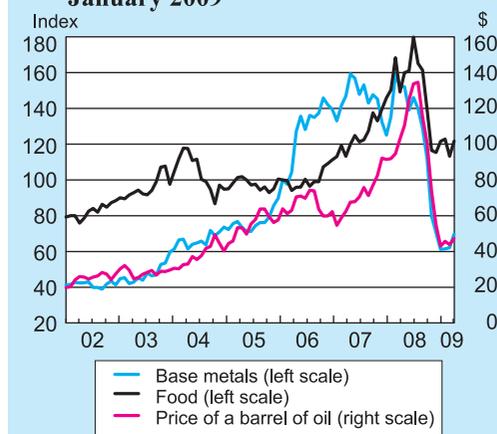
Global measures to deal with the crisis

The extent and depth of the economic slowdown has led governments all over the world to adopt expansionary policies. These measures, which are intended to ease the credit crisis, depart from the customary counter-cyclical policy adopted when there is a downturn in the business cycle. In the US, as the Obama administration took office, the Treasury announced a Financial Stability Plan aimed at getting credit flowing once more. The plan included the massive injection of capital into the financial markets, the removal of toxic assets from banks’

¹ March 2009 average vis-à-vis December 2008.

² The basic metals index comprises aluminum, copper, nickel, lead, zinc, and tin. The food index comprises livestock, field crops, sugar, coffee, and cocoa.

Figure 3
Price Indices of Base Metals and Food (January 2006 = 100), and the Price of Oil, January 2002 to January 2009



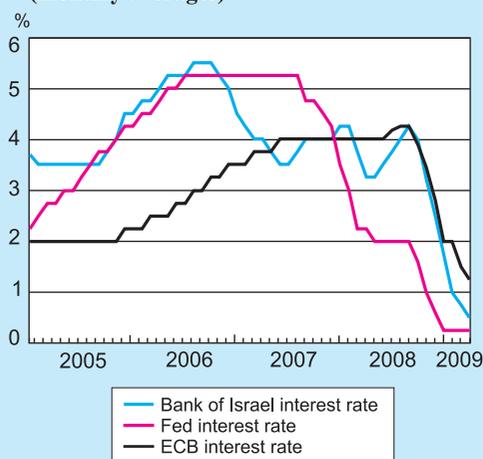
SOURCE: Bloomberg

balance sheets, and various plans to make it easier to obtain credit. In Europe, alongside national-specific plans, emphasis was placed on improving the supervision of the continent's financial institutions and imposing uniform regulatory requirements on all countries. In China, the third largest economy in the world, a policy of vigorous fiscal expansion was adopted involving the injection of over half a trillion dollars in the next two years (7–8 percent of annual GDP per annum).

The G20 Conference decided to augment the IMF's sources and increase the supervision of financial institutions. In early April the leaders of the G20 countries decided to hike the IMF's funding by one trillion dollars. This will triple the funds available to the IMF for extending loans to countries in difficulties and bring them up to \$750 billion, and also serve to increase the liquidity in global markets by expanding SDRs (Special Drawing Rights) by \$250 billion.³ It was also decided to tighten the regulation of hedge funds, the supervision of credit rating agencies, and the level of risk that banks are allowed to take, requiring them to be more transparent in order to prevent the creation of tax havens.

The various aid plans will cause budget deficits to escalate. According to the IMF's estimates, during 2009 the fiscal aid packages in the G20 countries are expected to reach 1.5 percent of GDP. This expenditure will serve to expand budget deficits beyond the effect of the automatic stabilizers, with the result that in 2009 the deficits of the advanced economies are expected to reach 7 percent of GDP. Official estimates in the US are that in 2009 the budget deficit will be around 12 percent of GDP, its highest level since the Second World War.

Figure 4
Short-Term Interest Rates in Israel,
the US, and the Eurozone,
2005 to March 2009
 (monthly averages)



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

Global monetary policy

Once the US interest rate reached a zero level the Fed acted by using additional instruments to attain monetary expansion and reduce credit risk. As of mid-December 2008 the US interest rate reached its lower bound, varying within a target range of 0 to 0.25 percent. The Fed's announcements indicate that it is expected to remain at this level for some time. Alongside the aggressive interest-rate policy, the Fed also acted by means of various aid and stimulus packages in the financial markets. The Fed's expansionary policy, which began when the financial crisis erupted in July 2007 and was expanded considerably in the fourth quarter of 2008, includes the following: easing the criteria

³ SDRs are an asset created by the IMF to complement the reserves of its member-countries. They are accorded to countries in line with a quota that reflects their share in the IMF, proportionate to the size of their economy.

for obtaining credit from the Fed, expanding its horizon and providing access to the credit window to financial entities that are outside the banking system; buying long-term government bonds; extending loans for the purchase of mortgage-backed bonds; directly purchasing assets from the mortgage agencies; injecting capital and directly purchasing the shares of large financial entities. These actions have had an effect on the Fed’s balance sheet and through it on the monetary base, which doubled during the last quarter of 2008 (Figure 5).

Expansionary monetary policy continued in Europe, albeit to a more limited extent than in the US. Since the exacerbation of the financial crisis in September the ECB (European Central Bank) has reduced its interest rate by a cumulative 3 percentage points, and in April 2009 it stood at 1.25 percent. Concurrently, the monetary base rose appreciably (Figure 5), though in comparison with the US Europe’s monetary expansion is more limited.

b. The exchange rate and the balance of payments

Israel’s currency fell against most of the principal currencies in the course of the first quarter of 2009. The effective nominal exchange rate depreciated during 2009:Q1 by 4.3 percent on average from the preceding quarter, continuing the trend evident since October 2008. Against the dollar the NIS depreciated by 6.1 percent on average, and against the euro by 5.4 percent (Figure 6). The backdrop to the weakening of the NIS consisted, inter alia, of the purchase of dollars by the Bank of Israel; this policy began in March 2008, and is planned to continue in the future. Alongside nominal depreciation there was real depreciation: the effective real exchange rate was down—for the first time since 2007:Q3—by 4.9 percent on average. Real depreciation supports Israel’s exports and moderates the contractionary influence of the global crisis. Similarly, towards the end of 2009:Q1 the implied volatility of NIS/\$ options reverted to their level before the exacerbation of the crisis in September. This decline reflects some clearing-up of economic uncertainty.

The current-account surplus contracted alongside a decline in imports and exports. In the fourth quarter of 2008 the seasonally adjusted current-account surplus fell to \$0.5 billion, compared with \$0.7 billion in the preceding quarter. Alongside this decline, foreign trade contracted as regards both imports and exports, with a fall in the trade deficit, which had begun already in mid-2008. Non-diamond exports, in annual terms and seasonally adjusted, were down by a steep 31.6 percent in the fourth quarter of 2008 from the preceding quarter, and imports of civilian goods

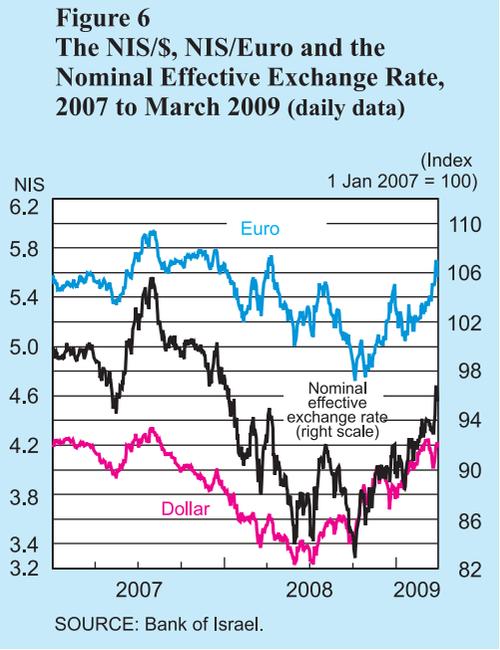
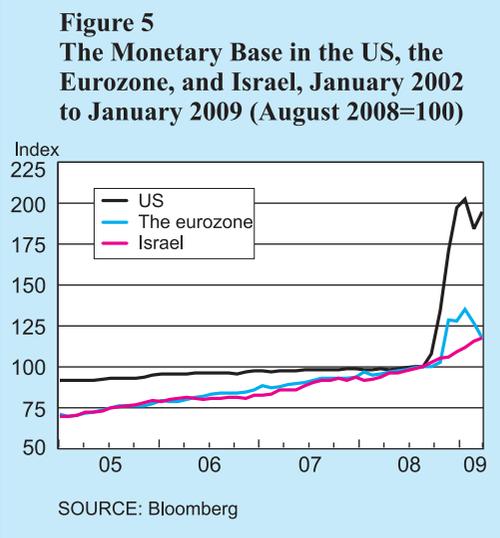
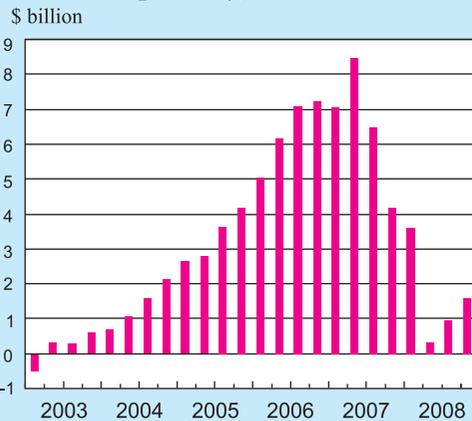
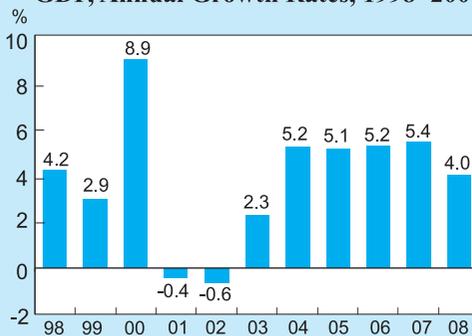


Figure 7
The Current Account, Running
Four-Quarter Totals,
2003–08 (quarterly)



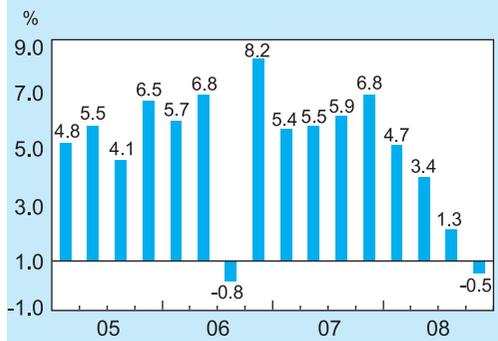
SOURCE: Based on Central Bureau of Statistics data.

Figure 8
GDP, Annual Growth Rates, 1998–2008



^a Bank of Israel forecast.

Quarterly Growth Rates, 2003
to September 2008 (in annual terms)



SOURCE: Bank of Israel and Central Bureau of Statistics.

and services (excluding diamonds, ships, and aircraft) dipped by 2.5 percent. According to preliminary foreign-trade indicators, this trend persisted in early 2009, too. The decline in imports reflects primarily the contraction of demand for capital goods and raw materials, although imports of consumer goods also declined.

The last quarter of 2008 was characterized by the repatriation of net capital. Against the backdrop of the exacerbation of the financial crisis and the increase in risk, residents repatriated net capital to Israel in the net amount of \$7.2 billion. Concurrently, nonresidents sold assets in Israel and this, adjusted for the purchase of Teva shares in the BAR transaction, amounted to \$4.6 billion net.⁴

c. Real economic developments⁵

In 2008:Q4 Israel’s economic activity contracted. After four and a half years of expansion GDP was down by 0.5 percent in that quarter from the preceding one, and business-sector product fell by an even steeper 1.6 percent. In per capita terms the contraction of activity had begun already in the third quarter of 2008. The marked reduction of activity was evident in all the components of aggregate demand other than public consumption: private consumption and foreign trade dipped, investment in fixed assets rose only moderately, and inventories grew considerably.⁶ The contraction of economic activity was expressed in the widening of the output gap and hence served to reduce the inflation rate in the period reviewed.

According to preliminary indicators in the first quarter of 2009 economic activity will continue to contract. The Composite Index, indices of manufacturing production, and indices of foreign trade show that economic activity is still shrinking. The Bank of Israel’s Companies Survey for the first quarter of 2009 reveals that the contraction is on the demand side. The reduction stems primarily from the sharp drop in global activity and its effect on exports. The decline in world demand and the adverse effect on the public’s wealth (especially at the end of 2008) bears out the assessment that aggregate demand

⁴ The BAR transaction involved the purchase of shares in Teva by nonresidents to the amount of \$3.1 billion. Adjusting for this transaction, net repatriations by nonresidents amounted to \$1.5 billion.

⁵ The data in this section are in seasonally adjusted annual terms.

⁶ The level of output obtained from total uses less imports fell by 9 percent in the fourth quarter of 2008, compared with a 0.5 percent dip in the direct figure. This difference, which is unusual in relation to the average difference between the two measurements of growth rates, appears to show that in actual fact the contraction of output was greater than that indicated by the direct figure.

will continue to shrink in the coming quarters, too, and that the output gap will widen. The expansion of the output gap will exert deflationary pressure on domestic prices.

Private consumption

Private consumption declined by 3.1 percent in the fourth quarter of 2008 from the preceding quarter. The contraction of consumption derives from the steep 40 percent drop in demand for consumer durables. In contrast, current consumption rose slightly, by 0.6 percent, although this increase expresses a decline in per capita terms. Preliminary indications—among them the marked decline in domestic VAT receipts compared with the equivalent period in 2008, the contraction of imports of consumer goods, the fall in the index of revenue in commerce and the services, and the slight increase in sales by retail chains—attest to moderate private consumption in the first quarter of 2009, too. Moderate consumption is also reflected in the slowing of the inflation rate in recent months.

Investment

Investments in fixed assets moderated in 2008:Q4 alongside a steep rise in inventories. Investment in fixed assets (excluding ships and aircraft) was up by a moderate 1.5 percent in the fourth quarter of 2008 over the preceding quarter. As a result of the drastic expansion of inventories in the context of the recession, gross investment soared by 40.7 percent. The decline in imports of investment goods at the beginning of 2009 appears to indicate that investment fell in that period. Investment in the business sector, as derived from the National Accounts figures, fell by 4 percent in the fourth quarter of 2008, after plummeting by 13.2 percent in the third quarter. The decline in business-sector product and the continued economic uncertainty serve to increase the probability that investment declined in the business sector in early 2009.

Public consumption and budgetary performance

The rise in public expenditure and the reduction of taxes increased the budget deficit. Public consumption grew by 6.3 percent in 2008:Q4, almost double the average rise in the previous three quarters of 2008, but this was due to a great extent to the fact that expenditure was brought forward from 2009 to 2008. The government's overall deficit (excluding credit) was NIS 4.8 billion in the first quarter of 2009, compared with surpluses in the equivalent period every year between 2004 and 2008. An analysis of the deficit shows that the main factor explaining it is tax revenue, which fell by 15.8 percent in real terms, adjusted

Table 2
GDP, Imports and Uses, 2005-2008

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

	2005	2006	2007	2008	2007		2008	
					First half	Second half	First half	Second half
GDP	5.1	5.2	5.4	4.0	6.1	6.0	4.9	1.3
Business sector output	6.2	6.4	6.2	4.4	7.4	7.2	5.8	1.0
Imports excluding defense imports, ships, aircraft and diamonds	5.3	5.4	13.5	7.0	17.4	15.1	7.7	-1.3
Private consumption	3.9	4.0	6.7	3.9	7.2	6.3	5.0	-0.4
<i>of which:</i> Private consumption excluding consumer durables	4.0	3.7	5.5	3.4	6.6	5.0	2.6	3.1
Public consumption	1.7	2.7	2.9	2.8	2.7	0.8	2.8	2.5
<i>of which:</i> Public consumption excluding defense imports	0.7	2.0	3.5	2.9	4.4	2.1	1.6	5.0
Gross domestic investment	12.7	6.5	12.0	3.8	18.2	12.7	-5.1	20.2
<i>of which:</i> Fixed investment, excluding ships and aircraft	2.9	9.9	15.5	5.1	12.0	24.5	2.0	-4.5
Exports excluding diamonds	6.5	10.3	9.5	8.0	9.0	14.0	15.4	-8.3
<i>of which:</i> Exports excluding diamonds and start-ups	7.1	9.7	10.0	7.2	10.7	13.4	13.1	-6.8

SOURCE: Based on Central Bureau of Statistics data.

for legislative amendments. The decline in tax revenues, which began with direct taxes (corporate tax receipts, capital gains tax, and land tax) at the beginning of 2008, now also encompasses indirect taxes, especially those on imports, but also purchase taxes on domestically manufactured goods and services. In the course of 2009 the budget deficit is expected to reach between 5.5 and 6 percent of GDP. The implementation of fiscal plans to bolster economic activity, as well as the coalition agreements, are expected to increase the deficit even further.

The labor market

The signs of the crisis were evident in the labor market during the fourth quarter of 2008 as the unemployment rate rose, the number of persons in full-time employment plummeted, and wages fell. After the protracted decline over four years in the unemployment rate, in 2008:Q4 it rose to 6.3 percent, expressing an increment of 11,000 unemployed persons in that quarter. The labor force participation rate rose slightly to 56.6 percent, and the employment rate remained unchanged at 53 percent. The moderate increase in the number of employed persons reflects an increase in the number of those in part-time employment and those temporarily absent from work, and a 4.1

percent decline—75,000 persons—in the number of persons in full-time employment. The data until December for Israelis in salaried positions indicate that there was a 0.4 percent decline in the number of these positions in the fourth quarter of 2008 from the preceding quarter, and that the reduction in both the real and the nominal wage continued. The decline in wages is expected to mitigate pressures for price increases from the supply side.

Indicators for the first quarter of 2009 show that the slackness in the labor market will persist. Health tax receipts, the preliminary indication of the unemployment rate, and data from the survey of employers all indicate that the slowdown in the labor market continued at the beginning of 2009. The upward trend in the preliminary unemployment rate, which had begun in July 2008, persisted, and in January 2009 the rate reached 6.8 percent. The Ministry of Industry, Trade and Labor’s survey of employers indicates that for the second quarter in succession there is a negative employment balance, i.e., the number of employees who are dismissed exceeds that of posts that are filled. The number of job-seekers also rose, according to Employment Exchange data, alongside a decline in the demand for new employees, as is indicated by the Manpower index and Employment Exchange data.

d. Financial developments⁷

After the sharp fall in the value of financial assets in the preceding quarter, their prices stabilized, although they continued to reflect a high level of credit risk. As a result of the global financial crisis share prices on the Tel Aviv Stock Exchange (TASE) plunged by 35 percent in the fourth quarter of 2008; during 2009:Q1 their prices stabilized, inter alia in the context of the reduction of the interest rate by the Bank of Israel, which served to make the share channel more attractive. Concurrently, the yield differential between CPI-indexed corporate bonds and indexed government bonds stabilized, and even narrowed in 2009:Q1 (Figure 10): The yield differential of unrated bonds and those whose rating is relatively low narrowed after expanding significantly in the wake of the crisis in September, but it is still wider than it has been in the past few years. Regarding bonds with the highest rating there was no significant change in the yield differential, although it became less volatile. These developments reflect the process of risk pricing in the markets and the fact that there has been some easing with regard to the extent and depth of the crisis and the expected policy measures in response to it.

⁷ For a more detailed discussion of recent financial developments, see Chapter 4 of Bank of Israel Annual Report, 2008.

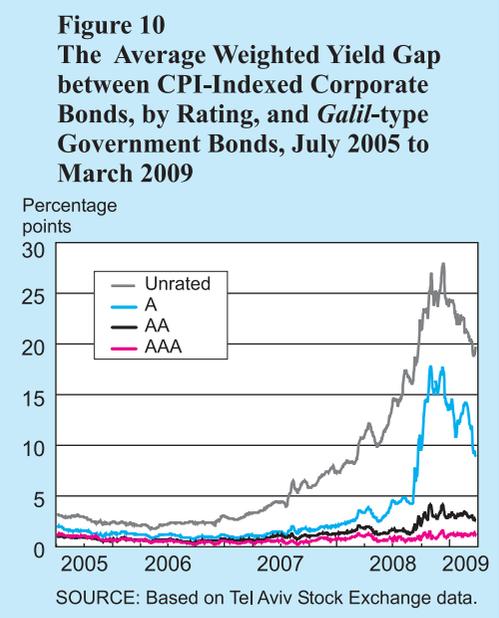
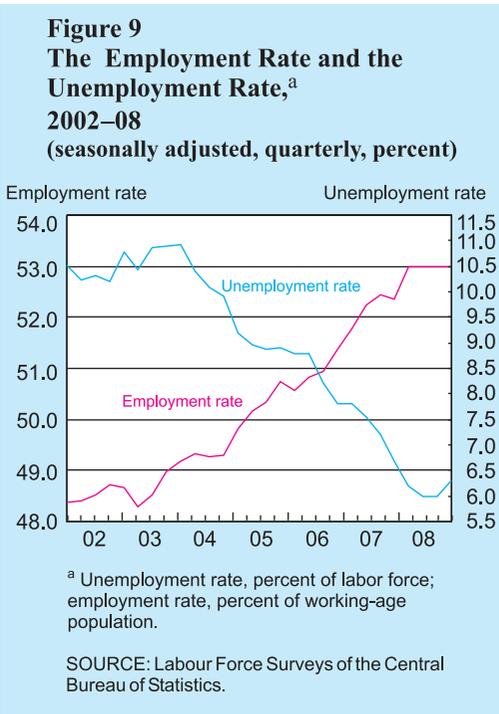


Table 3
The Domestic Assets Markets, July 2008–March 2009

	07/08	08/08	09/08	10/08	11/08	12/08	01/09	02/09	03/09
Yields to maturity (monthly average, percent)									
3-month <i>makam</i>	3.8	4.1	4.2	3.6	3.0	2.1	1.3	0.6	0.5
1-year <i>makam</i>	4.4	4.5	4.3	3.5	3.0	2.0	1.5	1.1	1.1
Unindexed 5-year bonds	5.4	5.3	5.3	5.3	5.3	4.2	3.9	3.7	3.7
Unindexed 20-year bonds	6.6	6.4	6.4	6.8	7.0	5.9	5.7	5.5	5.3
CPI-indexed 1-year bonds	1.2	1.8	2.2	3.2	3.2	2.8	0.9	0.3	0.3
CPI-indexed 5-year bonds	2.5	2.7	3.0	3.7	3.8	3.2	2.3	1.8	1.5
CPI-indexed 30-year bonds	3.6	3.6	3.7	4.1	4.4	3.8	3.6	3.4	3.5
Yield gap between governments bonds and :									
private bonds rated AA–AAA (percentage points)	1.8	1.5	2.2	3.2	3.0	3.5	3.2	3.1	3.2
private unrated bonds excluding real estate ^a (percentage points)	11.5	12.8	14.4	15.3	19.8	22.8	20.1	18.6	20.4
Share market (percentage change during the month)									
General share price index	-4.7	-2.3	-11.8	-17.6	-5.8	-4.4	6.9	5.4	6.8
Tel Aviv 25 index	-4.7	-2.7	-11.9	-18.2	-8.0	-1.9	0.9	0.8	9.4
Foreign currency market (percentage change during the month)									
NIS/\$	3.5	3.5	-4.8	10.6	3.6	-3.0	6.9	2.4	0.6
NIS/€	2.5	-2.2	-5.6	-3.5	4.5	5.0	-1.2	0.7	5.7
Nominal effective exchange rate	3.4	-0.2	-5.4	2.0	3.1	1.0	2.0	0.5	3.0
Risk indices derived from the trade in NIS/\$ options in the Tel Aviv Stock Exchange (monthly averages, percent)									
Implied volatility	15.2	12.4	13.4	19.5	19.5	18.7	19.8	17.3	13.1
Probability of depreciation greater than 3%	13.7	8.4	10.0	16.2	22.0	20.3	18.0	15.9	8.8
Probability of appreciation greater than 3%	8.9	5.6	7.9	17.7	12.1	12.0	16.9	12.1	7.3

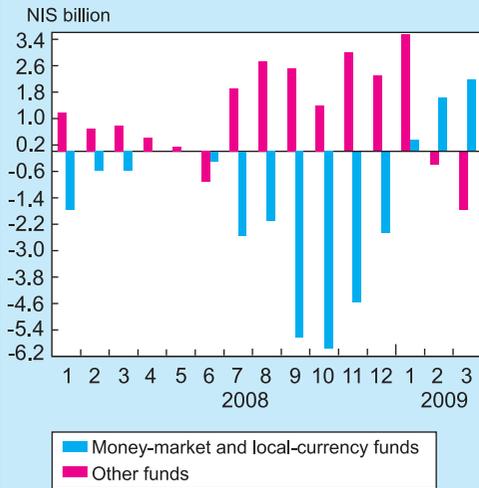
^a CPI-indexed bonds, excluding convertibles, with a yield of up to 60 percent, and with a duration of more than one year.

SOURCE: Bank of Israel.

The value of the public's asset portfolio rose, and redemptions from the various funds diminished. From the exacerbation of the financial crisis in September 2008 until November the public's asset portfolio lost 11.2 percent of its value. In December, as the capital markets stabilized, the trend reversed, and by February the portfolio had regained 5.9 percent of its value. Concurrently, the rate of redemptions from the provident, advanced study, and mutual funds plummeted.

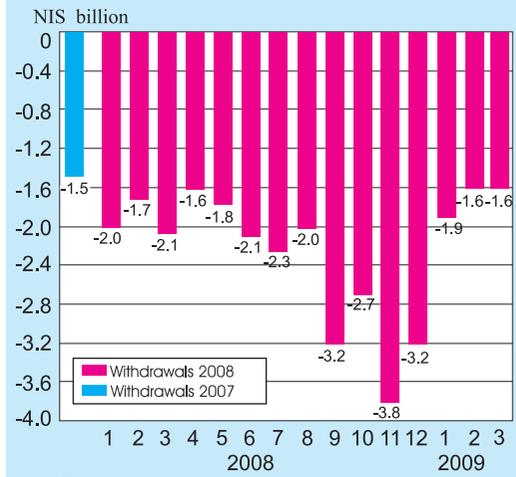
The real yield curves on government bonds shifted downwards in the first quarter of 2009; this development expresses the moderation of redemptions from the provident and advanced study funds and expansionary monetary policy, as well as expectations of a moderation of economic activity. In September, as the crisis worsened, the real yield curves on

Figure 11
New Deposits (+) in and Withdrawals from Mutual Funds since January 2008 (monthly data)



SOURCE: Bank of Israel.

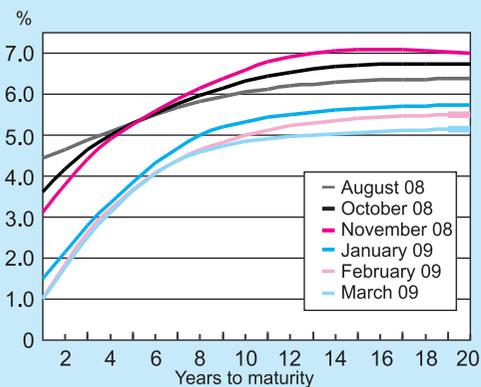
Figure 12
Withdrawals from Provident Funds (monthly data)



^a Monthly average.

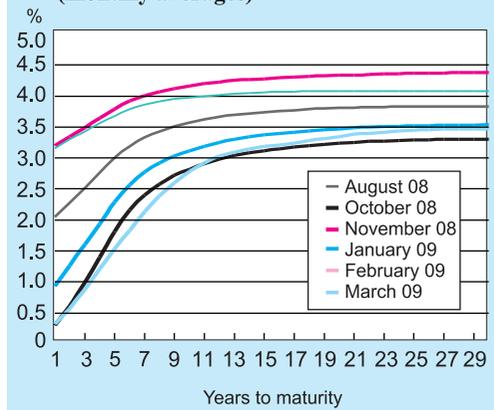
SOURCE: Bank of Israel.

Figure 13
Yield To Maturity Curve of Unindexed Bonds, December 2008 to March 2009 (monthly averages)



SOURCE: Bank of Israel.

Figure 14
Yield To Maturity Curve of CPI-Indexed Bonds, December 2008 to March 2009 (monthly averages)



SOURCE: Bank of Israel.

Figure 15
Nominal and Real Yields to One Year,
January 2003 to March 2009
(monthly averages)

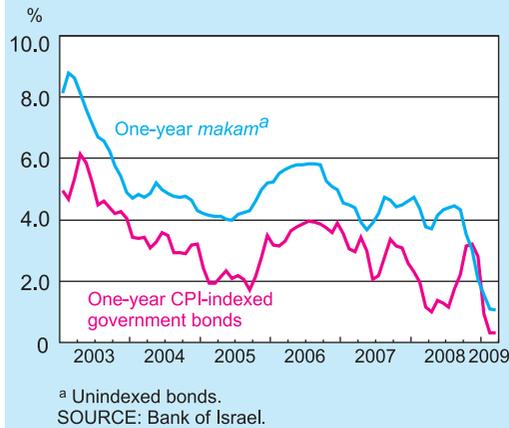


Figure 16
Capital Raised from Nonbank Sources,
July 2007 to March 2009

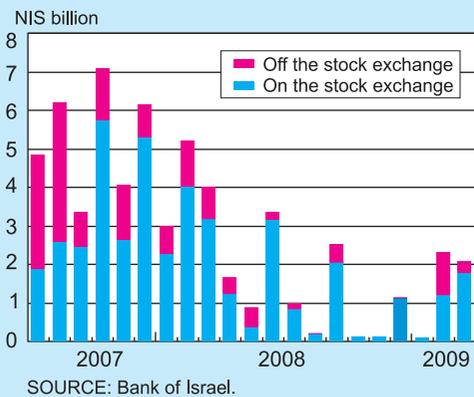
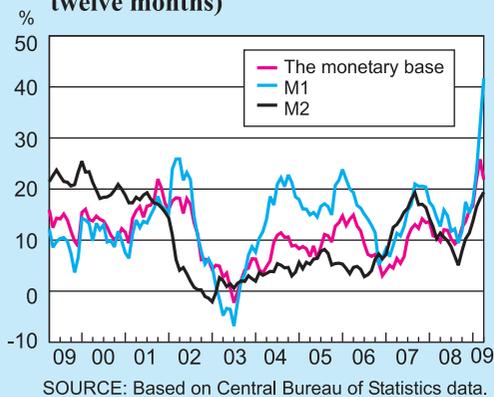


Figure 17
The Monetary Aggregates,
March 1999 to March 2009
(rates of change over previous
twelve months)



government bonds shifted upwards. This movement was affected by redemptions from the provident and advanced study funds in the wake of the rise in assessments of risk in the markets, and it expressed the liquidity of government bonds. Since December, against the backdrop of the increased steadiness of the financial markets, the moderation of redemptions, and the effect of the interest-rate reductions, real yields declined throughout the curve. During the first quarter of 2009 the fall in real yields continued, and they reached very low levels, even lower than those that prevailed before the exacerbation of the crisis—and hence, alongside the fall in redemptions and assessments of risk, their decline expresses expectations of moderation of economic activity (Figure 14). Concurrently, in the context of the reduction of the interest rate by the Bank of Israel, the yield curves of unindexed bonds also shifted downwards. As of the middle of the first quarter the downward shift in the yield curves has also been bolstered by the Bank of Israel’s purchases of bonds.

In the first quarter of 2009 there was renewed nonbanking credit while bank credit contracted. After ceasing almost completely in the fourth quarter of 2008, nonbanking credit was taken in 2009:Q1 although at a slower rate than in the first half of 2008 (Figure 16). There were, however, indications of the weakening of bank credit, and this contracted by 1.6 percent in nominal terms after expanding in the fourth quarter of 2008, despite the crisis. The cost of short-term indexed bank credit fell from 5.3 percent in the fourth quarter of 2008 to 4.4 percent in the first two months of 2009, and interest rates in the unindexed sector declined from 7.1 to 5.9 percent. The Bank of Israel’s Companies Survey also shows that the credit constraints on the activities of large and medium-sized companies eased slightly relative to the fourth quarter of 2008; nonetheless, they became tighter with regard to small firms, though still remaining less stringent than in the previous quarters. The rise in assessments of risk in the last few months reduced both the demand for credit and its supply; however, from the relaxation of the constraints on credit together with the reduction of its cost it may be assumed that the decline in bank credit stems primarily from the fall in demand for it rather than from the restriction of its supply.

Against the backdrop of expansionary monetary policy, there was an exceptional rise in the growth rate of the monetary base and M1. With the steep interest-rate reductions of the last six months, the growth rate of the various monetary aggregates rose considerably (Figure 17). This was particularly the case with the monetary base and M1, whose rates of change in the last twelve months were the highest for a decade, with the

monetary base expanding by about 25 percent, and M1 by 40.7 percent. The M2 aggregate grew, too, by 18.5 percent. While this is a rapid rate of growth, it is not exceptional in relation to the last decade; the component which constitutes the difference between M1 and M2 rose by 13.6 percent.⁸ The sharper increase in M1 than in the other components of M2 indicates that the composition of the asset portfolio shifted away from interest-bearing deposits to liquidity, in view of the recent interest-rate cuts. It is reasonable to suppose that once domestic demand revives the exceptional expansion of the monetary aggregates will make it necessary to raise interest rates in order to dampen possible inflationary pressures.

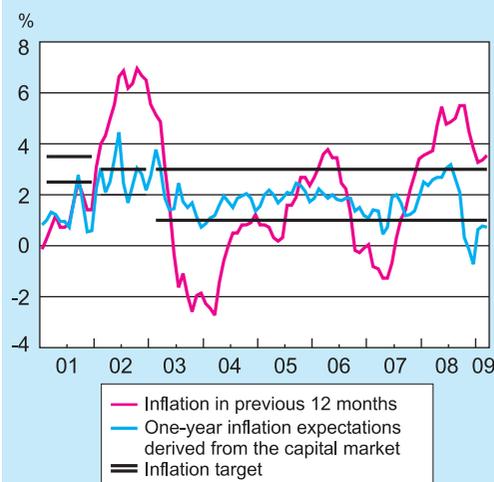
e. Inflation in 2009:Q1

During the first quarter of 2009 the Consumer Price Index (CPI) declined, primarily because of seasonal factors. Following the moderation of the inflation environment the CPI declined by 0.1 percent in the first three months of 2009. The main reasons for the decline of the CPI were seasonal factors, the most prominent among them being the 15.4 percent fall in clothing and footwear during the first quarter of 2009. The seasonally adjusted CPI rose by 0.5 percent; this rate expresses the moderation of the inflation environment—in the context of the global crisis and the moderation of real economic activity—but is also in line with the government target.

Against the backdrop of the shifts in world prices of energy and commodities as well as in domestic economic activity, in the last twelve months the economy moved from a high-inflation environment to a low-inflation one. In the last twelve months the CPI rose by 3.6 percent, but its development in this period was not uniform: the seasonally adjusted CPI rose by a steep 6.2 percent in annual terms in 2008:Q2 and 2008:Q3 and by 1.2 percent in 2008:Q4 and the first of 2009:Q1. The high-inflation environment of the first period derived from the increase in world energy and commodity prices, at least at the beginning of this period, and the fact that the economy was approaching full employment after four years of economic growth. In the second period (2008:Q4 and 2009:Q1) the reduction of inflation was accompanied by a decline in economic activity, together with a fall in prices of energy and commodities in the fourth quarter of 2008. The increases in energy prices in the first quarter of 2009 have not yet been expressed in the CPI because of the lag in the

⁸ M2 consists of currency held by the public and checking accounts (M1) and unindexed local-currency deposits for up to one year.

Figure 18
Inflation in Previous 12 Months,
Inflation Expectations and Inflation
Targets, 2001 to March 2009
 (monthly averages)



SOURCE: Based on Central Bureau of Statistics data.

Table 4
Changes in Selected Components of the Consumer Price Index (CPI), their Weights, and their Contribution to the CPI, January 2009

	Weight in index	Previous 12 months		2009:Q1 ^a	
		Rate of change in index	Contribution to CPI	Rate of change in index	Contribution to CPI
CPI	100.0	3.6	3.6	-0.5	-0.5
Housing	20.7	16.2	3.4	5.2	1.1
Food (excl. fruit and vegetables)	14.8	4.9	0.7	1.0	0.1
Energy	7.7	-9.4	-0.7	0.0	0.0
Fruit and vegetables	3.6	-6.5	-0.2	13.0	0.5

^a Annual rate.

SOURCE: Based on Central Bureau of Statistics data.

response of domestic prices to developments in world prices. The CPI items which are affected directly by energy prices remained unchanged in the period reviewed. Because the pass-through is partial, domestic prices are not expected to respond fully to recent global price increases.⁹

Housing prices, which were only slightly affected relative to the past by the local-currency depreciation against the dollar, caused the CPI to rise during the period reviewed. In the first quarter of 2009 housing prices went up by 1.3 percent, contributing 0.3 percent to the CPI. The housing item has considerable weight—around 20 percent—in the CPI, mainly reflecting changes in rent. In the past, as a result of the practice of quoting rent in dollars, fluctuations in the dollar exchange rate were reflected in similar fluctuations in the housing item of the CPI, and this had a marked effect on the CPI as a whole. Once rental contracts were quoted in local currency, as has been the case in the last two years, the link between housing prices and the dollar exchange rate weakened: in 2009:Q1 only one quarter of rental contracts were quoted in dollars and the dollar depreciated by 7.5 percent¹⁰ while, as stated, housing prices rose by only 1.3 percent.

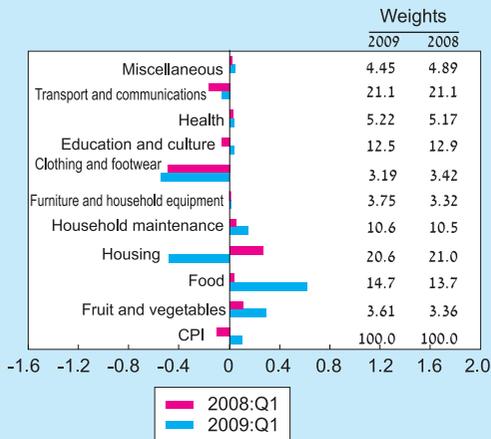
The transition to a low-inflation environment is also reflected in wholesale prices. The index of wholesale prices declined by 0.9 percent in the period reviewed, after plummeting by 10.9 percent in the preceding quarter. In the last twelve months the index of wholesale prices fell by 6.2 percent. The changes in prices of inputs contributed to the development of the wholesale

⁹ Domestic energy prices respond only partly to global prices because some of them are supervised and there is a fixed excise tax on gasoline (NIS 2.4 per liter) and diesel and heating oil (NIS 2.1 per liter), as a result of which the percentage change in the domestic price for consumers is lower than the global change.

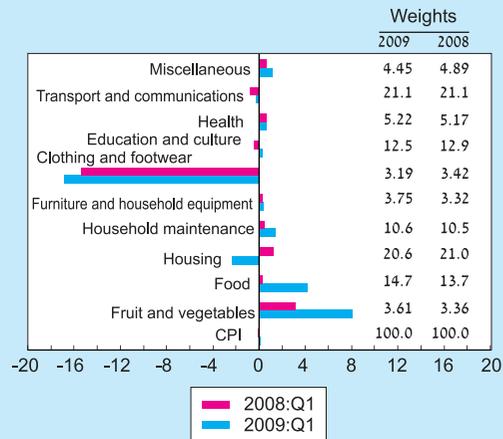
¹⁰ March average vis-à-vis December average.

Figure 19

Contribution of the Components of the CPI to the Changes in the CPI, 2008:Q1 and 2009:Q1 (percentage points)



Changes in the Components of the CPI, 2008:Q1 and 2009:Q1 (percent)



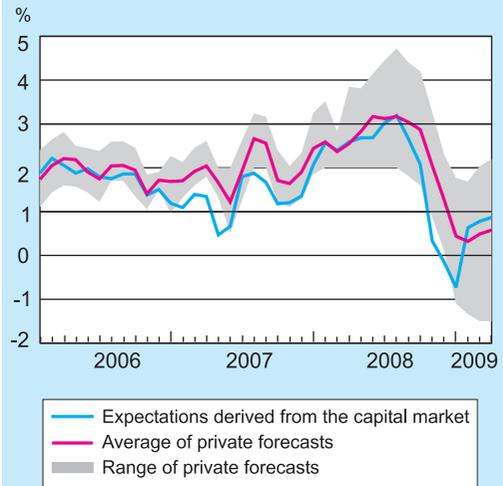
SOURCE: Based on Central Bureau of Statistics data.

index, and in the last six months the slowdown in economic activity also appears to have done so.

After a steep drop in inflation expectations in the fourth quarter of 2008, inflation expectations derived from the capital market and forecasters' predictions stabilized slightly below the lower limit of the inflation target. As the financial crisis worsened in the fourth quarter of 2008, expected inflation for the next twelve months derived from capital-market yields plunged from 2.1 percent in September to -0.7 percent in December. Once the capital market became relatively calm in early 2009 the yield differentials between indexed and unindexed bonds declined, reflecting the stabilization of expected inflation at about 0.7 percent (Figure 20). Forecasters' predictions of inflation for twelve months ahead also dipped, from 2.8 percent in September to 0.5 percent in December, remaining at that level on average throughout the first quarter of 2009. The range of private forecasters' predictions increased considerably during 2008, reflecting the difficulty in predicting inflation in recent times. Predictions of inflation and capital market expectations are slightly below the lower limit of the inflation target and reflect expectations of moderate demand, which will lead to low inflation; this is the case despite the recent increase in global energy and commodity prices.

Expected inflation in the medium and long term remained stable. Since the exacerbation of the crisis last September inflation expectations for the next four-year period or longer have remained relatively stable, remaining in the upper half of

Figure 20
Inflation Expectations for the Next Year Derived from the Capital Market and According to Private Forecasters, 2006 to March 2009^a



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

SOURCE: Private forecasters' reports and Bank of Israel.

the inflation target, sometimes deviating from it slightly upwards in the long term.¹¹ In view of the recent shocks to the economy, the stability of expectations reflects the credibility of monetary policy in the eyes of the public as well as the commitment to restore inflation to the target range.

II. MONETARY POLICY

The various indicators available to the Bank of Israel during 2009:Q1 upheld monetary expansion. The steep drop in the inflation environment, the contraction of output, the rise in unemployment, difficulties in borrowing on the secondary market, and lower interest rates worldwide all upheld monetary expansion in order to attain the inflation target and financial stability, as well as to stimulate economic activity.

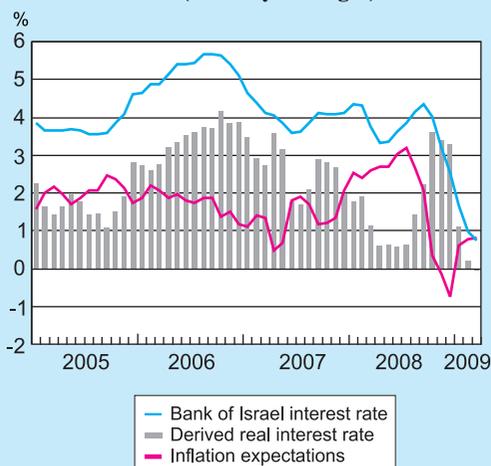
The Bank of Israel continued its expansionary policy in the first quarter of 2009. The basis of monetary policy has recently shifted to three principal instruments: the interest rate, foreign-currency purchases, and purchases of government bonds.

1. **The interest rate:** after slashing the interest rate in the fourth quarter of 2008, the Bank of Israel continued to reduce it—from 2.5 percent in December 2008 to 0.75 percent in March 2009. The interest rate for April, which is subsequent to the period reviewed, was reduced to only 0.5 percent, and the interest rate for May remained at this level. Concurrently, the spread around the Bank of Israel’s key interest rate in the credit window and the window of commercial banks’ deposits narrowed from ± 1 percent in December to ± 0.25 percent in March.

2. **Foreign-currency purchases:** further to its policy since March 2008, the Bank of Israel bought foreign-currency in an average daily amount of \$100 million. Towards the end of the first quarter of 2009 the Bank announced that it would continue with these purchases as long as necessary. The absorption of the excess liquidity resulting from foreign-currency purchases by issuing Makam was reduced, and excess liquidity was mopped up via interest bearing banks’ deposits—deposits that are not part of the monetary base.

3. **Purchases of government bonds:** since mid-February the Bank of Israel has been buying government bonds in the secondary market. The Bank has announced that these purchases amount to a daily average of NIS 200 million, and that it intends to buy between NIS 15 billion and NIS 20 billion in the framework of this plan.

Figure 21
The Bank of Israel Interest Rate,^a
Inflation Expectations,^b and the
Derived Real Interest Rate, 2005 to
March 2009 (monthly averages)



^a The effective interest rate in the Bank of Israel auctions.

^b For 12 months, derived from the capital market.

SOURCE: Bank of Israel.

¹¹ Since mid-February, the Bank of Israel has been buying government bonds in the secondary market. As a result of this intervention the yield differential between indexed and unindexed bonds since then may not accurately reflect the public’s inflation expectations.

Table 5
The Inflation Environment and Interest Rates, July 2008 to March 2009

(monthly averages)

	07/08	08/08	09/08	10/08	11/08	12/08	01/09	02/09	03/09
Inflation environment (percent)									
Monthly change in CPI	1.1	0.8	0.0	0.1	-0.6	-0.1	-0.5	-0.1	0.5
Forecasters' predictions of monthly CPI (average of forecasts prior to publication of CPI)	0.5	0.6	0.4	0.2	-0.2	-0.4	-0.5	-0.3	0.2
Annual change in CPI	4.8	5.0	5.8	5.5	4.5	3.8	3.3	3.4	3.6
One-year inflation expectations derived from the capital market	3.2	2.7	2.1	0.3	-0.1	-0.7	0.6	0.8	0.7
Forecasters' one-year inflation predictions	3.1	3.0	2.8	2.0	1.3	0.4	0.3	0.5	0.6
Forward inflation expectations^a to different terms									
Short term (second and third years forward)	2.9	2.5	2.3	1.5	1.4	0.7	1.4	2.0	2.1
Medium term (fourth to sixth years forward)	2.7	2.4	2.3	2.2	2.3	2.2	2.2	2.1	2.9
Long term (seventh to tenth years forward)	3.0	2.9	2.9	3.1	3.4	3.1	2.8	2.4	1.9
Interest rates and interest rate differentials									
Bank of Israel interest rate	3.8	4.1	4.4	4.0	3.2	2.5	1.7	1.0	0.7
Derived real interest rate	0.6	1.4	2.2	3.6	3.4	3.3	1.1	0.2	0.0
Short-term interest rate differential between Israel and the US (prior to decision for the next month's rate)	1.8	2.0	2.3	2.4	2.2	1.9	1.5	0.8	0.5
Short-term interest rate differential between Israel and the eurozone (prior to decision for the next month's rate)	-0.4	-0.1	0.0	-0.2	-0.2	-0.3	-0.3	-1.0	-0.9
Forecasters' predictions of nominal interest rate for next month (prior to the decision)	0.0	0.0	0.1	-0.2	-0.4	-0.6	-0.4	-0.5	-0.1
Forecasters' predictions of interest rate a year hence	4.0	4.0	4.2	4.4	2.1	1.9	1.6	1.0	1.0
Long-term (10-year) nominal interest rate differential between Israel and US	2.3	2.2	2.4	2.5	3.1	3.1	2.8	2.5	2.1
Long-term (10-year) real interest rate differential between Israel and US	1.7	1.6	1.6	1.1	1.2	1.2	1.2	1.1	1.0

^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.

The low level of the Bank of Israel's key interest rate weakens transmission from it to the interest rates of the commercial banks, obliging monetary policy to act through other instruments.¹² The commercial banks maintain a spread between the average interest on the public's deposits and the rate at which they lend. With the reduction of the Bank of Israel's

¹² For a theoretical discussion about monetary policy in a zero interest rate environment see Box 1.

key interest rate the commercial banks have lost their freedom to maneuver in determining the interest on deposits, at least for short-term interest, as this cannot be negative and is already almost zero even though the Bank of Israel's interest rate is still positive. Given this situation in view of the banks' adherence to a spread between the interest rates on deposits and on credit, a further reduction of the Bank of Israel's key interest rate is not translated into an equivalent reduction in the cost of new bank credit. Consequently, the interest-rate policy becomes less effective, and if additional monetary expansion is required the only course left is to use instruments that affect the price of assets other than banks' deposits, such as the purchase of foreign-currency and government bonds. Note in this context that from the standpoint of monetary policy the lower bound of the Bank of Israel's key interest rate is not necessarily zero but the rate below which it is not transmitted into a decline in other interest rates.

Purchases of foreign currency continued during 2009:Q1.

In accordance with the Bank of Israel's policy, foreign currency purchases in the daily amount of \$100 million continued. Since these purchases began in March 2008 the Bank of Israel has bought about \$17.5 billion, and at the end of the first quarter of 2009 the foreign-exchange reserves stood at \$44 billion. Beyond the increase in the reserves and their contribution to reducing Israel's risk premium, these purchases support the exchange rate and hence exports and the domestic inflation rate. In the first quarter of 2009 the Bank of Israel also reduced the extent of Makam issues intended to absorb the excess liquidity created by the foreign-currency purchases. The effect of this activity on the monetary base was slight because, given the Bank of Israel's key interest rate, the banks' excess liquidity is absorbed via the discount-window auction. Nonetheless, the reduction of Makam issues exerts downward pressure on interest rates for terms of up to one year, thereby enabling the expansion of the money supply.

As of mid-February the Bank of Israel has been buying government bonds in the secondary market in order to influence long-term interest rates. The Bank of Israel sets only the short-term interest rate; shifts in short-term interest generally lead to similar changes in long-term interest—but because of the low level of the Bank of Israel's key interest rate the central bank has lost its influence on long- and medium-term interest rates by reducing the short-term rate. Direct purchases of bonds in the secondary market can have a direct effect on yields for these durations. The yields on government bonds usually serve as a benchmark for pricing a significant part of bank credit

to firms and households, so that their reduction is expected to lead to a similar fall in the cost of bank credit.

III. REVISED FORECASTS

a. The global environment

A global recession is expected in 2009 alongside a decline in inflation and an increase in budget deficits worldwide. The economic slowdown is spreading to all countries, and the IMF expects that in 2009 global GDP will shrink by 1.3 percent, the lowest growth rate since the Second World War. In the developed countries GDP is expected to contract by 3.8 percent. Some recovery is expected in the course of 2010, although the IMF stresses that sustainable growth will not be possible until the global financial markets are functioning normally once more. Similarly, the Fed estimates that the US economy may recover towards the end of 2009, but only if the banking sector stabilizes. The slowdown in economic activity is expected to be accompanied by a decline in the inflation rate, bringing it to -0.2 percent in the advanced countries—compared with 3.4 percent in 2008—as a result of the contraction of demand. Furthermore, a marked increase in budget deficits is expected worldwide as a result of the various aid packages.

Table 6
GDP Growth in 2008, and IMF Forecasts for 2009 and 2010

	2008	2009	2010
Average GDP growth, percent			
Global	3.2	-1.3	1.9
Advanced economies	0.9	-3.8	0.0
US	1.1	-2.8	0.0
EU	0.9	-4.2	-0.4
Japan	-0.6	-6.2	0.5
Emerging markets	6.1	1.6	4.0
Inflation (during the year, percent)			
Advanced economies	3.4	-0.2	0.3
US	3.8	-0.9	-0.1
EU	3.3	0.4	0.6
Japan	1.4	-1.0	-0.6
Emerging markets	9.3	5.7	4.7

SOURCE: IMF World Economic Outlook, January 2009.

Against the backdrop of the moderate level of economic activity, global energy and commodity prices are expected to remain steady. In spite of the decline in oil production, energy

prices are expected to remain at a lower level than the peak they reached in mid-2008. According to IMF assessments, the price of a barrel of oil in 2009 is expected to average \$50. Weak economic growth is also expected to keep commodity prices at a relatively low level.

Central banks' interest rates are expected to remain low at least until the end of 2009. In view of the rapid deterioration of economic activity and the easing of inflationary pressures, the central banks of the developed countries reduced interest rates sharply and frequently. Global interest rates are expected to remain low as long as real economic activity does not recover, i.e., at least until the end of 2009.

b. Real economic activity in Israel

The slowdown in real economic activity is expected to persist throughout 2009 and the forecasts have been revised downwards. Recovery is expected in 2010. In the context of the global slowdown, the moderation of economic activity in Israel is expected to persist throughout the year. The deepening of the crisis worldwide has caused forecasts of economic activity in 2009 to be revised downwards: GDP is expected to contract by 1.5 percent, compared with the forecast 0.2 percent contraction predicted in the previous Inflation Report, primarily because non-diamond exports are expected to fall by 7.1 percent (compared with 2.4 percent as previously assessed) and private consumption to shrink by 0.9 percent (compared with 1.1 percent growth in the previous assessment). The unemployment rate is expected to

Table 7
Economic Indicators for 2008, and Bank of Israel Forecasts for 2009 and 2010

(rates of change, percent, unless stated otherwise)

	Actual	Forecast	
	2008	2009	2010
GDP	4.0	-1.5	1.0
Private consumption	3.9	-0.9	2.2
Gross domestic investment	3.8	-7.1	-8.3
Public consumption	2.8	3.1	1.1
Imports (civilian, excluding diamonds)	7.0	-6.2	-0.3
Exports (excluding diamonds)	8.0	-7.1	3.1
Net current account (\$ billion)	1.6	3.2	2.0
Unemployment rate	6.1	7.7	8.3
Public deficit (percent of GDP) ^a	-2.8	-5.9	
Gross debt/GDP ratio (percent of GDP) ^a	77.8	84.2	

^a Excluding the Bank of Israel. No forecasts of the deficit and debt for 2010 are shown because of the uncertainty regarding the 2010 budget.

SOURCE: Central Bureau of Statistics and the Bank of Israel.

rise to an average of 7.7 percent in 2009 (implying an 8.5 percent unemployment rate by the end of the year), compared with 6.1 percent in 2008. The budget deficit is expected to reach 5.9 percent of GDP in the wake of the steep drop in tax revenues. Recovery is expected in 2010, in view of the assessment that global trade will stabilize and public consumption rise: GDP will grow by 1 percent on average, but the unemployment rate will remain high and average 8.3 percent. This course of developments means that in the next two years the output gap will widen, thus giving rise to deflationary pressures.

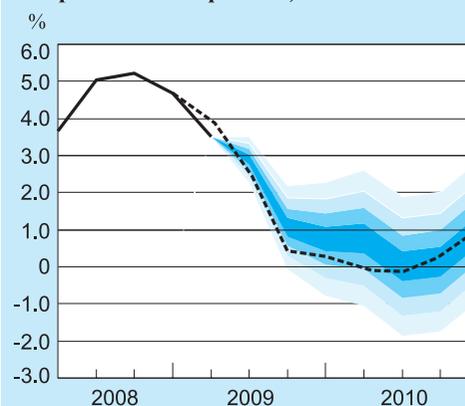
c. Assessments regarding the exchange rate and the balance of payments

The current-account surplus and global pressures causing the weakening of the dollar are expected to strengthen the local currency, although continued foreign-currency purchases by the Bank of Israel will serve to depreciate it. A current-account surplus of \$3.2 billion is expected in 2009, compared with \$1.6 billion in 2008, against the backdrop of the improvement in Israel's terms of trade. The moderation of economic activity is reflected in foreign trade by both the contraction of imports and the decline of exports. The current-account surplus is expected to exert pressure for effective local-currency appreciation. The exceptional monetary expansion in the US is expected to weaken the dollar worldwide, and hence to contribute to the strengthening of the NIS against it. On the other hand, the continued purchase of foreign currency by the Bank of Israel will serve to offset pressure for appreciation.

d. Assessments regarding the development of inflation and the balance of its risks

According to market assessments, the inflation rate for the next twelve months is expected to be near the lower limit of the inflation target. In view of the slowdown in economic activity and the decline in actual inflation, the forecasts of inflation for the next twelve months by the various entities are below the lower limit of the inflation target (1 percent), similar to assessments at the end of the previous quarter (Table 8). The forecasts given in the Companies Survey are higher, and the average assessment is of 1.4 percent inflation. Note that in the first quarter of 2009, 73 percent of participants in this survey predicted that inflation in the next twelve months would be within the government's target range, while 26 percent assessed that it would be below the lower limit of the target range.

Figure 22
Actual Inflation and Fan Chart^a
of Expected Inflation,^b 2008–10
(rate of cumulative price increases in
previous four quarters)

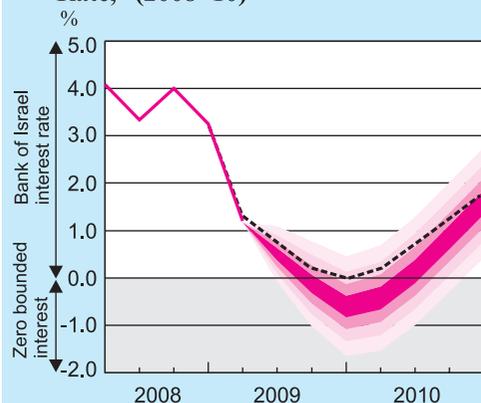


^a The full fan covers 66 percent of the distribution of the expected inflation.

^b The dotted line is the middle of the fan chart shown in the previous Inflation Report (No. 25, October to December 2009).

SOURCE: Bank of Israel.

Figure 23
Actual Bank of Israel Interest Rate
and Fan Chart^a of Expected Interest
Rate,^b (2008–10)



^a The full fan covers 66 percent of the distribution of expected interest rate.

^b The dotted line is the middle of the fan chart shown in the previous Inflation Report (No. 25, October to December 2009).

SOURCE: Bank of Israel.

The predictions provided by the models used by the Bank of Israel indicate that the inflation rate will be in the region of the lower limit of the target in 2009. In 2008:Q4 the shift in the economy's background conditions persisted, and this gave rise to changes in forecasts of inflation and interest derived from the models used by the Bank of Israel. The updated predictions assume, inter alia, that the extent of world trade will shrink by 9 percent in 2009, that central banks will keep interest levels low, that the global crisis will have an adverse affect on real domestic activity, that world prices of inputs will rise moderately, and that the price of oil will reach \$60 at the end of 2009. Under these conditions the models predict that inflation will range between 0.8 and 1.1 percent in 2009, compared with a forecast of between 0 and 0.3 percent in the previous Inflation Report. The upward revision of the forecast reflects primarily the change in assessments regarding the development of global energy and commodity prices from the assessment in the previous report. The interest rate derived from one model declines from 0.5 percent in the second quarter of 2009 to -0.6 percent at the end of the year, below the barrier of zero interest. The negative interest rate can be interpreted to signify that given the zero limit on interest, continued monetary expansion is attained by means of other instruments whose influence is equivalent to a negative interest rate.

Table 8
Assessments of Inflation over Next Twelve Months^a (percent)

	Target	Capital market	Private forecasters	Companies Survey	Bank of Israel's models
Average	2	0.7	0.6	1.4	
Range	1-3		-1.5 to 2.2	0.0 to 3.5 ^a	0.8-1.6

^a Covering 90 percent of the inflation expectations (excluding the tails).

SOURCE: Bank of Israel.

The main risk is of undershooting the inflation target. The continuation of the existing trends—the exacerbation of the global crisis and its trickle-down to the credit card sphere, the slowing of economic activity and the rise in unemployment, the loss of effectiveness of monetary expansion once the interest rate reaches its lowest bound, and the weakening of the dollar worldwide in view of monetary expansion in the US—is expected to be expressed in inflation that undershoots the target, in a twelve-month measurement. However, a rise in commodity and energy prices and significant local-currency depreciation, because of the deterioration of Israel's situation vis-à-vis the

world, whether for economic or geopolitical reasons, could cause inflation to rise. The probability of a scenario such as this is low, and even if it is realized it will not necessarily lead to overshooting the target. In addition, the excess liquidity in the hands of the public is expected to create inflationary pressures once domestic demand revives. In that case the central bank will have to adopt a contractionary policy, but in view of the state of the economy and growth predictions it would seem that the chief risk regarding inflation is that of undershooting the target.

Monetary policy given a zero interest rate

The principal policy tool used by central banks worldwide is the nominal short-term interest rate, usually for one day or a few days, on loans to the commercial banks. The nominal interest rate is generally bounded below by zero, as at negative interest lenders will prefer to hold on to their money, thereby obtaining a higher return, namely, zero interest.¹ In this case, the interest rate reaches a level that is so low that monetary policymakers are obliged to resort to other instruments in order to implement an expansionary policy.² The problem of the lower bound of interest does indeed arise during an economic slump, once the central bank has used expansionary measures. An example of this may be found in recent global developments and the experience of Japan, where the slump has been accompanied by deflation and an interest rate that has been close to zero for over a decade.³

This box discusses the instruments available to monetary policymakers once the interest rate has reached its lowest level,⁴ but first it is necessary to clarify the channels through which the central bank's interest rate affects real economic activity.

The main transmission mechanisms from interest-rate policy to economic activity are via the real interest rate and the real exchange rate. Changes in interest usually give rise to relatively slow reactions on the part of inflation and inflation expectations, while the nominal exchange rate responds more quickly; hence in the short term a reduction in the nominal interest rate gives rise to an equivalent decline in the real interest rate and real depreciation. These, for their part, support economic activity—real interest by making credit cheaper and stimulating investment and consumption, and real depreciation by stimulating exports. In the absence of the ability to influence these by lowering short-term nominal interest, other methods are used whose effect is via their influence on inflation expectations, long-term interest, and the nominal exchange rate. Higher inflation expectations will lead to a decline in the real interest rate,

¹ Data from the Fed indicate that on two days of trading in December 2008 there was a slightly negative return on US four-week T-bills. This means that because of the rise in risk due to the global crisis investors were prepared to take a negative return in exchange for the security of keeping their money in the hands of the government rather than obtaining zero interest via the channels available to them.

² The level at which interest loses its effectiveness as a policy tool is not necessarily zero. For a discussion of this point, see Section 2 of this report.

³ From 1995 to 2006 the interest rate of Japan's central bank ranged from 0.1 to 0.5 percent, the annual growth rate in this period averaged 1.3 percent, output prices fell by an annual average of 0.9 percent, and consumer prices dipped by an annual average of 0.1 percent.

⁴ In principle, most of the instruments can be used even when the interest rate is above the lowest bound, as a complement to interest-rate policy rather than as a substitute for it.

while nominal local-currency depreciation will cause real depreciation, particularly at a time of moderate inflation.

As the nominal interest rate approaches its lower bound monetary policymakers have various instruments for attaining monetary expansion in order to stabilize economic activity to replace or complement the interest-rate instrument. Several methods may be used to attain monetary expansion—announcements in order to influence the public's expectations, purchasing government or other bonds for various terms, buying foreign currency, and printing money in order to finance fiscal expansion.

Reinhart and Bernanke (2004) note the important effect of central bank announcements on the public's expectations. As the interest rate approaches its minimum level they stress the importance of an announcement about keeping interest low for a long period, specifically beyond the horizon of the public's expectations. An announcement of this kind, provided it is credible, will serve to keep interest low throughout the yield curve.

Goodfriend (2000) and Reinhart and Bernanke (2004) discuss the effect of the purchase of long-term government bonds at a time when short-term interest is at its lowest bound. Note that when short-term interest is zero, the monetary base and short-term bonds are close substitutes for one another. Consequently, the purchase of short-term bonds by the central bank will merely change the composition of the public's asset portfolio without serving to increase demand and stimulate economic activity.⁵ Yields on long-term bonds are positive even when the short-term interest rate is near zero. The purchase of long-term bonds by the central bank reduces their yield, and hence lowers the real long-term interest rate, thus stimulating demand for consumption and investment.

Clouse et al (2003) discuss, *inter alia*, the effect of foreign currency purchases on the exchange rate. By using this channel the central bank seeks to boost economic activity by creating depreciation. Beyond its direct effect in stimulating exports and diverting demand to domestic products, depreciation is also expected to increase domestic inflation and hence to reduce the real interest rate. During a global crisis the depreciation mechanism is likely to be more effective in small economies like Israel's than in large ones. This is because when the economic activity of the whole world shrinks, the depreciation of the currency of a large economy tends to have an adverse effect on other economies, motivating them to take counteracting policies that will moderate or even cancel out the original effect. Hence, it is necessary to achieve international coordination with regard to monetary policy, at least between the large economies. On the other hand, a small economy has little effect on the rest of the world, so that it is reasonable to assume that the depreciation of its currency will have greater real effect on domestic activity.

Feldstein (2002) discusses the possibility of financing fiscal expansion by printing money as a substitute for interest-rate policy when interest is low. Fiscal expansion of this kind can be expressed by the expansion of government demand and/or the reduction of taxes. The combination of an expansionary policy on both the monetary and the fiscal sides serves to stimulate economic activity in two ways—the expansion of direct demand on the part of the government or on that of individuals who benefit from the reduction of taxes, on the one hand, and the rise in inflation expectations, leading to the reduction of the real interest rate, on the other. However, the reduction of taxes could have only a limited effect on economic activity if the policy shift was perceived as temporary, as in that case individuals would prefer to save their surplus disposable income instead of spending it. Furthermore, if many individuals are unable to borrow because of credit constraints, the reduction of taxes is expected to increase demand despite

⁵ This point was also emphasized by Meltzer (1999).

its temporary nature. Be that as it may, the legislative ban on printing money prevents that channel from being used in Israel.

In addition to quantitative expansion, it is possible to reduce the nominal interest rate below zero by taxing liquid holdings.⁶ In general, the lower bound of interest is defined by the return on liquid holdings: if this becomes negative due to taxation or other costs associated with holding liquid assets, it is possible to reduce the nominal interest rate to below zero, to the level of the liquidity tax. The alternative of holding cash outside the financial system does not appear to be appealing to most individuals unless the tax rate is high and remains high for a long time. Hence, it would seem that the possibility of a negative interest rate cannot be dismissed, at least in theory.

Note that all the courses of action mentioned above serve to increase liquidity in the markets which is not diverted to demand, at least in part; excess liquidity is not harmful as long as economic activity is moderate and inflation is low. Once economic activity revives, however, this liquidity could cause inflation to rise above the desired level, and this would require the central bank to respond by raising the interest rate.

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⁶ A tax on liquidity (carry tax) in order to prevent excess accrual is an old idea that was discussed by Keynes (1936) and was mooted still earlier.