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The Inflation Report for the second half of 2007 (the period covered by this Report) is submitted to the government, the Knesset and the public as part of the process of periodic monitoring of the course of inflation and adherence to the inflation target set by the government. The Report was prepared in the Bank of Israel within the framework of the Senior Monetary Forum, headed by the Governor, the forum in which the Governor makes decisions on the interest rate.[1]

The CPI rose in the second half of 2007 at an annual rate of 4.9 percent, and in the twelve months to end-December 2007 by 3.4 percent, higher than the upper limit of the price stability target range (of 1 to 3 inflation percent a year). The growth in GDP and employment, particularly in the business sector, continued throughout 2007, especially in the second half of the year, and unemployment fell. Many industries participated in the growth, and it was very evident in investments, private consumption, and exports. The current account of the balance of payments showed a significant surplus again in 2007, and foreign direct investment (FDI) in Israeli companies persisted, indicating investors' assessment that Israel's economy will continue to thrive. The financial markets' assessments of the robustness of Israel's economy were reflected in the improved credit rating granted by the Standard and Poor's rating agency, and by the invitation of the OECD to Israel to begin the accession process leading to membership of the organization.

The two main forces that exerted pressure on inflation in Israel in opposite directions in the last few years continued to do so in 2007: on the one hand, sustained rapid growth of economic activity that creates upward pressure on prices, and on the other, the trend of the strengthening of the shekel against the dollar that has persisted since early 2006 and that became even stronger in January 2008, that serves to moderate price rises. In 2007 prices were affected by another significant factor—the sharp increases in world prices of oil, other basic commodities and food. Although the pressure from domestic demand did not have a particularly marked effect on wages, it did enable producers to pass on to consumers the extra costs deriving from the increase in world prices.

Inflation in 2007 was highly volatile, as it has been in the last few years: in the first five months of the year the CPI rose by 0.3 percent, after falling by a total of 1.8 percent in the last four months of 2006. In June, July and August 2007 the index went up by a cumulative 2.5 percent, and in the last four months of 2007 it rose by a total of 0.6 percent. Most of the volatility of the CPI is still related to fluctuations in the NIS/$ exchange rate and to the very strong transmission mechanism from that exchange rate to consumer prices, a feature of Israel's economy for many years.

In the period reviewed the first indications of a weakening of the close connection between the shekel/dollar exchange rate and housing prices became visible. This was reflected both in a significant decline in the share of new rent contracts that were indexed to the dollar, and in a rise in the dollar price in contracts that were still indexed. It is too early to determine whether this is a passing development specifically related to the dollar's

[1] This report incorporates the Report on the Expansion of the (M1) Money Supply, in accordance with section 35 of the Bank of Israel Law, 1954. This is the case because in each month from June to December 2007 the money supply exceeded that in the preceding twelve months by more than 15 percent. The changes in the money supply are discussed in section IId in the Report.

current worldwide weakness, or whether this signifies a genuine change in the public's behavior, that will persevere even if the dollar strengthens in the future.

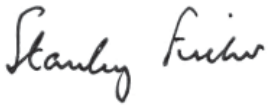
The high volatility of price rises hinders monetary policy in performing its role of keeping inflation within the target range over a twelve-month period, and inflation deviates from the target quite frequently. Nevertheless, price rises viewed over a relatively long period, two years or more, were mainly within the target range. In addition, the public's inflation expectations, both short-term and long-term, calculated from various sources have stayed well within the target range. It may thus be claimed that an inflation targeting regime supplies an anchor for a low inflation environment, which provides a basis for setting prices in the economy.

Another important development in the period covered by this report was the financial crisis in the advanced economies, which has not yet run its course. The crisis, that started in the subprime mortgage market in the US, spread in a short time to other advanced economies and to several segments of the financial markets. Till now the crisis has had a relatively limited direct effect on Israel's financial entities. It is generally anticipated that the financial crisis will constitute a major cause of a slowdown in economic activity in the US. The longer and more severe that slowdown, the stronger will be its effect on the global economy, including, to a certain extent, economic activity in Israel. Nevertheless, the range of indicators on Israel's economy have not yet pointed to any significant signs of such effects, including forward-looking indicators (such as the Companies Survey, information derived from financial transactions, assessments of active market participants). The composite state-of-the-economy index, for example, rose by more than 8 percent in 2007, with the rise in the fourth quarter of the year higher than those in the other three.

The resilience of Israel's economy in the face of the crisis hitherto is founded on a number of factors: (a) the business sector is growing, is becoming more efficient, and is profitable; (b) fiscal policy is keeping to a budget that is appropriate to the state of the economy; (c) monetary policy is striving for price stability and supports financial stability, which together provide a favorable business environment. The inflation targeting regime with free capital flows and a free-floating exchange rate enables the private sector to benefit from the many advantages of access to the international financial markets, and affords monetary policy greater flexibility in tailoring the domestic interest rate to the needs of the economy.

That said, the fact that Israel's economy is a small one, very open to trade in goods and services and to strong and fast capital flows means that macroeconomic policy makers do not enjoy the same degree of flexibility in operating policy instruments as do their colleagues in large economies such as the US and the eurozone. Hence the great importance of adhering to the policy rules set by the government, in both the fiscal and monetary spheres, rules that boost and preserve the confidence of the public and of domestic and foreign investors that price and financial stability will be maintained.

Stanley Fischer



Governor, Bank of Israel

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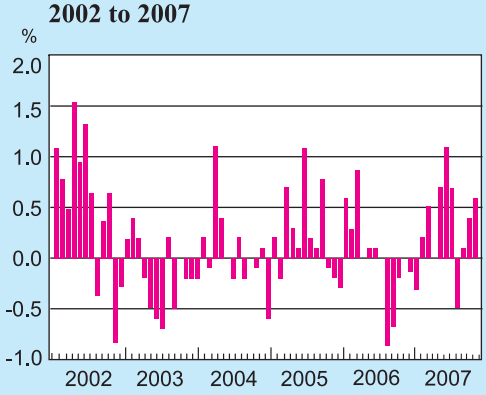
Summary[1]

- The Consumer Price Index (CPI) rose by 3.4 percent in 2007, above the upper limit of the price stability target of 1–3 percent inflation a year. In the first half of the year it rose at an annual rate of 2 percent, while in the second half (the period reviewed) at an annual rate of 4.9 percent.
- The CPI was affected in 2007 by the steep worldwide rise in energy and food prices, and by the rise in housing prices that occurred despite the appreciation of the shekel, against the background of increased economic activity and the contraction of surplus production capacity. The CPI excluding the energy and food components rose at a rate below the midpoint of the target range. The decline of the value of the dollar during the year (due to domestic factors and world trends) partially offset some of the upward pressures on prices.
- Energy and food prices rose faster and faster as the year progressed, and led to an acceleration in price rises in many countries. Thus the consumer price index in the US rose by 4.1 percent, and in Europe by 3.2 percent.
- Economic growth in Israel continued, with marked increases in private consumption, investments and exports. The number of employees rose by about 4 percent, with a decline in the unemployment rate to 7.3 percent, and the average wage rising by 2 percent. Unit labor costs increased in 2007, reversing the downward trend of the last few years—that had become flatter and flatter. The increase in GDP in 2007 derived from the rise in inputs, not productivity. These points indicate convergence to maximum utilization of the factors of production, and are likely to increase the upward pressure on prices.
- During the second half of the year the shekel appreciated against the dollar by about 9.5 percent, and by about 2 percent against the basket of currencies weighted according to Israel's foreign trade. There were two distinct trends in the NIS/$ exchange rate in the course of the period reviewed: sharp depreciation, that started in the second half of May, which reversed at the beginning of August to become a trend of rapid appreciation, which continued until the end of the period. Both trends were accompanied by increased volatility of the exchange rate.
- The strengthening of the shekel in the second half of the year was the outcome mainly of the weakening of the dollar world wide, which accelerated in August in light of the financial crisis in the advanced economies and its implications on the US economy. This took place against the background of the narrowing negative differential between interest rates in Israel and the US, the sustained improvement in the Israeli economy's fundamentals that contributed to the continued foreign direct investment (FDI) in the economy, and the current account surplus which despite some decline, is nevertheless expected to reach 3 percent of GDP.
- Following the process of interest rate reductions that began in the last quarter of 2006 and continued in the first half of 2007 in light of the low inflation environment, the Bank of Israel raised the interest rate in the third quarter of 2007 by a total of 0.5 percentage points, to 4 percent. The reason for the increases was the assessment that the inflation environment was rising, against the backdrop of sharp depreciation of the shekel against the dollar in May–July, the rise in world energy and commodity prices, and the continued rapid expansion of economic activity in Israel.
- The interest rate remained unchanged in the last quarter of 2007, the result of assessments regarding the conflicting forces acting on the inflation environment. On the one hand, there were upward pressures on prices, headed by the rise in world prices of energy and commodities and continuing economic growth. Acting in the opposite direction were domestic forces tending to strengthen the shekel, global factors weakening the US dollar, and concern over the effects of the financial crisis on the global economy. In December, when upward pressure on prices became more intense, the Bank of Israel again raised the interest rate by 25 basis points, bringing the rate for January to 4.25 percent.

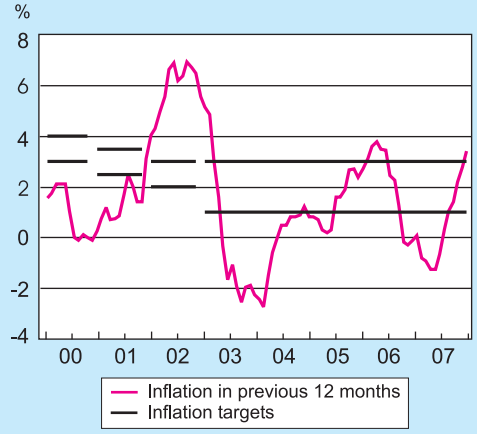
[1] The monetary regime within which the Bank of Israel operates is aimed at achieving price stability, defined as an inflation rate of between 1 percent and 3 percent a year. (For details see Box 1 on page 11 in the Bank of Israel Inflation Report No. 17, July–December 2005.)

Figure 1
Monthly Rates of Change of the CPI, 2002 to 2007



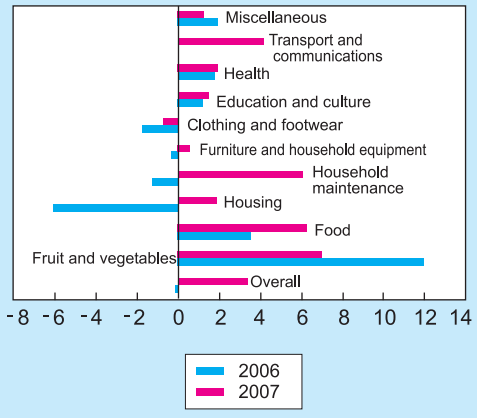
SOURCE: Central Bureau of Statistics.

Figure 2
Inflation in Previous 12 Months, and Inflation Targets, 2000 to 2007



SOURCE: Central Bureau of Statistics.

Figure 3
Changes in the Components of the CPI, 2006 and 2007 (percent)



SOURCE: Based on Central Bureau of Statistics data.

I. THE CONSUMER PRICE INDEX (CPI)

The CPI rose in 2007 by 3.4 percent, above the upper limit of the price stability target range of 1–3 percent inflation a year. In the second half of the year it rose at an annual rate of more than 4.9 percent, compared with 2 percent in the first half. Until August inflation over the previous twelve months was below the lower limit of the target range, and rose progressively towards the end of the year (Figure 2). The CPI excluding the energy and food components rose at a rate lower than the midpoint of the range. From June to August it went up in total at the high rate of 2.5 percent, due to the depreciation of the dollar and the effect of the housing component of the index (Figure 1). The monthly CPI started rising again towards the end of the year due to the continued rise in fuel and food prices deriving from their increases world wide, and due to the rise in housing prices.

The rise in the CPI had several causes, led by the steep worldwide rise in energy and food prices that contributed 1.1 percentage points and 0.6 percentage points respectively to the index. The price of a barrel of oil rose during the year by almost 50 percent, and commodity and processed food prices rose in anticipation of an increase in world demand: world food prices rose by 22 percent, in dollar terms, and import prices of food products by 8 percent. The owner-occupied apartments component also went up, despite the weakening of the dollar, by a total of 3.6 percent, contributing 0.6 percentage points to the overall index (Figure A in Box 1). The reasons for this rise include the reduced stock of unsold apartments and the increased demand for housing in the central part of the country that resulted from demand from nonresidents as well as from Israelis deriving from the rise in disposable income. Fruit and vegetable prices rose by almost 8 percent in 2007, following their 10 percent rise in 2006, and contributed some 0.3 percentage points to the rise in the index, due to the reduction in supply sources and increases in costs of agricultural production in the *Shmita* year (the Sabbatical Year when Jewish Law requires that the land lie fallow). The wholesale price index (excluding fuel) rose by 6.7 percent during the year, reflecting the rise in prices of raw materials and domestic factor inputs in most manufacturing industries. This index may signal faster consumer price increases in the future, but various examinations carried out in the past did not find unequivocal evidence to support this claim.

The pace of price increases was very volatile in 2007, and was affected in the short term by changes in the dollar exchange rate, particularly in the months June–August, when the dollar

strengthened rapidly, following which the CPI rose by 2.5 percent in three months (Figure 1). It is worth noting that the appreciation of the shekel against the dollar in the last two-and-a-half years and the volatility of the exchange rate brought about a reduction in the level of indexation of rental contracts to the dollar, a development that is expected gradually to curtail the effect of the dollar on the CPI (see Box 1).

Table 1
Components of the Consumer Price Index (CPI)

	Weight	Change in CPI (%)		2007	
		2006	2007	Contribution to total CPI	Contribution over/ below 2%[a]
CPI, total	100.0	-0.1	3.4	3.4	1.4
Energy	11.7	-1.8	9.1	1.06	0.83
Bread, milk, eggs and their products	5.4	2.8	10.5	0.57	0.46
Owner-occupied-housing services	16.3	-6.3	3.6	0.58	0.26
Fruit and vegetables	3.4	12.0	8.0	0.27	0.20
Municipal taxes	2.4	0.1	6.0	0.14	0.09
Food, excl. bread, milk, eggs, fruit and vegetables	5.8	4.6	3.5	0.20	0.09
Education	5.3	2.9	3.0	0.16	0.05
Transport, excl. fuel and travel abroad	9.8	-1.0	2.2	0.21	0.02
Services	15.3	1.6	2.0	0.31	0.01
Clothing and footwear	3.4	-1.7	-0.8	-0.03	-0.10
Culture and entertainment	7.6	0.2	0.2	0.02	-0.14
Other goods	9.5	1.4	0.1	0.01	-0.19
Rent	4.0	-5.7	-2.9	-0.11	-0.19

[a] Midpoint of target inflation range.

Box 1. The Change in the Proportion of Dollar-Indexed Rent Contracts and its Effect on the CPI

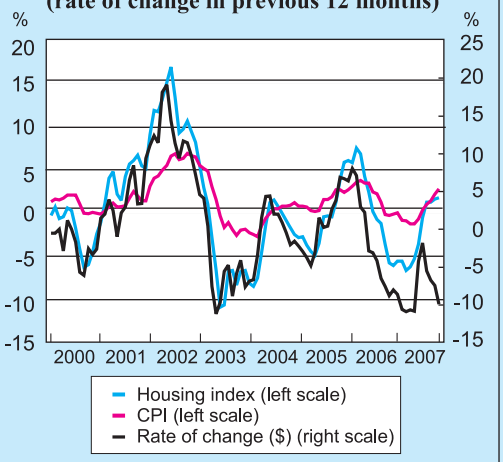
The housing index accounts for more than 20 percent of the overall Consumer Price Index (CPI), and it has a strong effect on the rate of increase of the CPI and its volatility. The measurement of the housing component in the CPI is based on data of renewed rent contracts, which are taken to represent the (implied calculated) "cost" of owner-occupation of apartments (constituting about 77 percent of the housing component in the CPI) and on data of ongoing contracts for rented apartments (constituting about 19 percent of the component—representing paying tenants).[1] Until about two years ago almost all apartment rent contracts were formulated in dollar terms, a relic of the periods of high inflation in Israel.

Despite a relatively stable inflation rate since the beginning of the 2000s, only in the last year has there been evidence of a significant decline in the share of dollar-indexed contracts in the total number of renewed rent contracts: in November 2007 this share was down to 62 percent, compared with an average of about 90 percent in 2005. The decline was particularly marked in 2007, especially in the last few months of the year. There are two main reasons for this:

[1] There is a small element of about 4 percent of the housing component attributable to legal costs, agents' fees, etc.

1. The greater volatility of the exchange rate—the high volatility of the dollar increases the uncertainty for both parties signing a dollar rent contract, and makes financial management more difficult (see Figure B).

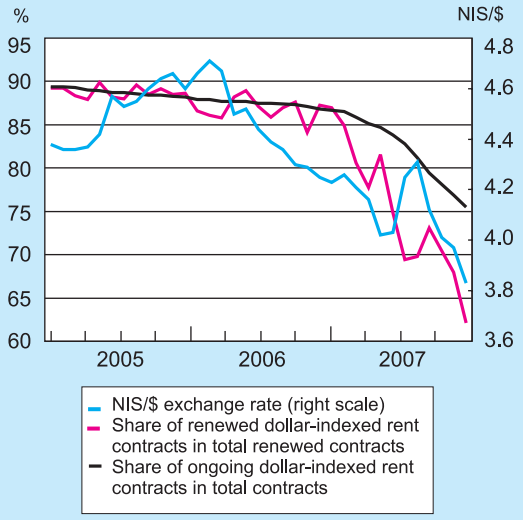
Figure A
The Dollar Exchange Rate, the Housing Index, and the CPI
(rate of change in previous 12 months)



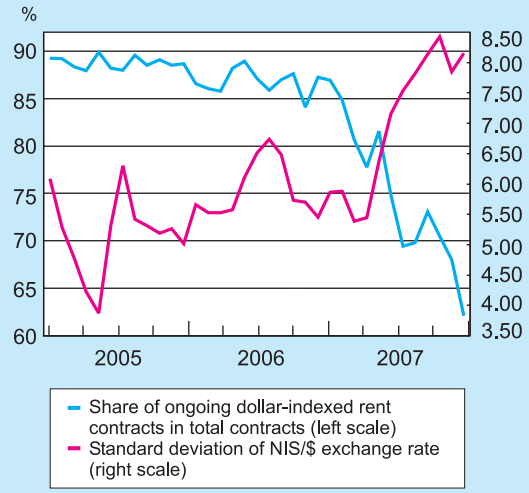
SOURCE: Based on Central Bureau of Statistics data.

Figure B
The Share of Renewed Dollar-Indexed Rent Contracts[a] in Total Renewed Contracts, January 2005 to November 2007

i. NIS/$



ii. Relative to the standard deviation of the dollar



[a] Renewed rent contracts serve as a monitor of the owner-occupied-housing services component, which has a weight of 16 percent in the CPI. (These contracts account for 77.6 percent of the housing component in the CPI.)

SOURCE: Central Bureau of Statistics Survey that serves as an estimate of the housing component in the CPI.

2. Depreciation of the dollar—the fall in the value of the dollar had an adverse effect on landlords, who apparently had a stronger negotiating position than their tenants; specifically in the recent past when housing demand strengthened. The decline in the value of the dollar in 2007 together with the expectations that this would persist resulted in more landlords insisting that the rent in contracts be stated in shekel (see Figure B).

It should be noted that changes in rent contracts reflect not only the rise or fall in the value of the dollar, but also the change in dollar prices that expresses real forces acting in the housing market. For example, it can be seen that in 2007 there was a rise of about 3 percent in the prices of owner-occupied apartments based on data of renewed rent contracts, despite the local currency appreciation (see Figure A).

The rest of the housing component of the CPI represents the population that actually pays rent, and it is measured by the change in rent in ongoing apartments rentals. Naturally, the share of all rental payments in housing costs declined more slowly during the year than did the share in all renewed contracts, and reached 75 percent in November 2007 compared with 87 percent at the end of 2006. This component is more affected by the volatility of the dollar, but it constitutes only about 19 percent of all the contracts,

as stated above. In 2007 the exchange rate of the dollar fluctuated widely, so that this component still had a significant effect on the CPI.

In summary it can be stated that the decline in the share of dollar-indexed rent contracts will gradually lead to a reduction in the volatility of the CPI resulting from changes in the value of the dollar. The pass-through from the dollar exchange rate to the CPI, previously about 30 percent, is expected to decrease due to the decline noted so far in the share of dollar-indexed contracts. The continuation of this trend could further reduce both the strength of this pass-through and the volatility of the monthly index in Israel, which is still higher than in other countries with similar levels of inflation.

II. THE ECONOMIC ENVIRONMENT

By monitoring economic developments in Israel and around the world, the Bank of Israel is able to determine the level of interest it considers to be most appropriate to the achievement of price stability in the near future, while maintaining stability in the markets.

a. Global economic developments

The global growth rate reached 5.2 percent in 2007, despite the signs of a slowdown in the US in the second half of the year, and to some extent in Europe too. The slowdown in the US real estate market and the effects of the subprime mortgage crisis on the credit and capital markets—and hence on demand in the US––cast a pall over US growth, and are expected to reduce US and world growth and world trade. The relatively high rate of growth in Europe persisted, and in 2007 showed relatively little effect of the slowdown in the US economy and credit markets around the world. The slowdown in the US was offset to a considerable extent by continued high growth in the emerging markets, particularly in China and India with growth rates of 11.5 percent and 8 percent respectively, and their contribution to world growth is constantly increasing. In the second half of 2007 there was only a small decline in world demand and in the volume of trade; similarly, no significant drop in the rate of expansion of Israel's exports was evident, but it may be too early to assess the effects of those declines.

In the second half of 2007 world prices of oil rose, and commodity prices also increased markedly, affecting prices in Israel. The price of a barrel of oil surged by almost 50 percent from the beginning of the year (Figure 5), and energy prices rose by 9 percent. Although some of the price rise was meant to cover the worldwide fall in the

Figure 4
Inflation in Product Prices, by Principal Industry, 2005-07
(percent)

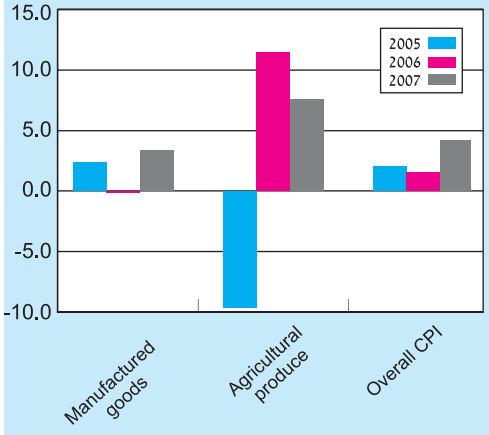
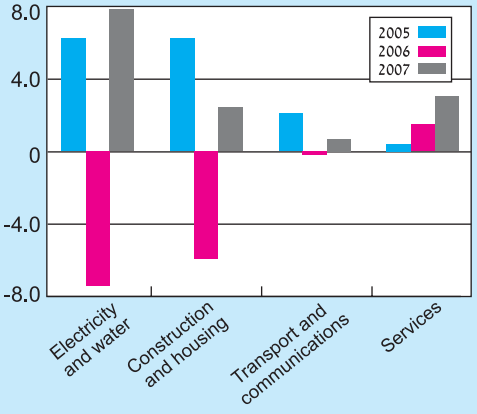
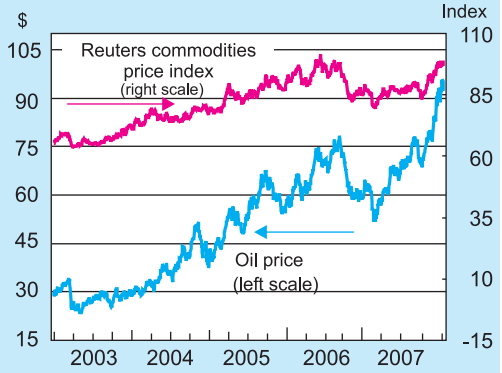


Figure 4 (cont.)



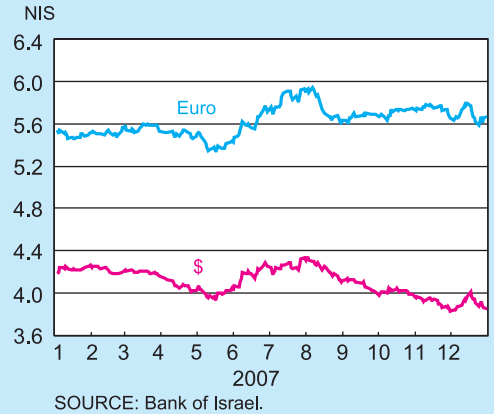
SOURCE: Based on Central Bureau of Statistics data.
2007 data is for the first eleven months, annualized.

Figure 5
The Commodities Price Index and Oil Prices, 2003 to 2007



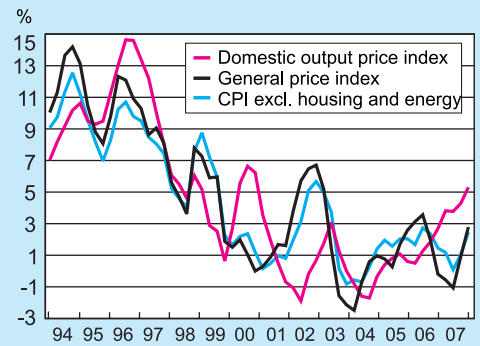
SOURCE: Bloomberg.

Figure 6
The NIS/$ and NIS/Euro Exchange Rates, 2007



SOURCE: Bank of Israel.

Figure 7
Consumer Price Index Excl. Housing and Energy, Overall CPI, and Domestic Output Price Index, 1994 to 2007 (change over past four quarters)



SOURCE: Bank of Israel.

value of the dollar, there was also a real increase in commodity prices resulting from the continued growth of world demand in the last few years. The increase in prices of commodities and food of almost 8 percent also contributed to the rise in the CPI.

The value of the dollar slumped in 2007, and came close to $1.5 to the euro, compared with $1.2 to the euro at the beginning of the year. This was due to the considerable deficit in the current account of the US balance of payments and in the government accounts. This was reflected in the shekel/dollar exchange rate, and the shekel appreciated by 8 percent over the year.

In light of the crisis in the mortgage market and the liquidity shortage in the international financial markets, the central banks took urgent steps to inject liquidity into the markets in order to reduce the threat to global financial stability. The Federal Reserve lowered its interest rate by a cumulative 1 percentage point. In the course of the year there were increasing signs of the negative implications of the crisis in the subprime and real estate market on demand and on the rate of growth in the US. The falls in the stock markets and the reduced supply of credit caused by increased uncertainty in the markets and greater risks exacerbated the adverse effect on the public's wealth and on its concern over future economic developments, and caused a cutback in demand and a slowdown in the growth of GDP. Problems arising from the credit crunch and the difficulty of obtaining liquidity made European central banks inject liquidity to prevent the situation from deteriorating further. When the data on inflation make it necessary to operate a tight policy, while on the other hand the credit crisis, liquidity shortage, heightened uncertainty, and indications of a slowdown in activity require an expansionary policy, monetary policy makers face a dilemma. The European Central Bank decided to halt the process of raising the interest rate—a process they had started at the beginning of the year due to concern over the possibility of higher inflation—out of increased concern over the intensifying financial crisis.

Inflation in the US exceeded 4 percent due to the continued increase in energy, raw material and food prices and also due to the falling value of the dollar, which makes imported goods more expensive and boosts demand for US exports. Inflation in Europe also rose significantly, and reached 3.2 percent, but concern about possible aggravation of the financial crisis led to a halt in the process of raising the interest rate, as stated. Rising energy and food prices also stoke inflationary pressures in the developing countries, as the share of these items in consumption and their effect on the price indices is relatively high in those countries.

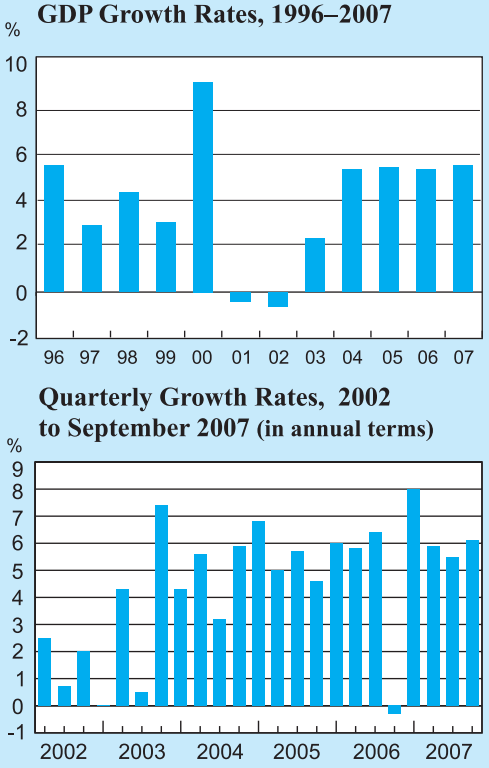
b. Real activity

Real activity in Israel rose in 2007, for the fourth year in succession. GDP increased by 5.3 percent, and business sector product by 6.3 percent (Figure 8). Growth this year was spearheaded by a large increase in private consumption and continued expansion of exports and investment in the principal industries. The sources of growth altered in 2007: it became based more on the rise in labor and raw material inputs, with a marked increase in imports, and less on a rise in productivity that had characterized growth in previous years. This was reflected in a contraction of the output gap, and hence, in potential pressure on prices. Despite this, GDP prices rose by a total of only 0.6 percent in the four quarters that ended in September 2007 (Figure 9). The reason may be that growth in the last few years, that was supported by increased demand, was accompanied by a rise in supply deriving not only from an increase in production inputs but also from a rise in production potential due to improved production processes and the expansion of the high-tech industries, specifically software services. This would mean that despite increased demand, pressure on prices will not be very intense.

Private consumption, both current consumption and purchases of durables, rose steeply in 2007, following the rise in 2006. In 2007:Q3 private consumption increased by 7.6 percent, and over the whole year by 7.2 percent. In the first half of the year the rise in consumption was led by increased purchases of durables, whereas in the third quarter current consumption, which is domestic production intensive, surged ahead. The large increase in consumption derived from a large rise in disposable income that resulted from the cut in direct taxation, the continued buoyancy in the financial markets that acted, via the wealth effect, to boost consumption, and the rise in employment and wages.

The sustained rise in investment suggests that utilization of the capital stock is approaching its limit, and indicates that companies expect demand to continue rising in the future. Investment in fixed assets (excluding ships and airplanes) rose in 2007 by about 13 percent, compared with a rise of about 10 percent in 2006. Housing investment rose in 2007:Q3 by 5 percent, but over the year as a whole by only 1 percent. The stock of unsold apartments continued to decline during the year, and apartment prices showed an increase. This is a reflection of real surplus demand in the housing market that is not accompanied, at this stage, by a significant rise in housing investment. The rise in demand, together with the reduction in the number of building starts and in the stock of unsold apartments, is likely to continue to exert upward pressure on their prices.

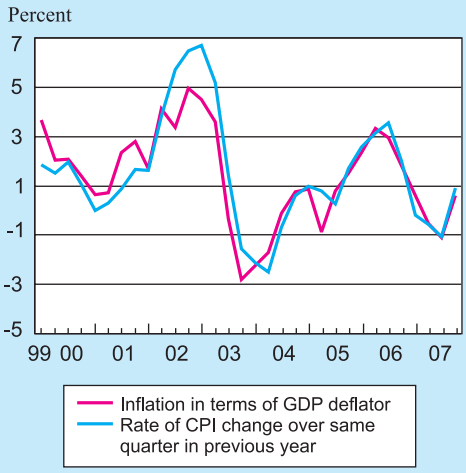
Figure 8
GDP Growth Rates, 1996–2007



Quarterly Growth Rates, 2002 to September 2007 (in annual terms)

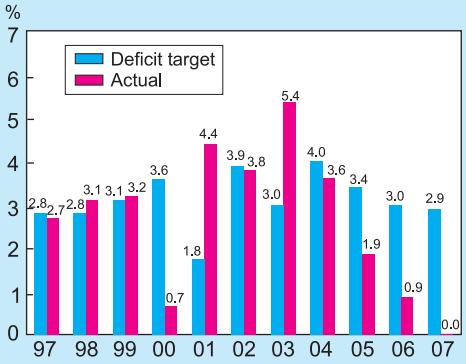
SOURCE: Bank of Israel.

Figure 9
The CPI, and Inflation in terms of GDP Deflator, December 1999 to September 2007
(rise in four previous quarters)



SOURCE: CBS data.

Figure 10
The Government Deficit (percent of GDP), Targets and Actual, 1997 To 2007[a]



[a] From 1997 to 2000 the government deficit ceiling included Bank of Israel profits. From 2001 the ceiling relates to the actual government deficit only.

SOURCE: Bank of Israel.

Public consumption rose by 2.6 percent in 2007, similar to the rise in 2005 and in 2006. In light of the increase in GDP, this rate of increase reflects fiscal restraint. The budget in 2007 was balanced, compared with the planned deficit of 2.9 percent (Figure 10). The drop in the deficit was due mainly to increased tax revenues, which were about 9 percent higher, in real terms, than in 2006, a result of the large expansion of real activity. Expenditure was about NIS 4 billion below the planned level, mainly because of the decline in interest payments, exchange rate differentials, and the fact that part of the reserve in the budget for price rises was not utilized. The public debt fell by about 6 percentage points in 2007, continuing the trend of the last few years, and reached about 81 percent of GDP. This will release budgetary sources by leading to a saving in interest payments in the future. It is important to note that the cumulative fall in the value of the dollar around the world reduces the external debt burden, which constitutes about 25 percent of the total debt, and it contributed about 2 percentage points to the decline in the debt.

Exports rose in the third quarter at a rate of 13 percent, following a rise of about 9 percent in the first half of the year. Most notable was the rise in manufacturing exports excluding diamonds and that in services exports, particularly software and R&D. The continued increase in manufacturing exports of the high-tech industries, which constitute more than 40 percent of all manufacturing exports, played a major role in this rise, as did the rise in medium-high- and medium-low-tech exports, which account for almost 30 percent of manufacturing exports—the latter partly due to the rise in export prices in the chemical industry (Figure 11). Tourism continued along the path of recovery, with increases in the number of tourist arrivals and tourist bed nights, which reverted to their level prior to the Second Lebanon War.

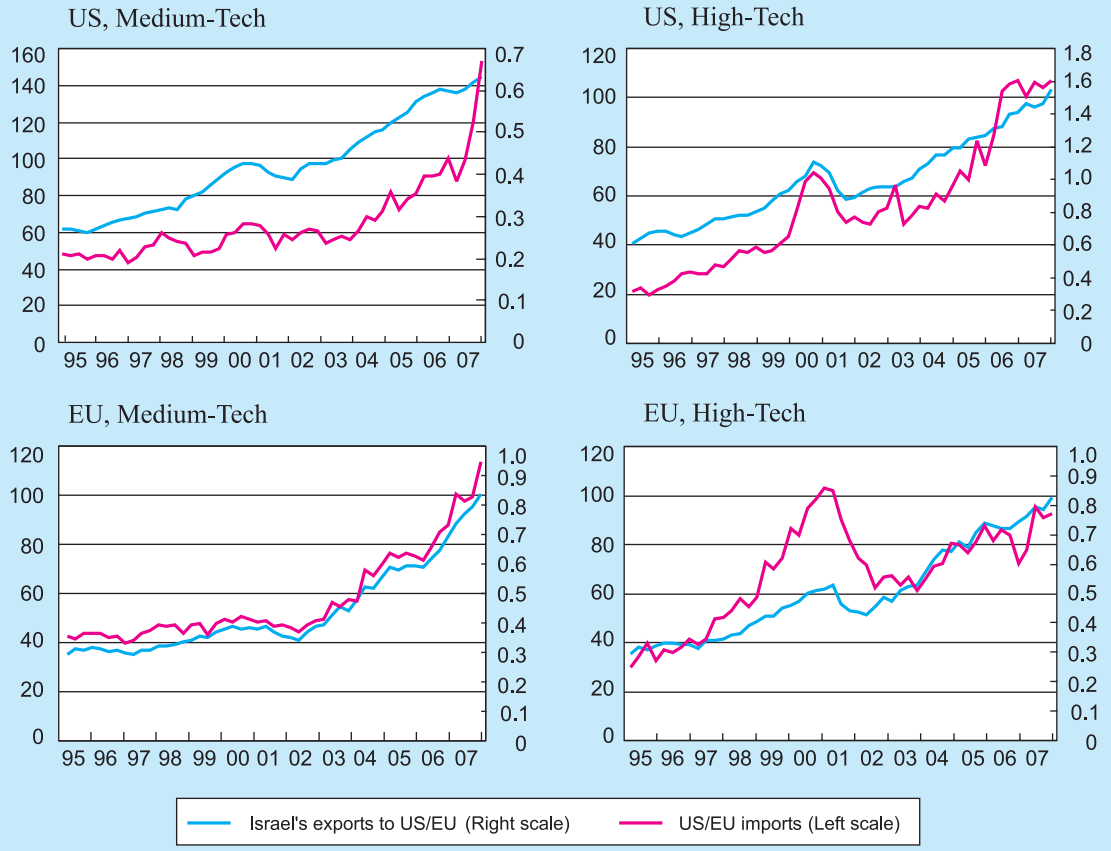
Goods imports (excluding defense imports, diamonds, ships and airplanes) increased by a steep 13 percent in 2007, according to National Accounts data, reflecting faster growth of domestic uses than of GDP. Raw material imports also rose, indicating expectations of continued expansion of activity.

One outcome of the rise in imports was a contraction of the surplus in the current account in 2007 to about $5.2 billion, about 3.2 percent of GDP, compared with $7.9 billion in 2006 (Figure 12)

Economic growth continued to have an effect on the labor market, and there was a further decline in unemployment, which reached 7.3 percent in the third quarter, compared with 8.3 percent in the third quarter of 2006 (Figure 13). The rate of employment also rose by more than one percentage point, to

Figure 11
Israel's High-Tech and Medium-Tech Exports to the US and the EU, and US and EU High-Tech and Medium-Tech Imports, 1995 to September 2007

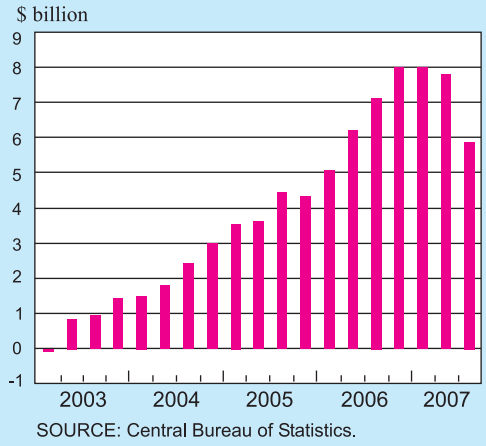
($ billion, seasonally adjusted)



SOURCE: Based on CBS data.

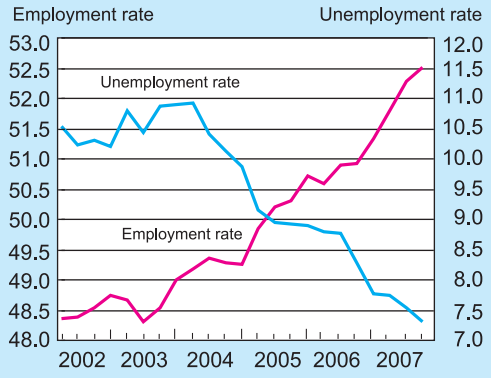
52.5 percent. Unemployment fell among nearly all educational levels, and among those with more than 16 years of education the unemployment rate was less than 4 percent. The highest rate of wage increases occurred in business services and manufacturing (Figure 14). Unit labor costs rose by about 2 percent in 2007 (the average of the first three quarters of 2007 compared with the equivalent period in 2006), reversing the downward trend that had flattened in the last few years (Figure 15). This rise resulted from an increase of 2.5 percent in labor costs per hour and a minimal rise in the production per labor hour. The rise in GDP in 2007 was due, as stated, to an increase in inputs, not in productivity, indicating full utilization of the production inputs and the possibility that increased demand in the future may be reflected in pressure for price increases.

Figure 12
The Current Account, Running Four Quarter Totals, January 2003 to September 2007



SOURCE: Central Bureau of Statistics.

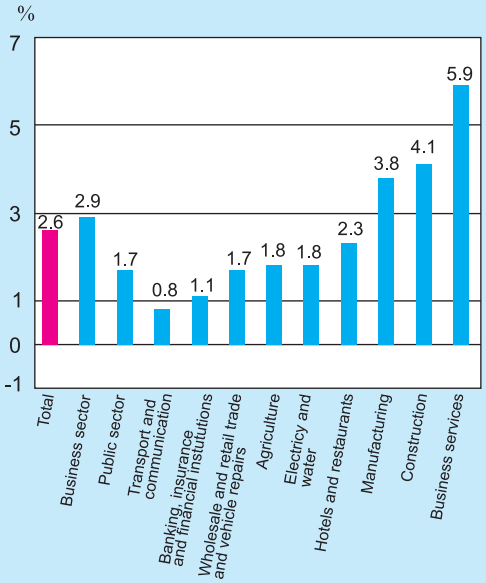
Figure 13
The Employment Rate and the Unemployment Rate,[a] 2002 to September 2007
(seasonally adjusted, percent)



[a] Unemployment rate, percent of labor force; employment rate, percent of working-age population.

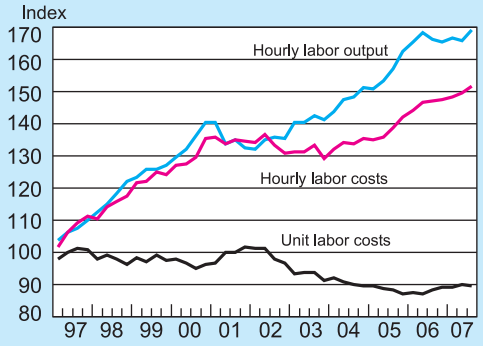
SOURCE: Labour Force Surveys.

Figure 14
Rate of Change of Wage of Israeli Employees, by Industry, to September 2007
(average of last four quarters over equivalent period in previous year)



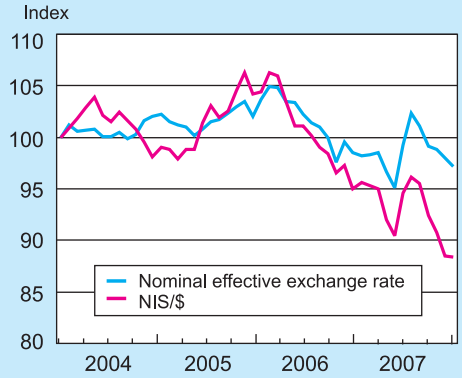
SOURCE: Labour Force Surveys.

Figure 15
Index of Gross Unit Labor Costs in the Business Sector, March 1997 to September 2007
(quarterly, seasonally adjusted)
1997:Q1=100



SOURCE: Bank of Israel.

Figure 16
Index of Nominal Effective Exchange Rate and Index of NIS/$ Exchange Rate, 2004-07
(2004 index = 100)



SOURCE: Bank of Israel.

c. The exchange rate and activity of the various sectors in the foreign exchange markets

In the second half of 2007 the shekel appreciated by about 9.5 percent against the dollar, and by about 2 percent against the currency basket calculated from the composition of Israel's foreign trade (Figure 16).

The main cause of the strengthening of the shekel against the dollar was the downward trend of the dollar world wide, which began in the first half of 2006 and accelerated in August 2007 against the background of the financial crisis in the advanced economies and its implications for the US economy (Figure 17)

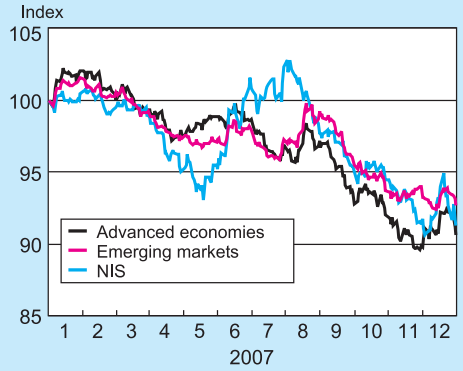
Alongside the weakening of the dollar, various other factors, domestic and global, affected the exchange rate, some of them serving to strengthen the shekel, and others acting to weaken it. The main factors supporting the shekel were: (1) the continued improvement in the economy's fundamentals and the increased confidence in the macroeconomic policy, as reflected by the recent decision of the OECD to declare Israel a candidate for membership, and Israel's improved credit rating by the S&P rating agency. These considerations continue to encourage foreign direct investment (FDI) in Israeli companies (Figure 18). (2) The surplus in the current account, which despite its decline in 2007 is still expected to end the year at the high level of about 3 percent of GDP. These two factors together created basic pressure for appreciation of the shekel. (3) The contraction to zero of the negative interest rate differential between the shekel and the dollar, following the rise in the interest rate in Israel and the cut in the Fed rate (Figure 19).

The main factors acting to weaken the shekel were: (1) the continuing process of Israeli institutional investors increasing the international spread of their investment portfolios in the wake of the tax reform that made it relatively more attractive to invest in foreign assets. (2) The financial crisis in the advanced economies (Box 2).

The second half of the year can be divided into two periods according to the exchange rate trend, the factors that affected trade, and the activities of the different sectors in the market: the first period was from mid-May to the end of July, when the trend was one of depreciation of the shekel, and the second was from August to December, when the general trend was appreciation of the shekel.

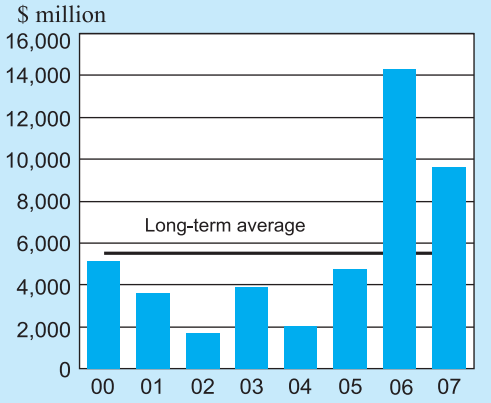
In **the first period**, the shekel depreciated sharply, by about 10 percent, against the dollar. This weakness of the shekel, that occurred concurrently with the persistent worldwide weakening

Figure 17
Index of Exchange Rate of NIS, Currencies of Emerging Markets and Advanced Economies against the Dollar, December 2006 to December 2007
(December 2006 = 100)



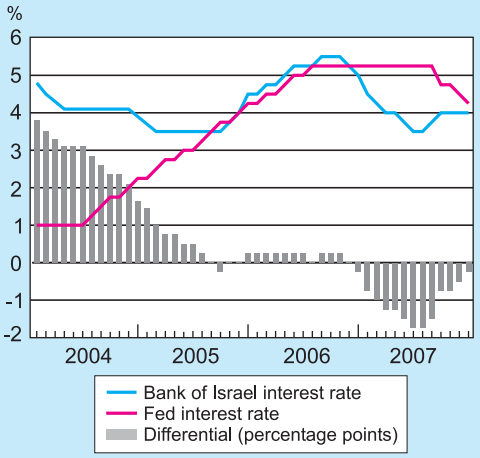
SOURCE: Based on Bloomberg data.

Figure 18
Foreign Direct Investment in Israel, 2000-07



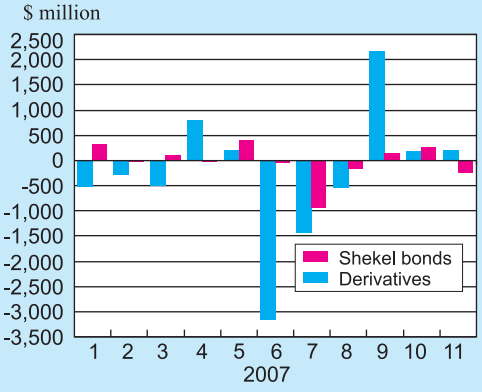
SOURCE: Bank of Israel.

Figure 19
Short-Term Interest Rates in Israel and the US and the Differential Between Them, 2004 to 2007
(monthly averages)



SOURCE: Bank of Israel.

Figure 20
Nonresidents' Investments in Shekel Bonds and Derivatives, Foreign Currency Sales (+), 2007



SOURCE: Bank of Israel.

of the dollar, can be explained mainly by the continued reduction of the Bank of Israel interest rate, which widened the negative interest rate differential between the shekel and the dollar, and by the contraction to zero of the long-term yield gap following the sharp rise in prices of shekel bonds (Figure 25). The zero long-term yield gap and the negative interest rate differential made investors more sensitive to the uncertainty pervading the economy, which had increased in light of both the Interim Report of the Winograd Committee of Inquiry into the Second Lebanon War, and concern regarding the possibility of an outbreak of hostilities with Syria. The assessments by market players that due to increased inflationary pressures the Bank of Israel was likely to stop reducing the interest rate—which would make it less worthwhile to invest in shekel debt instruments as a means of making short-term capital gains—also acted to weaken the shekel in this period.

The main reaction to these developments came from nonresidents, who sold shekel bonds and bought foreign currency in large quantities, mainly via derivatives (Figure 20). The institutional investors also played a role in the depreciation of the shekel, by increasing the rate of their investments abroad, against the background of the sharp price rises in stock markets around the world, especially in the emerging markets.

The depreciation gathered speed in the second half of July, when the financial markets were showing the effect of the global shock. Despite the heightened uncertainty at the time of the crisis, reflected in the steep increase in volatility in the financial and foreign currency markets, the shekel depreciated only moderately, compared to its movement in similar situations in the past. There were several reasons for this: (1) sales in the Israel's stock market by nonresidents were modest compared with those in the stock exchanges of other emerging markets; (2) falling prices in stock markets around the world encouraged the repatriation of capital by Israeli households and institutional investors, moderating the effect of capital exports that resulted from nonresidents' realizing holdings on the Tel Aviv Stock Exchange (TASE) (Figure 21); (3) the flow of FDI in Israeli companies continued practically unabated throughout the period, and was hardly affected by the shock; and (4) Israeli financial institutions had low exposure to financial instruments directly related to the crisis, such as mortgage-backed bonds.

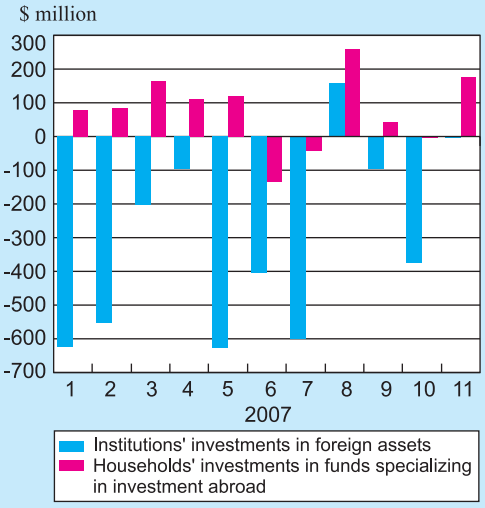
In **the second period** the shekel appreciated rapidly, by about 10 percent. This was related mainly to the global situation resulting from the financial crisis in the advanced economies and the narrowing of the negative interest rate differential between

the shekel and the dollar. Thus, (1) the apparent relative calm in the global financial markets in light of the willingness of the US and European central banks to inject liquidity into the markets supported the renewed rise in share prices on the TASE, and halted the rise in shekel bond yields. (2) The publication of various US economic indicators showing that the shock in the financial markets was affecting real activity led to a lowering of the interest rate in the US, and this, combined with the hike in the Bank of Israel interest rate, led to a marked contraction of the negative interest rate differential between the shekel and the dollar. (3) The downward trend of the dollar world wide intensified due to the cut in the interest rate in the US, and firmer assessments of a slowdown in the US economy.

These developments resulted in a change in nonresidents' activity: they renewed their investment in shekel bonds and shares traded on the TASE, and sold foreign currency via derivatives. This switch was encouraged by the robustness and good performance of Israel's economy, which supported continued FDI in Israeli companies.

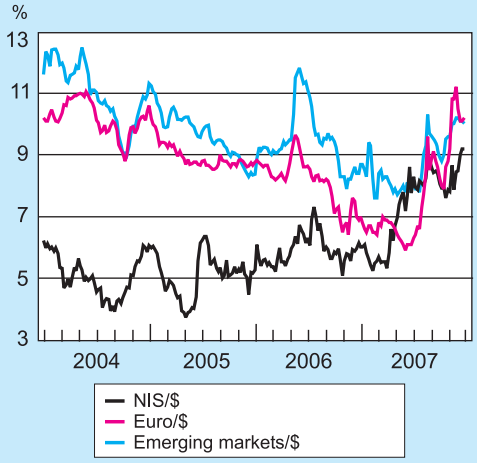
Exchange rate risk, measured by the implied volatility of NIS/$ options, fluctuated during the second half of the year, expressing the effects of the changes in the factors leading to uncertainty in the forex market (Figure 22). In June and July the exchange rate risk, which had started rising at the beginning of April after a long period at a relatively low level, continued along its upward path. Towards the end of July, under the effect of the global shock in the financial markets, the risk rose further, to about 9 percent. The rise in the risk level at the beginning of the period was unique to the shekel, and it was only towards the end of July, with the worldwide crisis, that the level of exchange rate risk rose in other currencies too, both in advanced economies and emerging markets. Over the whole of the second half of the year the time structure of the implied volatility had a negative slope, reflecting market players' assessments that the higher risk would not persist for a long time. In August, with the signs of a return to relative calm in the international financial markets, the rise in Israel's exchange rate risk halted, and it moved around the level of 8.5 percent.

Figure 21
Institutions' Investments (-) in Foreign Assets and Households' Accumulation (-) in Mutual Funds Specializing in Investment Abroad, January to November 2007



SOURCE: Bank of Israel.

Figure 22
Implied Standard Deviation of NIS/$ Options, Emerging Market Currencies[a]/$ Options and Euro/$ Options, 2004 to 2007



[a] Average.

SOURCE: Based on data from Bloomberg.

Box 2. The Financial Crisis in the Advanced Economies

In the second half of July 2007 financial markets around the world became turbulent against the background of stronger assessments that the crisis in the US subprime mortgage market was likely to spread into other financial sectors, and thus develop into a real economic crisis that would affect consumption and growth in the world's largest economy. After several months when the markets operated in an environment of reports of a nascent crisis, including reports on mortgage banks that had to file for bankruptcy, it became clear that financial institutions and investors such as commercial banks, pension funds and hedge funds, in the US and elsewhere, were significantly exposed to subprime loans via debt instruments backed by such loans. Uncertainty over the extent of the damage and the exposure of the institutions that invested in these instruments caused a sharp fall in prices of debt assets, particularly subprime-mortgage-backed instruments, and a rise in demand for US government bonds. At the same time, with investors' uncertainty regarding the extent of the expected damage to the financial system and real activity, stock markets around the world suffered turbulence. Uncertainty about the degree of exposure of large commercial banks around the world to the crisis made it difficult to obtain finance in the money markets, as a result of which the central banks in the US and the leading economies had to inject liquidity amounting to several hundred billion dollars into the banking systems. The US Federal Reserve also started a process of reducing the interest rate, intended to moderate the effect of the crisis on real activity.

Subprime mortgages are characteristically relatively high-risk housing loans, the risk deriving from the borrowers' financial profile. While normal ("prime") loans are given to borrowers with proven repayment ability and a stable flow of income, which increase their chances of repaying the loan, subprime loans are given to borrowers who lack these features. Subprime loans developed in the US almost three decades ago, when in 1980 the Depository Institutions Deregulatory and Monetary Control Act gave lending institutions considerable flexibility in setting mortgage interest rates. This boosted the size and sophistication of the credit market, and mortgage banks started granting credit to low-income borrowers, generally at higher-than-average interest rates, a form of premium for the risk of the borrower defaulting on repayment of the loan. In the last few years some of the banks launched aggressive marketing campaigns, including offering loans at varying interest and requiring only a low level of borrowers' own capital, to persuade borrowers to take mortgages. The mortgage banks were able to increase the risk level by selling the loans to various financial institutions by means of bonds backed by the borrowers' repayments. The bonds were issued in packages classified according to different priority levels of the payment flow that backed them: the lower the level of priority, the higher the risk level, and hence the interest rate offered by the issuers.

In the last few years the volume of subprime mortgages grew substantially, partly due to the sharp fall in interest rates in the US as early as five years ago. In 2005, for example, new loans totaled some $625 billion, compared with $35 billion in 1994. At the same time subprime mortgages increased their share of all mortgages from 4.5 percent in 1994 to 20 percent in 2005.[1]

The crisis that erupted recently was caused by a combination of the long-term trend in US housing prices and the nature and structure of the subprime loans: the fall in the prices of borrowers' assets in the last two years, following the sharp rise in housing prices in 2000–05, deprived many borrowers of the ability to repay the mortgage debt they had taken on to buy an apartment by taking another mortgage at more

[1] Source: Mortgage Statistical Annual.

advantageous terms. In addition, the popularity of the varying interest method, with low interest rates in the first few years and a sharp increase in the rate and the annual repayment in the next years, brought about a situation in which households were faced with repaying debts at high interest rates, and were unable to make the payments. The spread of the crisis to the money markets world wide was mainly due to mortgage securitization, which exposed institutions around the world to the crisis. In addition, the high leverage of hedge funds, who were among the main purchasers of the bonds, indirectly exposed the large banks around the world who had granted them credit. The direct and indirect exposure of large banks to the crisis caused uncertainty about their financial robustness, and this made it difficult to raise finance in the money markets.

The direct and indirect economic implications of the subprime crisis in the US have not yet been fully realized, and there are different assessments regarding the extent of the damage it will have caused. In the last quarter of 2007 the leading commercial banks and investment houses in the US announced that they were reducing their profit forecasts by billions of dollars as a result of their direct and indirect exposure to subprime-mortgage-backed instruments, and according to various forecasts this process will continue at a similar level in the first half of 2008. The OECD estimates that total losses due to the crisis will amount to between $200 billion and $300 billion. The indirect effects of the crisis, which are likely to be expressed by a drop in consumption and business activity due to the credit crunch, resulted in bodies such as the IMF cutting their 2008 growth forecasts.[2]

Despite the turbulence in the global financial system, the reaction of Israel's financial system to the crisis was more muted than that of other advanced economies, and was more like that of other emerging markets with strong macroeconomic fundamentals. When the global crisis erupted, the volatility of the domestic financial markets increased, share and bond prices fell, and depreciation of the NIS that had started in mid-May accelerated. The risk spreads in the low-rated-companies' sector, mainly in the real estate industry, rose. However, as early as in August the depreciation halted, the volatility in the financial markets eased, and the risk spreads gradually declined, although they did not revert to their pre-crisis levels.

The proper functioning of Israel's markets and the resilience of its financial institutions in the face of the crisis were the result of limited exposure of those financial institutions to the subprime market. Furthermore, the low degree of dependence of Israel's mortgage market on raising finance via bonds, and the absence of developed money and securitization markets protected Israel's financial system from being sucked into the global crisis. It is too early to assess the effect of the worsening slowdown in the US economy—that is expected to be reflected by world trade—on Israel's real activity.[3]

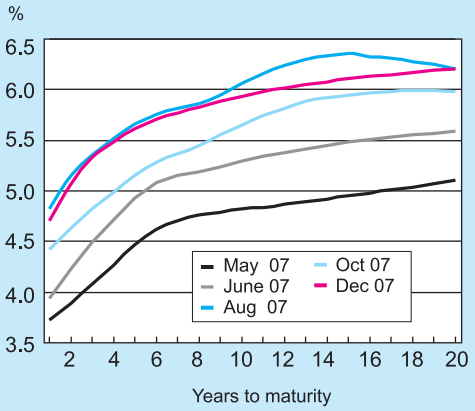
[2] The IMF forecast was published in October. More recent forecasts, such as that of the Economist, expect financial institutions to incur even higher losses and suggest a greater slowdown in world growth.

[3] A detailed analysis of the implications of the crisis on Israel's financial system will appear in the Bank of Israel's Annual Report for 2007.

d. Main financial developments

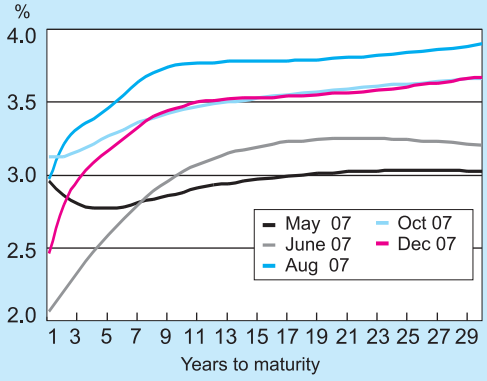
Israel's financial markets in the second half of 2007 reflected on the one hand the effects of the economy's positive fundamentals that continued to attract investors, and on the other hand, the developments in the global markets, particularly the financial crisis in the advanced economies. The ongoing effects of the structural

Figure 23
Yield-To-Maturity Curve of Unindexed (*Shahar*) Bonds, 2007
(monthly averages)



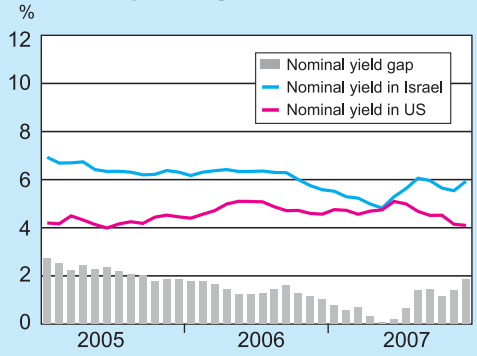
SOURCE: Bank of Israel.

Figure 24
Yield-To-Maturity Curve of CPI-Indexed Bonds, 2007
(monthly averages)



SOURCE: Bank of Israel.

Figure 25
Long-Term (10-Year) Nominal Interest Rates in the US and Israel, and the Gap Between Them, 2005 to 2007
(monthly averages)



SOURCE: Bank of Israel.

reforms in the financial markets—headed by the Bachar reform and reform that introduced market makers into the government bond market—also played a part in making investment in Israel attractive, as did fiscal policy, which continued to adhere to its commitment to budgetary discipline. Increased tax revenues that resulted from the continued expansion of economic activity reduced the government's borrowing requirements, contributing thereby to the relatively low interest environment.

Alongside the domestic factors, developments in the global economic environment also affected Israel's financial markets. The financial crisis that erupted in the subprime mortgage market in the US and spilled over into other markets was the most prominent of these developments (see Box 2). With the outbreak of the crisis, prices of financial assets dropped in Israel as well. From the last week in July until mid-August the main Tel Aviv Stock Exchange (TASE) share price indices fell, as did those in many stock exchanges around the world; the decline halted, however, in the middle of August, and the indices rose again. In November the indices started falling again, with the renewed decline in stock markets around the world, as concern over the implications of the financial crisis increased. Yields on government bonds, both indexed and unindexed, rose considerably in August, another result of the financial crisis (Figures 23 and 24). This rise in bond yields paralleled that in the emerging markets, whereas in the US and other advanced economies government bond yields actually declined, against the background of the transition from high-risk assets to assets considered to be safer. The fall in yields in the US resulting from the financial crisis, and the rise in yields on government bonds in Israel at the beginning of the second half of 2007 greatly increased the yield gap between Israel and the US in the second half of the year, following its significant contraction in the first half (Figures 25 and 26). As a result of the revaluation and repricing of the risks of different financial assets after the outbreak of the subprime mortgage crisis, in Israel too the yield gap between corporate bonds—particularly the unrated ones—and government bonds also widened.[1] In the foreign currency market, alongside the developments in the NIS exchange rate described above, uncertainty grew in the second half of the year, and this was expressed by the exchange rate risk indices derived from the trade in NIS/$ options traded on the TASE.

The quantity of narrow money (M1) continued to grow rapidly

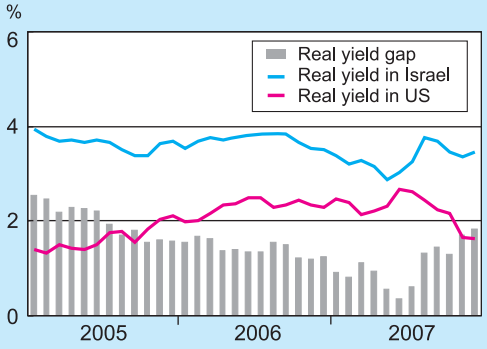
[1] At the same time as the global credit crisis, the Israeli construction firm Heftzibah collapsed: it is reasonable to assume that the rise in yields on unrated bonds, particularly on bonds of real estate companies, was related to that event as well.

in 2007. In an inflation targeting regime, where the interest rate is the monetary policy instrument, the quantities of money and other financial assets and liabilities are determined by the public's demand for them and by the business activity of the financial intermediaries. Therefore, the transmission mechanism via which surplus money supply affects economic activity and inflation does not operate in such a regime, and the quantity of money serves as an indicator for control purposes. And indeed, since the beginning of 2006 the amount in current account deposits of households and nonbank companies rose faster than the predictions derived from a standard econometric equation.[2] Part of the increase in current account deposits beyond that explained by the change in the variables in the equation may be related to the reform in the capital market which separated the institutional investors from the banks, a process that is likely to increase the amount of money they hold.

The M2 aggregate also grew rapidly in 2007—following its moderate rises in the last few years—as did total credit to the private sector, the latter due mainly to nonbank credit.

The developments in the major financial indices in the period reviewed are shown in Tables 2 to 4.

Figure 26
Long-Term (10-Year) Real Interest Rates in the US and Israel and the Gap Between Them, 2005 to 2007
(monthly averages)



SOURCE: Bank of Israel.

Table 2
The Interest and Inflation Environment
(monthly averages)

	Dec-06	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
Inflation environment (percent)								
Monthly change in CPI	0.0	0.7	1.1	0.7	-0.5	0.1	0.4	0.6
Annual change in CPI	-0.1	-0.7	0.3	1.0	1.4	2.2	2.8	3.4
Forecasters' predictions of monthly CPI (average of forecasts prior to publication of CPI)	-0.2	0.4	0.8	0.7	-0.4	-0.1	-0.1	0.3
One-year inflation expectations derived from the capital market	1.2	1.8	1.9	1.7	1.2	1.2	1.4	2.1
Forecasters' one-year inflation predictions	1.7	1.9	2.7	2.6	1.7	1.6	1.9	2.4
Forward inflation expectations[a] to different terms								
Short term (second and third years forward)	1.6	2.3	2.5	2.2	1.8	1.9	1.9	2.4
Medium term (fourth to sixth years forward)	2.3	2.6	2.6	2.4	2.4	2.3	2.3	2.6
Long term (seventh to tenth years forward)	2.4	2.1	2.3	2.5	2.8	2.6	2.5	2.5
Interest rates and interest rate differentials								
Bank of Israel interest rate	5	3.5	3.5	3.75	4	4	4	4
Derived real interest rate	3.9	1.75	1.7	2.1	2.9	2.8	2.7	2.0
Differential between short-term rates in Israel and US	-0.25	-1.75	-1.75	-1.5	-1.1	-0.75	-0.5	-0.4
Forecasters' predictions of change in interest rate for next month	-0.25	0	0.06	0.3	0	0	0	0.25
Forecasters' predictions of interest rate a year hence	4.7	3.8	4.2	4.6	4.5	4.3	4.4	4.7
Long-term (10-year) nominal interest rate differential between Israel and US	1.0	0.2	0.6	1.4	1.4	1.1	1.4	1.8
Long-term (10-year) real interest rate differential between Israel and US	1.3	0.3	0.6	1.3	1.4	1.3	1.6	1.7

[a] Inflation expectations are measured from the difference between yields on local currency unindexed and indexed bonds (break-even inflation). These expectations include an element of risk premium, which rises with the length of the term to which the expectations relate.

[2] See A. Offenbacher and T. Kamel (2007), "The Demand for Money in Israel, 1990–2006," Monetary Studies, Discussion Paper Series No. 2007.04, Bank of Israel. (Hebrew)

Table 3
Developments in the Financial Markets

	Dec-06	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07
Yields to maturity (monthly averages, percent)								
3-month makam	5.2	3.8	3.8	4.4	4.3	4.2	4.3	4.5
1-year makam	5.0	3.9	4.2	4.7	4.6	4.4	4.5	4.6
Unindexed 5-year bonds	5.3	4.9	5.3	5.7	5.4	5.2	5.1	5.6
Unindexed 20-year bonds	5.7	5.6	5.9	6.2	6.2	6.0	5.9	6.2
Indexed 5-year bonds	3.5	2.6	2.8	3.5	3.6	3.3	3.2	3.2
Indexed 30-year bonds	3.6	3.2	3.5	3.9	3.9	3.7	3.6	3.7
Share market (Tel Aviv Stock Exchange)								
General share price index (percent change during month)	-1.8	0.2	0.3	-6.2	5.5	5.4	-4.8	1.4
Foreign currency market								
Change in $/NIS exchange rate during month	-0.5	5.4	1.3	-4.2	-2.7	-1.2	-3.4	0.4
Change in €/NIS exchange rate during month	-0.7	5.4	3.3	-4.6	1.0	0.7	-1.5	0.2
Risk indices calculated from the trade in NIS/$ options on the Tel Aviv Stock Exchange (monthly averages, percent)								
Implied standard deviation	7.6	10.1	9.9	10.6	10.4	9.5	10.4	11.4
Probability of depreciation of more than 2 percent	7.4	10.4	8.6	11.0	11.1	11.5	16.6	16.6
Probability of appreciation of more than 2 percent	3.6	11.2	12.6	12.1	10.4	7.8	8.2	11.5

Table 4
Money and Credit Aggregates[a]
(percent)

	2006:Q1	2006:Q2	2006:Q3	2006:Q4	2007:Q1	2007:Q2	2007:Q3	2007:Q4
Rate of change compared with same quarter in previous year								
M1 money supply	20.4	16.1	12.8	6.7	9.0	13.1	19.5	19.9
M2 money supply	4.2	4.0	4.5	6.9	11.8	15.3	18.1	16.2
Total credit to private sector	10.5	10.2	7.5	5.6	7.2	8.1	12.2	10.7
Bank credit to business sector	2.0	3.5	2.1	-1.0	1.4	1.7	4.5	4.2
Non-bank credit to business sector	38.8	30.4	21.7	21.3	21.6	26.0	34.6	28.7
Share of non-bank credit in total credit to the business sector	40.2	41.2	41.8	43.0	44.7	46.4	48.1	48.2

[a] Credit data up to November 2007.

III. MONETARY POLICY[3]

In reaching monetary policy decisions, the Bank of Israel must assess the whole range of factors that impinge on inflation and that are expected to affect it in the short and medium terms, and it

[3] Once a month the Bank of Israel publishes its decision on the interest rate for the following month, and describes the background conditions and the factors that led to the decision. Two weeks later the Bank publishes a detailed report of the discussions that preceded the decision. The press releases and the discussions are available on the Bank's website: www.bankisrael.gov.il .

must also take account of the different lags in the effect of policy on inflation via the various transmission channels.[4]

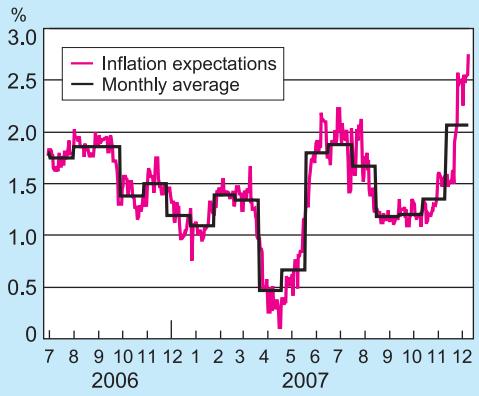
After the process of lowering the interest rate that started in the last quarter of 2006 and continued in the first half of 2007, in the second half of the year the Bank of Israel began to raise the interest rate gradually. The reason for this was the rise in the inflation environment, against the background of the considerable depreciation of the shekel in the months May–July, the sharp increases in world prices, mainly of energy, commodities and food, and further expansion of economic activity.

Counteracting the forces exerting upward pressure on prices, other fundamental forces were acting to strengthen the shekel. The main ones were the surplus in the current account and the persistent inflow of investments into the economy, as well as global forces serving to weaken the US dollar. These were joined by developments related to the financial crisis in the advanced economies, including the lower interest environment in the US and other countries and concern regarding a slowdown in economic activity and in world trade as a result of the crisis. These forces acted to moderate the inflation and interest environments. Monetary policy in the second half of 2007 thus operated against the background of volatility of both actual inflation and assessments of its path in the future, the result of strong forces exerting pressure on inflation in opposite directions and over different time horizons.

In the first half of the year the Bank of Israel gradually reduced the interest rate, continuing the pattern of reductions in the last quarter of 2006. Thus, the interest rate dropped from 5.5 percent in October 2006 to 3.5 percent in June 2007 (the decision taken at the end of May). The purpose of the gradual reductions in the interest rate was to bring inflation back into the price stability target range, in light of the moderate development of inflation, both actual and expected, that was the outcome of domestic and global forces that supported the shekel and offset the upward pressures on prices.

Towards the end of the first half of 2007 assessments of the inflation environment rose, mainly due to the trend change in the NIS/$ exchange rate in May, from shekel appreciation to depreciation. Most indicators of the inflation environment rose in June, reflecting assessments that inflation in the next twelve months would be close to the midpoint of the target range, with a slight rise in the interest rate. Inflation expectations for twelve

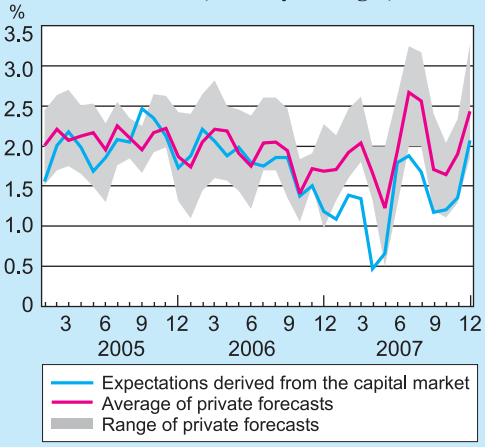
Figure 27
Twelve-Month Inflation Expectations Derived from the Capital Market, July 2006 to December 2007[1]
(daily data and monthly averages)



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

SOURCE: Bank of Israel.

Figure 28
Inflation Expectations for the Next Year Derived from the Capital Market and According to Private Forecasters, 2005 to 2007[1] (monthly averages)

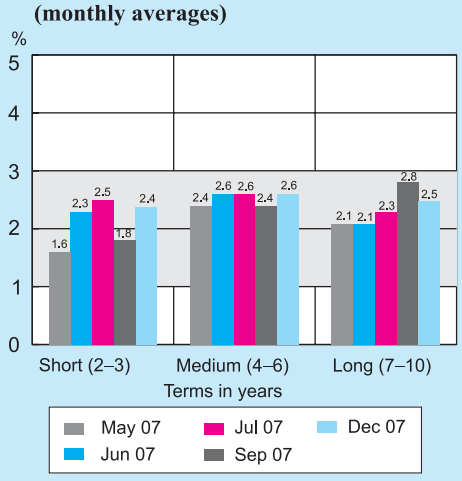


[1] From April 2007, the real yield used in the calculation of inflation expectations is based on the entire yield curve.

SOURCE: Private forecasters' reports and Bank of Israel.

[4] Monetary policy affects inflation faster via the effect of the interest rate on the nominal exchange rate than it does via the effects of real interest and the real exchange rate on demand.

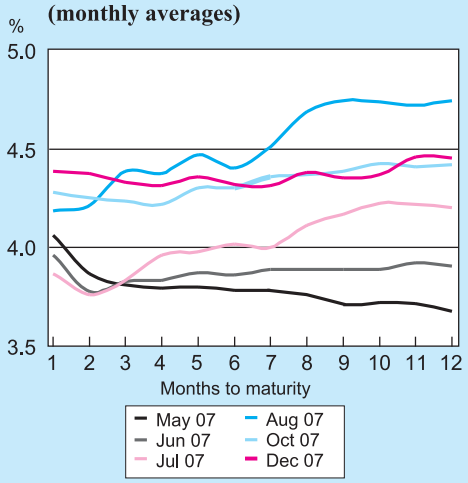
Figure 29
Forward Inflation Expectations Derived from the Capital Market, May 2007 to December 2007
(monthly averages)



These expectations include the inflation risk premium and the gap in liquidity premium between unindexed bonds and CPI-indexed bonds.

SOURCE: Bank of Israel.

Figure 30
***Makam* Yield Curves, 2007**
(monthly averages)



SOURCE: Bank of Israel.

months hence derived from the capital market went up from the low level of about 0.5 percent in April–May to close to the midpoint of the target range in June (Figure 27). At the same time the *makam* yield curve indicated expectations of a moderate rise in the interest rate in the next twelve months . Yields to maturity on unindexed government bonds rose considerably in June, having fallen since October 2006 (Figure 23). The background to the rise was the rise in yields in the US, and investors' assessments that the Bank of Israel had come to the end of the process of reducing the interest rate in its cut in the rate for June to 3.5 percent. The rise in nominal yields and the concurrent drop in short- and medium-term real yields (Figure 24) expressed a rise in inflation expectations also for periods of over a year (Figure 29). The twelve-month inflation predictions by private forecasters also moved from close to the lower limit of the target in May to the middle of the range in June (Figure 28), and they expected a small increase in the interest rate in the course of the next twelve months (Table 2).[5]

With the reversal of the direction of change of the exchange rate, the rise in domestic prices and the continued expansion of economic activity, the Bank of Israel estimated that it was highly probable that inflation would come back to within the target range as early as the end of 2007,[6] an assessment consistent with the econometric models used by the Bank. The models also indicated that the interest rate would rise moderately in the next twelve months. The change in the direction of the exchange rate gave rise to the question of whether it was a temporary development with only a short-term effect on inflation, or whether it would have a more significant and longer influence. The former proposition was supported by the consideration that the basic forces acting to strengthen the shekel were still active, including the current account surplus and continued foreign investment in Israel, as well as the assessment that the dollar would continue to weaken world wide. Increased uncertainty regarding expected exchange rate developments was also reflected in the indices of exchange rate risk, derived from trade in shekel/dollar options: these indices rose steeply from May (Table 3). Taking all the indicators into account, the Bank of Israel came to the conclusion that the then current level of the interest rate was consistent with the return of inflation to within the target in the next twelve months, and it therefore left the rate unchanged for July, at 3.5 percent.

[5] References to private forecasters' predictions relate to the average of the forecasts by several institutions.

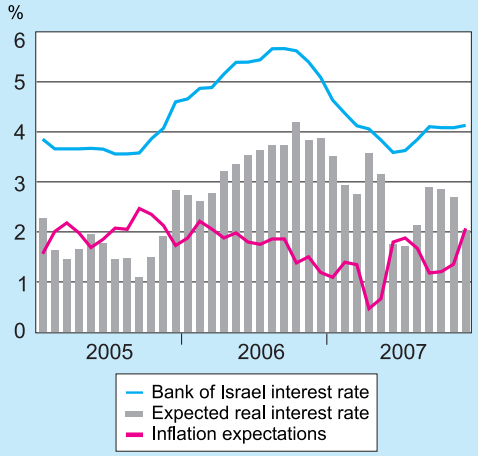
[6] At the time of the decision of the interest rate for July, actual inflation over the previous twelve months, after publication of the May CPI, was negative, at –1.3 percent (Figure 31b).

The indicators of the inflation environment continued to point to a rise in July and August: the CPI went up sharply in the months June–August[7] (a cumulative rise of 2.5 percent, see Figure 1), reflecting among other things the rapid transmission from changes in the exchange rate to the CPI and the volatility they cause. One-year forward inflation expectations derived from the capital market remained close to the midpoint of the range in July and August, following their sharp rise in June, and at the same time the *makam* curve reflected expectations that the interest rate would rise in the next twelve months. Forecasters' predictions of inflation have been rising since June, and in July and the first half of August were close to the upper limit of the target range (Figure 28). The forecasters also expected a rise in the interest rate in the next few months. The rise in expectations to the area around the midpoint of the range, together with the low level of nominal interest following the series of cuts in the previous months, brought the expected short-term real rate of interest to a low level (Figure 31a), taking into account the economy's actual and expected growth rates.

The Bank's models also showed that a rise in interest was required as early as in the third quarter to increase the probability that inflation in the next twelve months would be within the target range. This took into consideration the depreciation, the global rise in energy and commodity prices, rapid growth and expectations that it would persist—which would act to raise prices further—and the low level of the interest rate, both relative to that in the US (Figure 19 and Table 2) and relative to the actual and expected rates of growth. In light of the developments of the various indicators, the Bank of Israel raised the interest rate for August and September by 25 basis points each, bringing the rate for September to 4.0 percent. The moderate level of the increases is explained inter alia by assessments that the basic forces supporting the value of the shekel, i.e., the current account surplus and continued foreign investment, were still evident. In addition, the outbreak of the financial crisis led to greater expectations of a cut in the interest rate in the US, which would also act to strengthen the shekel against the dollar.

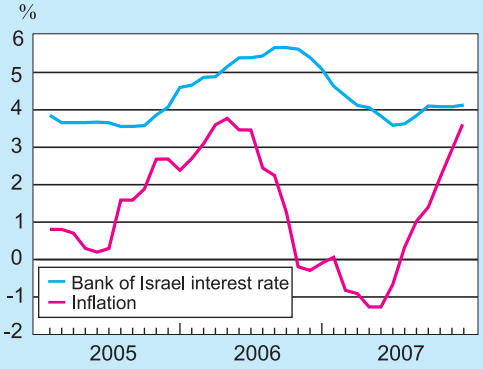
From the end of July Israel's capital market was affected also by the financial crisis that had started in the US subprime mortgage market and had spread to other markets (see Box 2 and section IId below). However, as a result of the relatively low level

Figure 31a
The Bank of Israel Interest Rate,[a] Inflation Expectations,[b] and the Expected Real Interest Rate, 2005 to 2007 (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.

Figure 31b
The Bank of Israel Interest Rate[a] and Inflation in Previous 12 Months, 2005 to 2007 (monthly averages)



[a] The effective interest rate in the Bank of Israel auctions.
SOURCE: Bank of Israel.

[7] The August index is published in September, so that it is known only at the time of the decision on the interest rate for October, but the forecasters and the various models predicted high indices for July and August in light of the depreciation that started in May.

of exposure of financial institutions in Israel to the problematic financial instruments, the global crisis had only a minor direct effect on Israel's capital market, and no liquidity problem evolved in the markets. Thus, unlike other advanced economies, Israel's central bank did not need to adopt special measures in reaction to the global crisis.

Towards the fourth quarter of 2007 the indicators of the inflation environment showed a decline, in light of the renewed appreciation of the shekel that started at the beginning of August, with the global weakening of the dollar. As occurred with inflation in the first half of the year, the strengthening of the shekel offset the effect of the forces acting to raise prices that originated from the rise in world energy and commodity prices and the continued expansion of economic activity. The moderation of the inflation environment was reflected in the low CPIs in September and October (Figure 1) and in the fall in expectations and forecasts of inflation and interest. Twelve-month inflation expectations derived from the capital market declined from the midpoint of the range and converged towards the lower limit (about 1.2 percent on average in September to mid-November, see Figure 27), and at the same time expectations of a rise in the interest rate derived from the *makam* yield curve dipped too (Figure 30). The yield-to-maturity curve of unindexed government bonds, which rose significantly in June–August from the low point it had reached in May, fell again in September and October (Figure 23). Private forecasters also lowered their predictions of inflation in the next twelve months from a level close to the upper limit of the target in July and August to below its midpoint from September to mid-November (Figure 28). They also predicted that the interest rate would remain at its current level till the end of 2007, and that it would rise by about half a percentage point during 2008. In light of the renewed appreciation of the shekel, the forecasters lowered their predictions of changes in the CPI in the last quarter of 2007, so that inflation forecasts for the year 2007 fell from a level above the upper limit of the target range in August to close to the middle of the range (around 2.3 percent from October until the publication of the November CPI). The Bank of Israel's models yielded similar assessments of inflation in 2007.

The global financial crisis and its effects on the financial markets was supportive of lower central bank interest rates around the world, and of more moderate expectations regarding their development in the future.[8] In the US the Fed reduced

[8] On the other hand, the gaps between market interest rates and central bank rates widened because of the crisis, so that the lowering of central bank interest rates was not reflected fully in market rates, at least in the short run.

the interest rate by a cumulative 1 percentage point, starting in September, in response to the financial crisis and concern over its effect on the US economy, thus narrowing the negative interest rate differential between the Fed rate and the Bank of Israel rate from 1.75 percentage points in June–July to 0.25 percentage points in December (Figure 19 and Table 2). These developments joined with the domestic forces that supported the shekel, and thereby a moderate inflation environment—the current account surplus[9] and the flow of investments into the economy. The increased apprehension regarding a possible slowdown in the US economy, and hence also in world trade, against the background of the financial crisis, was another factor supporting a lowering of the inflation environment. On the other hand, the forces acting to raise prices continued to be active, mainly the world rise in energy and commodity prices and the continued growth of Israel's economy.

Taking into consideration the conflicting pressures that were expected to influence inflation, and in light of the various indicators, including inflation expectations derived from the capital market, private forecasters' predictions and the results of the econometric models used by the Bank, the Bank of Israel came to the conclusion that the then current rate of interest was consistent with an inflation rate within the target range in the course of the next year. The Bank therefore kept the interest rate unchanged at 4 percent during the last quarter of 2007.

In December inflationary pressures increased, in large part due to the increase in world food and energy prices. These pressures were reflected in a rise in actual inflation, most marked in the rise in the November CPI,[10] and in the expectations and forecasts of inflation and the interest rate in the next twelve months. The central banks in the US, the eurozone and other countries faced a dilemma: on the one hand, the inflation environment was rising because of the rapid increase in energy and commodity prices; on the other hand there was concern over a slowdown in economic activity in the wake of the financial crisis. Till now the need to help the financial markets and apprehension regarding the effects of the crisis on economic activity have predominated, and the central banks tended towards an expansionary policy, despite the inflationary risks. In Israel, however, the financial markets functioned properly, and economic activity was expected to continue expanding in 2008. Taking into account the rise in

[9] Although the current account contracted in the third quarter, it remained positive, and considerable, and thus continued to support the strengthening of the shekel.

[10] The November price index, in Israel as well as in other countries, was higher than expected, mainly due to the sharp rise in oil and food prices.

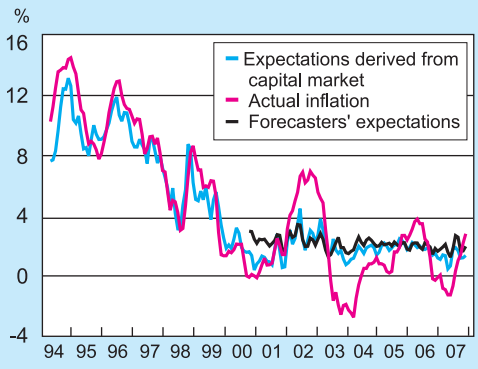
world prices, particularly of energy and other commodities, the ongoing rapid growth and the decline in unemployment, the Bank raised the interest rate for January 2008 by 25 basis points to 4.25 percent.

To summarize: monetary policy in 2007 was aimed at meeting the inflation target and maintaining financial stability, in face of the considerable volatility of the exchange rate and inflationary developments, and against the background of increased risks and uncertainty in the financial markets around the world. Israel's positive economic fundamentals, the effects of the structural reforms in the capital market, and the contribution made by fiscal policy, together with the global background conditions, supported the efforts of the monetary policy to achieve the inflation target with relatively low interest rates of between 3.5 percent and 4.5 percent, thereby supporting continued rapid economic growth.

Box 3. Analysis of Expected and Actual Inflation Since 1994

Inflation expectations for the next twelve months provide an important indicator in the analysis of monetary developments and in the process of determining the Bank of Israel's policy. This is because these expectations reflect the public's view of the effect of economic policy on the rate of price increases and of the Bank of Israel's commitment to achieving the inflation target. Assessments of future inflation are determined on the basis of information available, and so are assessments of the path of the interest rate in the future.[1]

Figure A
Expected and Actual Inflation, April 1994 to November 2007



SOURCE: Bank of Israel.

Data on inflation are obtained from various sources: (1) the difference between real and nominal yields on bonds with the same maturity based on the prices of indexed and unindexed bonds traded on the stock exchange; (2) regular forecasts by economists in other financial institutions; (3) the Bank of Israel Research Department's Companies Survey, which gives the results of companies' quarterly reports on, among other things, their expectations of price rises in the next twelve months.

With regard to inflation expectations, two distinct periods can be discerned, in which the trends paralleled those in actual inflation (Figure A): in the first period, in the 1990s, a clear downward trend in

[1] A Bank of Israel research paper (Elkayam and Ilek, 2006, "The information content of inflationary expectations derived from bond prices in Israel") examined the approach in which expectations of future inflation constitute a central factor in determining current inflation. The research makes the assumption that adjusting prices entails a cost, so that sellers do not adjust prices on a continuous basis. When making a price adjustment, each seller takes into account expected price rises expected in the future, when he will refrain from putting up his prices. Hence the current price rises are affected by expected future rises. This is one of the reasons that many countries have implemented inflation targeting policies: if the public believes that the policy makers will achieve the target, this will moderate the pace of price rises in the present. The findings of the research show that these expectations are unbiased, so that in forming them the public employs the information available to it efficiently. This means that the hypothesis that one-year inflation expectations derived from the capital market are rational expectations cannot be rejected.

inflation expectations, that paralleled the reduction of actual inflation as a result of the disinflation process. In this period inflation expectations quite closely correlated with actual price increases over the previous twelve months, so that it may be said that that the actual change in the inflation rate caused the change in expectations.

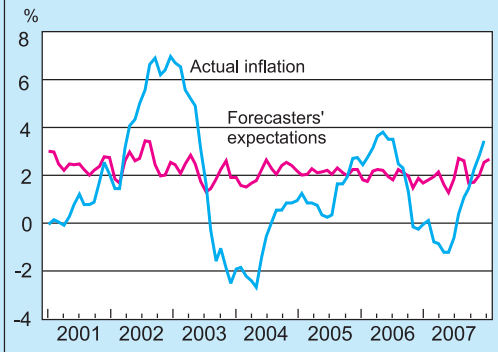
From 2000 a change is evident: inflation expectations were stable at close to the midpoint of the target range (Figure A)—the average of forecasters' predictions between 2000 and 2007 were around 2 percent,[2] expressing the view that changes in actual inflation were temporary, and that the monetary policy would bring inflation back within the range. The fluctuations in expected inflation in this period were also far lower than those in actual inflation: the monthly variance of forecasters' predictions was only 0.2 percent, compared with the variance of actual inflation over the previous twelve months of 6.4 percent.

Price stability in the 2000s was reflected in the behavior of households and companies. Among other things, there was a rise in the number of contracts in nominal terms, unindexed credit was given for longer periods, and recently wage agreements in nominal terms have been signed for relatively long periods.

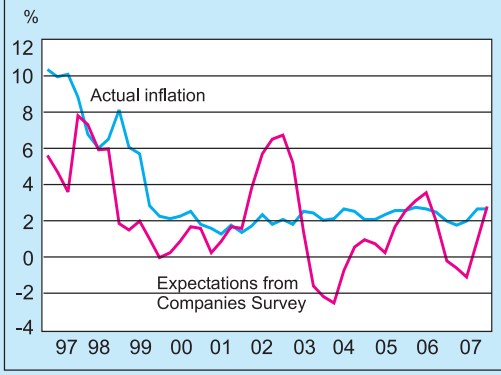
It should be noted that the stabilization of inflation expectations and their anchoring around the midpoint of the range, which is one of the important advantages of a declared inflation targeting policy, is an expression of the public's confidence in the determination and ability of the Bank of Israel to act as necessary to bring inflation into the target range, and of its assessment that the macroeconomic conditions in the background and fiscal policy enable the Bank to maintain that stability. It should also be emphasized that the stability of inflation expectations helps individuals and companies to make correct decisions about consumption and investment, unbiased by inflation noise.

Figure B
Actual Inflation, and Inflation Expectations of Private Forecasters and from the Companies Survey

i. Forecasters, monthly (October 2001 to October 2007)



ii. Companies Survey, quarterly (1997:Q1 to 2007:Q3)



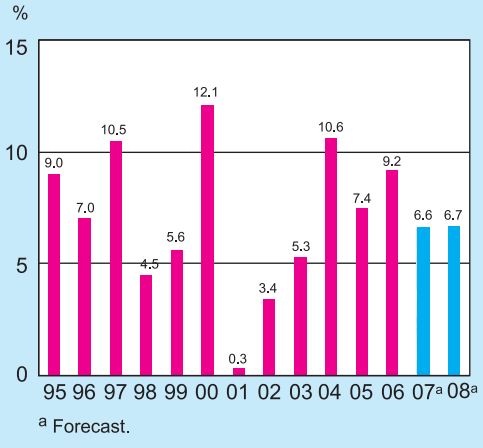
Expected vs. Actual Inflation, based on Different Sources

	Inflation expectations[a]			Inflation expectations from Companies Survey[b]	Actual inflation[b]
	Forecasters	Capital market	Actual inflation[a]		
January 1994 to September 2001					
Average		7.12	7.79	---	---
Variance		10.27	25.08	---	---
September 2001 to December 2007					
Average	2.14	1.77	1.54	2.13	1.53
Variance	0.18	0.52	6.00	0.16	6.11

[a] Monthly data.
[b] Quarterly data.

[2] A similar picture emerges from expectations derived from the capital markets and those obtained from the Bank of Israel Companies Survey.

Figure 32
Quantitative Growth in World Trade, 1995-2008



[a] Forecast.

SOURCE: Bank of Israel.

IV. FORECASTS

a. Expected world developments

Against the background of greater uncertainty in the capital markets, the anticipated slowdown in the US economy, and the continued rise in energy and food prices, world growth and trade are expected to slow as well. Towards the end of 2007 the IMF reduced its forecast of global growth by half a percentage point, to 4.8 percent, and that estimate may be reduced further. The rate of growth is still relatively high, due to the rapid growth in the emerging markets, particularly China, India and Russia, which accounted for about half of the global growth in 2007. These IMF estimates are based on the assumption that despite the increased liquidity difficulties in the financial markets in the second half of 2007, the markets are gradually reverting to normal functioning, even if credit spreads remain high as a result of increased credit risks and liquidity problems that are expected to continue in 2008.

In the US, growth of 1.9 percent is expected in 2008, in light of the crisis in the housing market and in the financial markets that led to reduced demand there. US exports, however, are expected to grow significantly, due to the falling value of the dollar world wide and the stable growth in the US's trading partners. Most of the risks at present are of slower growth, for several reasons: (1) concern over the difficulties in the supply of liquidity and in obtaining credit, which would adversely affect households' and companies' activities; (2) concern over intensification of the real estate crisis, in light of the surplus stock of unsold apartments and problems in the supply of housing credit; (3) lower productivity, which would lead to a further fall in demand. The slowdown had the effect of easing the concern regarding an inflationary spurt, although upward pressures on prices may appear as a result of the rise in energy and food prices and the expansionary effects of the strong injection of liquidity into the markets due to the crisis. The Fed started to cut the interest rate, and is expected to continue with an expansionary policy, to ease the liquidity problems and the credit shortage.

In Europe, a slowdown is expected, following two years of increased growth, as a result of falling global demand—the effects of the credit crisis and the shortage of liquidity—and the strengthening of the euro, which will make exports less competitive. Despite the concern over inflation against the background of the rise in energy and food prices, the ECB policy is expected to focus on easing the liquidity shortage in the credit

markets, and it may therefore refrain from adopting a tight monetary policy.

Japan's economy is expected to show modest growth. After a period of increases, prices fell moderately, and interest rates are expected to remain at their current low level. The emerging markets are expected to show rapid growth. Till now they have not shown signs of being directly affected by the credit crisis, and no reduction in demand is evident. The current accounts in these countries are expected to continue to show a surplus which will help them to accumulate foreign currency reserves.

The rate of accumulation of foreign reserves in South East Asia and in the oil exporting countries rose sharply in the last two years, and reflects surplus savings, which were used, among other things, to finance the large current account deficits in the US. This led to a severe weakening of the US dollar in 2007, and there is concern that those countries' desire to adjust the composition of their foreign currency reserves will boost capital flows and increase the risks in the currency markets, and increase the downward pressure on the dollar.

b. Real activity and fiscal policy

i. Real activity

The rate of growth in Israel in 2008 is expected to be lower than in 2007. This, against the background of the indications of a slowdown in the rate of growth in the US and the convergence of growth in Israel to a more moderate pace, after years when the growth rate reflected recovery from the severe recession at the beginning of the 2000s. The rise in inputs in 2007 indicates a slowdown in the rise in productivity, resulting from convergence to full realization of the economy's production potential. Assuming that the subprime mortgage crisis will have only a limited effect on the global economy, Israel's GDP is expected to grow by 4.4 percent in 2008, and business sector product by 5.3 percent. The slower rate of GDP growth is the outcome of the convergence to full realization of production capacity after more than four years of rapid growth. The rise in the number of employees and productivity is also expected to ease back, and unemployment is expected to drop to 7.1 percent, compared to 7.5 percent in 2007.

The assumptions underlying this assessment are that world trade will expand by 6.7 percent (according to the IMF forecast in October 2007), that the terms of trade will continue to deteriorate due to the rise in fuel prices, and that the security situation will

not change. It is also assumed that implementation of the long-term plan to reduce taxation, including the reduction of company tax and income tax, will continue.

If the global financial crisis and liquidity problems in the credit markets have a stronger effect on world trade and growth, the slowdown will be more severe. Assuming that the rise in world trade will be 3 percent, similar to its rate in 2001–03, Israel's GDP would be expected to increase by only 3.6 percent, and the rise in business sector product to drop to 4.3 percent. This would be due mainly to the slower expansion of exports, 3 percent, instead of 5.9 percent in the previous scenario, and the slower rise in private consumption of less than 4 percent, compared with 5 percent in the previous scenario.

The slower rise in exports due to reduced demand in the US is expected to result in a further contraction of the current account surplus from $5.8 billion in 2007 to about $4.5 billion in 2008 (in both scenarios).

ii. Fiscal policy

The government is expected to end 2007 with a balanced budget, mainly due to higher-than-planned tax revenues. The real rise in expenditure for 2008 was increased by 0.1 percentage points, in accordance with the budget proposal, to 1.8 percent. According to the budget for 2008, the government is expected to reach its budget targets, and the deficit to reach 0.6 percent of GDP (and 0.9 percent of GDP if the growth rate reaches only 3.6 percent). It is estimated that there will be a moderate rise in the public sector wage, but there is still great uncertainty regarding future wage agreements with specific groups of employees in that sector.

c. Expected developments in the foreign currency market

The Bank of Israel expects a decline in capital inflow into Israel, mainly because of the anticipated slowdown in the flow of FDI. Its level is nonetheless expected to be higher than the long-term average. This assessment is based on the most recent investment trends, specific well-founded information on future deals, and an appraisal of the economic conditions expected to affect the flow of investments. The Bank also expects a decline in the current account surplus, mainly due to the forecast slowdown in the global economy, which will result in a slower increase in exports, and also based on the latest trends in the goods account that indicate a faster rise in imports than in exports due to the rise in world commodity and energy prices, among other things.

In addition to the above, the Bank expects the institutional investors to continue investing abroad at rates similar to those in the last two years. This assessment is based on several reforms and structural changes that are expected to have the effect of increasing institutions' investments abroad. These include (1) the transfer of most provident funds and advanced study funds to insurance companies, which—because they were not subject to the tax discrimination that prevailed prior to the reform—have a stronger tendency and greater readiness to invest abroad than the domestic banks. (2) The implementation of several reforms in 2008, that will act to increase the amount of assets handled by the new pension funds significantly and to raise the investments abroad by the old pension funds following the change in the regulations governing their investments. That said, the institutions consider that there is a high level of risk in share markets abroad, and this is likely to moderate the effect of the structural reforms.

The expected slowdown in long-term investments by nonresidents and the contraction of the current account surplus, together with the acceleration in institutional investors' investments abroad is likely to lead to a fall in the supply of long-term foreign currency in the economy. That in turn is expected to lead to a marked easing in the basic pressure for appreciation, which was one of the major factors acting to strengthen the shekel in the last two years. The significance of this would be that short-term capital movements would have a stronger effect on the shekel exchange rate. These short-term flows are by their nature more volatile, as they are influenced, inter alia, by temporary uncertainty factors, such as changes in cross-rates of the major currencies, so that it is difficult to foresee how they will develop.

d. Assessments of inflation and the interest rate

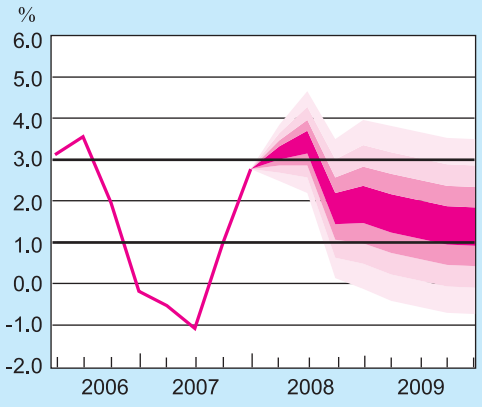
Assessments derived from the capital market and from predictions of private forecasters, indicate that inflation in the next twelve months is likely to be within the target range, with some rise in the interest rate.

In December 2007, inflation expectations derived from the capital market stood at 2.1 percent on average.[11] At the same time expectations regarding the interest rate derived from the *makam* yield curve in December (on average) indicated a rise of about half a percentage point during 2008. On average, the private forecasters predict[12] that inflation in the next twelve months will be 2.7 percent, and that the Bank of Israel interest rate will rise during the year to reach 4.7 percent at the end of the year. According to the Bank of Israel Companies Survey for 2007:Q4, inflation over the next

[11] The expectations rose after the publication of the November CPI, and in the second half of December stood at 2.5 percent on average

[12] Average of forecasters' predictions at end December.

Figure 33
Actual Inflation and Fan Chart[a] of Expected Inflation 2006-2009
(rate of cumulative price increases in previous four quarters)



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

SOURCE: Bank of Israel.

twelve months is expected, on average, to be 2.8 percent.[13] The share of companies expecting inflation to be above the upper limit of the inflation target stood at 25 percent in the fourth quarter, compared with 8 percent in the second quarter.

In assessing the inflation environment and the path of the interest rate required to achieve the inflation target, the Bank of Israel also avails itself of econometric models. A model enables forecasts to be made regarding the development of various economic variables, under certain assumptions about different exogenous variables that affect the inflation environment—interest rates abroad, world prices, etc.—and under the assumption that there will be no unexpected shocks. An examination of the distribution of the occurrence of unexpected shocks in the past enables a fan chart to be plotted that quantifies the uncertainty caused by such shocks relative to the scenario being examined. Such a fan chart is shown below. Clearly, a model cannot reflect all the forces that affect inflation, and thus constitutes just one of the tools used by the Bank in assessing the inflation environment and the policy required.

The Bank of Israel assesses that some increase in the interest rate may be needed in the course of 2008 in order to return the inflation rate to within the target range; this, in light of the continued upward pressure on prices from the demand side and the high price level of imported inputs, which rose sharply in 2007. The probability that a rise in interest will be necessary declined, however, as a result of heightened concern that the slowdown in the US economy and others would become more severe, with the intensification of the global financial crisis at the beginning of 2008, and in light of the cuts in the interest rate in the US, and further cuts expected there and in other countries.

The inflation fan chart (Figure 33)[14] makes it possible to examine the extent of uncertainty around forecast inflation derived from one of the Bank's models. As the figure shows, in the first half of 2008 there is a high probability that inflation in the previous four quarters will be higher than the upper limit of the target range. That relatively high inflation can in large part be explained by the steep rise in the CPI in the third quarter of 2007. Later in 2008 the inflation rate converges to the midpoint of the range.

[13] Companies participating in the survey also expected the shekel to depreciate against the dollar in the next year by more than predicted by the forecasters, and by more than the predictions derived from the Bank's econometric models.

[14] The fan chart rests on an assumption regarding a particular path of several variables exogenous to the economy (interest rates abroad, inflation in import prices, world trade, etc.). Uncertainty is caused by shocks that affect the endogenous variables—inflation, the output gap and the exchange rate—and its quantitative assessment is based on the distribution of these shocks in the past.

Table 5
Assessments of Inflation over Next Twelve Months from Different Sources
(percent)

	Target	Capital market	Private forecasters	Companies Survey	Bank of Israel
Average, next twelve months	2	2.1	2.7	2.8	about 2
(Range)	(1–3)		(2.0–3.7)		

e. The balance of inflation risks

Most of the global risk factors that inflation will deviate from the target derive from the increased severity of the latest trends in the financial markets and the global economy due to the subprime mortgage crisis, and from the development of world commodity and energy prices. Signs that the crisis is spreading from the credit market to real activity in the US are already visible. A further deterioration of the crisis in the financial markets, which is likely to be reflected in a significant slowdown in the US economy, would probably affect Israel's economy at several levels:

(1) A slowdown in global activity and international trade, especially in world demand for high-tech goods and services, will probably cause a slowdown in Israel's exports and a reduction in FDI in Israeli companies. This could act on prices in opposite directions: on the one hand, it could slow the rate of economic growth, and ease inflationary pressure on the demand side; on the other hand, it could cause a deterioration in the current account and a drop in direct investments, which would lead to a lowering of basic pressure for appreciation.

(2) A marked slowdown in the US economy would support further interest rate cuts by the Fed. That would accelerate the worldwide weakening of the dollar and would open a positive interest rate differential between the shekel and the dollar, which would act to continue and even add to the strengthening of the shekel.

(3) A rise in the assessment of global risk in the wake of a deterioration in the crisis in the financial markets would probably lead to rapid flow of capital out of emerging markets, including Israel, and hence to a weakening of the shekel. Nevertheless, the reduced assessment of Israel's economic risk, as expressed by the OECD declaration that Israel is a candidate for membership in the organization, and Israel's improved credit rating by the S&P rating agency, are likely to moderate an outflow of capital from Israel. In this scenario, which would include falls in share prices in the emerging markets, households and institutional investors

would probably liquidate their investments in those markets as they did in similar situations in the past, and thereby moderate the effect on the exchange rate of repatriation of investments by nonresidents.

Alongside these developments, a global trend of rising commodity and energy prices has been evident. Thus, for example, fuel prices surged by more than 50 percent in 2007, and have trebled since 2004. According to IMF estimates, the forces acting to raise commodity prices, and in particular food prices, will continue to act in 2008, partly due to the expected faster rise in demand than in supply. The factors pushing up oil prices, headed by the cutback in global production resulting from unexpected damage or geopolitical tension, have not disappeared, and have the potential to resurface with renewed vigor in 2008. If this potential is realized, prices in Israel can be expected to rise.

With regard to domestic factors, the continued contraction of the output gap is likely to create upward pressure on prices, and the ongoing increase in employment and the rise in unit labor costs will act in the same direction. The pressure for wage increases in education and health services are likely to spill over into the business sector and to make it difficult for the government to adhere to the real increase set for its expenditure.

To summarize: the tendency of the global forces, from the risk aspect, is to moderate demand and further reduce the value of the dollar, which is likely to lead to continued pressure for appreciation of the shekel. On the other hand, the continued rise in world fuel and food prices together with the forces acting to increase wages, against the background of the continued contraction of the output gap and the full exploitation of production capacity, are likely to serve to boost inflation. As the data published in the US and Europe in the first half of January indicate a worsening of the slowdown in real economic activity, it seems at present that the chances of inflationary pressures easing in Israel have risen compared to the assessments at the end of 2007. However, forces are acting in the opposite direction, too, as stated, and interest rate decisions will be taken, as in the past, on the basis of current developments.

Companies participating in the survey also expected the shekel to depreciate against the dollar in the next year by more than predicted by the forecasters, and by more than the predictions derived from the Bank's econometric models.

The fan chart rests on an assumption regarding a particular path of several variables exogenous to the economy (interest rates abroad, inflation in import prices, world trade, etc.). Uncertainty is caused by shocks that affect the endogenous variables—inflation, the output gap and the exchange rate—and its quantitative assessment is based on the distribution of these shocks in the past.

Appendix Table 1
Changes in Annual Inflation, the Housing Index and the Exchange Rate, and the Inter-Month Standard Deviation of the CPI, 1996–2007

	CPI (1)	CPI excluding fruit and vegetables, clothing and footwear (2)	Index of housing prices (3)	NIS/US$ exchange rate (4)	Inter-month standard deviation of the CPI (5)
	(percent change during the period)				
			(annual data)		
1996	10.6	11.2	13.2	5.0	0.5
1997	7.0	7.7	7.5	7.9	0.6
1998	8.6	8.6	8.8	18.2	0.9 [a]
1999	1.3	1.5	-0.9	0.4	0.4
2000	0.0	0.2	-2.4	-2.7	0.5
2001	1.4	1.5	5.2	4.8	0.4
2002	6.5	7.1	8.2	9.8	0.7
2003	-1.9	-2.0	-6.7	-6.4	0.4
2004	1.2	1.2	-2.5	-1.2	0.4
2005	2.4	3.1	5.9	6.2	0.5
2006	-0.1	-0.5	-6.1	-8.9	0.5
2005 I	0.5	1.1	0.3	3.3	0.4
2005 II	1.9	2.0	5.5	2.8	0.5
2006 I	1.6	1.3	-2.9	-3.0	0.4
2006 II	-1.6	-1.8	-3.2	-6.0	0.4
2007 I	1.0	1.0	-0.4	-0.5	0.4
2007 II	2.4	2.3	2.3	-6.7	0.6

[a] The marked deviation of this figure from the long-term trend is due to the sharp rise in the exchange rate in October 1998.
SOURCE: Based on Central Bureau of Statistics data.

Appendix Table 2
Interest Rates in Israel and the US, 2002–2007

End of year		Central banks' interest rates				Differential between central banks' interest rates (percentage points)	Yield gap between 10-year Israeli and US government bonds[b] (percentage points)
		Israel		US			
		Interest rate[a] (%)	Change (percentage points)	Interest rate (%)	Change (percentage points)		
2002	December	9.10	3.30	1.25	-0.50	7.85	6.44
2003	December	5.20	-3.90	1.00	-0.25	4.20	2.84
2004	December	3.90	-0.20	2.25	0.25	1.65	3.12
2005	January	3.70	-0.20	2.25	0.00	1.45	2.73
	February	3.50	-0.20	2.25	0.00	1.25	2.53
	March	3.50	0.00	2.50	0.25	1.00	2.21
	April	3.50	0.00	2.75	0.25	0.75	2.42
	May	3.50	0.00	3.00	0.25	0.50	2.29
	June	3.50	0.00	3.00	0.00	0.50	2.35
	July	3.50	0.00	3.25	0.25	0.25	2.19
	August	3.50	0.00	3.50	0.25	0.00	2.06
	September	3.50	0.00	3.75	0.25	-0.25	2.02
	October	3.75	0.25	3.75	0.00	0.00	1.78
	November	4.00	0.25	4.00	0.25	0.00	1.85
	December	4.50	0.50	4.25	0.25	0.25	1.86
2006	January	4.50	0.00	4.25	0.00	0.25	1.77
	February	4.75	0.25	4.50	0.25	0.25	1.75
	March	4.75	0.00	4.50	0.00	0.25	1.66
	April	5.00	0.25	4.75	0.25	0.25	1.43
	May	5.25	0.25	5.00	0.25	0.25	1.24
	June	5.25	0.00	5.00	0.00	0.25	1.25
	July	5.25	0.00	5.25	0.00	0.00	1.28
	August	5.50	0.25	5.25	0.00	0.25	1.43
	September	5.50	0.00	5.25	0.00	0.25	1.58
	October	5.50	0.00	5.25	0.00	0.25	1.28
	November	5.25	-0.25	5.25	0.00	0.00	1.15
	December	5.00	-0.25	5.25	0.00	-0.25	1.01
2007	January	4.50	-0.50	5.25	0.00	-0.75	0.76
	February	4.25	-0.25	5.25	0.00	-1.00	0.57
	March	4.00	-0.25	5.25	0.00	-1.25	0.67
	April	4.00	0.00	5.25	0.00	-1.25	0.30
	May	3.75	-0.25	5.25	0.00	-1.50	0.08
	June	3.50	-0.25	5.25	0.00	-1.75	0.20
	July	3.50	0.00	5.25	0.00	-1.75	0.64
	August	3.75	0.25	5.25	0.00	-1.50	1.38
	September	4.00	0.25	4.75	-0.50	-0.75	1.45
	October	4.00	0.00	4.75	0.00	-0.75	1.13
	November	4.00	0.00	4.50	-0.25	-0.50	1.39
	December	4.00	0.00	4.25	-0.25	-0.25	1.83

[a] The rate of interest set in the previous month's monetary program for the month indicated in the table.
[b] The yield spread between the yields on 10-year unindexed government bonds and the yields on US government bonds for the same term.
SOURCE: Bank of Israel.

Appendix Table 3

The Bank of Israel Nominal and Real Rates of Interest, and the Yield on *Makam* and on CPI-Indexed and Unindexed Government Bonds, 2002–2007 (monthly average, percent)

		Bank of Israel interest rate			Yield on 12-month unindexed *Makam*	Yield on CPI-indexed 10-year bonds	Yield on unindexed 10-year bonds
		Headline[a]	Effective[b]	Real[c]			
2002	December	9.10	9.6	7.2	8.3	5.5	10.5
2003	December	5.20	5.4	4.6	4.9	4.1	7.1
2004	December	3.90	4.1	2.7	4.3	4.1	7.3
2005	January	3.70	3.85	2.27	4.2	4.0	6.9
	February	3.50	3.66	1.62	4.2	3.8	6.7
	March	3.50	3.66	1.45	4.1	3.7	6.7
	April	3.50	3.66	1.65	4.1	3.7	6.7
	May	3.50	3.67	1.95	4.0	3.7	6.4
	June	3.50	3.66	1.77	4.0	3.7	6.3
	July	3.50	3.56	1.45	4.2	3.7	6.4
	August	3.50	3.56	1.48	4.2	3.5	6.3
	September	3.50	3.58	1.08	4.3	3.4	6.2
	October	3.75	3.86	1.49	4.6	3.4	6.2
	November	4.00	4.07	1.90	5.0	3.6	6.4
	December	4.50	4.60	2.82	5.2	3.7	6.3
2006	January	4.50	4.66	2.72	5.2	3.5	6.2
	February	4.75	4.87	2.60	5.5	3.7	6.3
	March	4.75	4.89	2.77	5.6	3.8	6.4
	April	5.00	5.15	3.21	5.7	3.7	6.4
	May	5.25	5.39	3.35	5.8	3.8	6.3
	June	5.25	5.39	3.54	5.8	3.8	6.3
	July	5.25	5.44	3.62	5.8	3.8	6.4
	August	5.50	5.66	3.74	5.8	3.8	6.3
	September	5.50	5.67	3.74	5.8	3.9	6.3
	October	5.50	5.62	4.18	5.3	3.7	6.0
	November	5.25	5.40	3.84	5.1	3.5	5.8
	December	5.00	5.09	3.87	5.0	3.5	5.6
2007	January	4.50	4.63	3.50	4.5	3.4	5.5
	February	4.25	4.37	2.94	4.5	3.2	5.3
	March	4.00	4.12	2.74	4.4	3.3	5.2
	April	4.00	4.06	3.57	3.9	3.1	5.0
	May	3.75	3.84	3.15	3.7	2.9	4.8
	June	3.50	3.59	1.75	3.9	3.0	5.3
	July	3.50	3.63	1.71	4.2	3.3	5.6
	August	3.75	3.85	2.14	4.7	3.8	6.1
	September	4.00	4.10	2.89	4.6	3.7	6.0
	October	4.00	4.08	2.84	4.4	3.5	5.7
	November	4.00	4.08	2.69	4.5	3.4	5.5
	December	4.00	4.13	2.30	4.6	3.5	5.9

[a] Announced interest rate in simple annual terms (excluding compound interest).
[b] Calculated as the daily compound interest rate, based on the interbank rate.
[c] The real rate of interest is the effective rate of interest less inflation expectations derived from the capital market.
SOURCE: Bank of Israel.

Appendix Table 4
The Differential between Yield on *Makam* and Government Bonds and the Bank of Israel Interest Rate, 2002–2007
(percentage points)

		Differential between yield on 12-month *Makam* and the effective Bank of Israel interest rate	Differential between the yield on unindexed 10-year bonds and the effective Bank of Israel interest rate	Differential between the yield on CPI-indexed 10-year bonds and the Bank of Israel real interest ate
2002	December	-1.7	0.8	-1.8
2003	December	-0.5	1.7	-0.6
2004	December	0.2	3.3	1.4
2005	January	0.4	3.1	1.7
	February	0.5	3.0	2.2
	March	0.4	3.0	2.2
	April	0.5	3.1	2.1
	May	0.3	2.7	1.7
	June	0.3	2.7	1.9
	July	0.6	2.8	2.2
	August	0.7	2.8	2.0
	September	0.7	2.6	2.3
	October	0.8	2.4	1.9
	November	0.9	2.3	1.7
	December	0.6	1.7	0.9
2006	January	0.6	1.5	0.8
	February	0.7	1.4	1.1
	March	0.8	1.5	1.0
	April	0.6	1.3	0.5
	May	0.4	0.9	0.4
	June	0.4	0.9	0.3
	July	0.4	0.9	0.2
	August	0.2	0.6	0.1
	September	0.1	0.6	0.1
	October	-0.3	0.4	-0.5
	November	-0.3	0.4	-0.3
	December	-0.1	0.5	-0.4
2007	January	-0.1	0.9	-0.1
	February	0.1	0.9	0.3
	March	0.3	1.1	0.5
	April	-0.1	0.9	-0.4
	May	-0.2	1.0	-0.3
	June	0.3	1.7	1.3
	July	0.6	2.0	1.5
	August	0.9	2.2	1.6
	September	0.5	1.9	0.8
	October	0.3	1.6	0.6
	November	0.4	1.5	0.7
	December	0.5	1.8	1.2

SOURCE: Bank of Israel.

Appendix Table 5
Expected Inflation, 2002–2007 (percent)

		Expectations derived from the capital market			
		For first year[a]	For second year[b]	For third year and beyond	Average of 12-month inflation forecasts[c]
2002	December	2.2	3.8	5.3	2.0
2003	December	0.7	1.7	3.2	1.6
2004	December	1.4	1.9	3.5	2.0
2005	January	1.6	2.0	3.3	2.0
	February	2.0	2.4	3.1	2.2
	March	2.2	2.4	3.1	2.1
	April	2.0	2.0	3.1	2.1
	May	1.7	1.9	3.0	2.2
	June	1.9	2.2	2.9	2.0
	July	2.1	2.3	2.9	2.3
	August	2.1	2.4	2.9	2.1
	September	2.5	2.6	2.9	2.0
	October	2.4	2.5	3.0	2.2
	November	2.1	2.5	2.8	2.2
	December	1.7	2.1	2.6	1.9
2006	January	1.9	2.2	2.7	1.7
	February	2.2	2.4	2.7	2.1
	March	2.1	2.5	2.7	2.2
	April	1.9	2.3	2.7	2.2
	May	2.0	2.1	2.7	1.9
	June	1.8	2.1	2.6	1.8
	July	1.8	2.0	2.7	2.0
	August	1.9	2.0	2.6	2.1
	September	1.9	2.0	2.5	2.0
	October	1.4	1.5	2.5	1.4
	November	1.5	1.7	2.3	1.7
	December	1.2	1.6	2.1	1.7
2007	January	1.1	1.3	2.3	1.7
	February	1.4	1.6	2.2	1.9
	March	1.3	1.7	2.0	2.0
	April	0.5	1.1	2.1	1.6
	May	0.7	1.3	2.2	1.2
	June	1.8	2.2	2.4	1.8
	July	1.9	2.5	2.4	2.7
	August	1.7	2.1	2.4	2.6
	September	1.2	1.7	2.5	1.6
	October	1.2	1.7	2.4	1.7
	November	1.4	1.8	2.4	2.0
	December	2.1	2.4	2.5	2.5

[a] Twelve-month inflation expectations.
[b] Calculated from yields on unindexed and indexed bonds with equivalent terms.
[c] Average of inflation forecasts of commercial banks and economic consultancy firms that publish their forecasts on a regular basis.
SOURCE: Bank of Israel.