Bank of Israel

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Bank of Israel

Letter of the Governor, Professor Stanley Fischer

Jerusalem
July 2006

The Inflation Report for the first half of 2006* 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 Consumer Price Index (CPI) rose by 1.6 percent in the first half of 2006. Over the past 12 months the index rose by 3.5 percent, above the upper limit of the target range of price stability (between 1 percent and 3 percent a year).

The main reasons for the rise in prices in the first half of the year were the increases in import prices, particularly the sharp rise in prices of energy products, and an increase in local demand, particularly in private consumption. Developments in the exchange rate were not uniform over the period: in the first quarter of the year, the NIS depreciated against the dollar by 2.5 percent, contributing to a rise in inflation in that period; from April, influenced by both local factors and against the background of a weakening dollar in the international markets, the NIS strengthened against the dollar by 5.5 percent, serving as one of the moderating forces affecting inflation in the latter months of the first half. The continuing reduction in the budget deficit also contributed to the moderation in price rises in the period reviewed.

In the first four months of the year the interest rate was raised cumulatively by 0.75 percentage points to 5.25 percent, continuing the rise in the interest rate in the last quarter of 2005. In the latter months of the period reviewed the Bank of Israel stopped raising the interest rate, on the assessment that the inflation rate in the coming year would lie within the target range. At the end of the first half, the Bank of Israel interest rate stood at 5.25 percent.

For most of the period under review, the inflation rate over the previous 12 months was more than 3 percent, above the upper limit of the target range; this was affected by the depreciation of the NIS which began in the last quarter of the previous year and continued until February 2006, the sharp rise in prices of imported goods, particularly energy products, and a contraction in the output gap.

The Bank of Israel follows a flexible inflation targeting approach to monetary policy. In the event that inflation deviates from the target range, this approach allows some flexibility in the speed at which monetary policy attempts to return inflation to within the range. This is done to avoid unduly affecting real activity. In present circumstances, if the inflation rate over the previous 12 months does revert, as expected, to within the target range in July, then the path of interest-rate hikes taken in the period reviewed would have been consistent with this approach to inflation targeting.

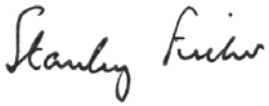
* This report incorporates the Report on the Expansion of the Money Supply, in accordance with section 35 of the Bank of Israel Law, 1954. This is the case because in each month from January to June 2006 the money supply exceeded that in the preceding twelve months by more than 15 percent. The changes in the money supply are discussed in section IIc(iii) below.

At the end of the six-month period under review, a security crisis broke out in the Gaza Strip. This was followed in mid-July by an outbreak of fighting on the Lebanese border. The effect of these events on real activity, the exchange rate and on inflation, will depend in large part on the length of the conflict and on its geopolitical outcome. It is clear though that in the short run these events will have a negative impact on real activity, both from the demand side and through their effect on supply. Despite the rise of the risk premium in the economy, the response to these events in the financial markets, including the foreign exchange market, has so far been moderate. Nevertheless, due to these events, inflation is expected to rise in the short term. The Bank of Israel, in conducting monetary policy in the coming months, will need to take into account both the possible rise in inflation and the likely slowdown in activity.

At the end of July, the Bank of Israel raised the interest rate by 0.25 percentage points, due to the continuing impact of the main inflationary factors that were in place in the first half of the year, and following the rise in Israel's risk premium—including the inflationary risk—in the markets,.

The recent military conflict is expected to impact both revenues from taxes and government expenditure, due to the increased spending on defense and the compensation to those citizens affected by the conflict. However, due to the overperformance of the budget in the first half of this year, the government should be able to meet its deficit target for 2006 if the hostilities end soon. In determining the budget for 2007, it will be important for the government to make every effort to maintain the budgetary framework that it declared before the conflict. Its capacity to do this will depend on the length and the extent of the hostilities in the north and on geopolitical developments.

Stanley Fischer



Governor, Bank of Israel

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Summary

- In the first half of 2006 (the period reviewed) the Consumer Price Index (CPI) rose by 1.6 percent. Over the last twelve months the index rose by 3.5 percent, above the upper limit of the price-stability target (of 1–3 percent inflation a year).
- Monetary policy in January–April entailed interest rate increases totaling 0.75 of a percentage point, following the hikes in the last quarter of 2005. In May and June the Bank of Israel did not raise the interest rate, based on assessments that, given the appreciation of the NIS, the rate of inflation in the next twelve months would be within the target range. At the end of the first half of 2006 the interest rate was 5.25 percent.
- The exchange rate did not follow a steady path in the period under review: in the first quarter of the year the NIS depreciated against the dollar, mainly due to domestic factors, continuing the trend that started at the end of 2005. In April the trend reversed and the NIS appreciated sharply against the dollar, reverting to its mid-2005 level. These movements of the exchange rate were the dominant factor affecting inflation in January to June 2006. Their effect was reflected by price changes of both tradable and nontradable goods, particularly in the housing category.
- The foreign currency market was affected by several processes that supported appreciation of the NIS; these included a heavy capital inflow by nonresidents, a steadily increasing current account surplus in the balance of payments, and expectations of an improvement in Israel's credit rating. Israelis' continued adjustment of their asset portfolios, reflected by capital outflow by institutional investors and households, acted in the opposite direction.
- The sharp rise of import prices, especially fuel prices, and the increase in domestic demand, mainly private consumption, were among the main reasons for the rise in prices in the period under review.
- Accelerated economic growth in the first half-year was reflected by the contraction of surplus production capacity, and thereby contributed to a rise in the GDP deflator. Despite a considerable rise in the average nominal wage in the business sector (about 5.4 percent in the last twelve months), the fact that labor productivity also rose kept unit labor cost stable, so that at present the labor market is not creating apparent inflationary pressures.
- The domestic financial markets were more stable in the period reviewed than most markets abroad. This despite the greater geopolitical uncertainty in the first months of the year, and despite declines in the domestic stock market that occurred against the background of sharp drops in share prices in emerging markets and significant weakening of their currencies towards the end of the first half of the year. This stability of the markets can be attributed in no small measure to the high degree of public confidence in the fiscal and monetary policies.
- According to all the assessments derived from the capital market, the assessments of private economic forecasters, the Bank of Israel's Companies Survey and the Bank's econometric models, inflation in 2006 and in the next twelve months is expected to be within the price stability target range (of 1–3 percent inflation a year), assuming moderate increases in the interest rate in the next year and relative stability in the exchange rate.
- At the end of the first half of the year a security crisis erupted in the Gaza Strip area, and then also on Israel's northern border. The effect of these events on real activity, on the exchange rate, and hence also on inflation, depends to a great extent on how long the current hostilities continue and on their outcome. It may be stated even at this stage that the events will have a negative effect on real activity, both on the demand side and through the impact on supply. However, despite the increase in risk of the economy, the reaction by the financial markets, including the foreign currency market, to the events so far has been moderate, at the time of writing. Nevertheless it is expected that an outcome of the events will be to raise inflation, at least in the short term.

a. Changes in the CPI and their main causes

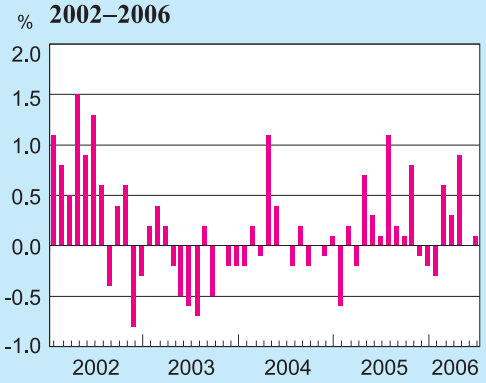
The Consumer Price Index (CPI) rose by 1.6 percent in the first half of 2006 (Figure 1) more slowly than in the previous half year, even after seasonal adjustments. The rise in prices over the last twelve months was 3.5 percent, higher than the upper limit of the inflation target range (Figure 2). The core indices too—i.e., excluding the seasonal items (Table A1), such as the index excluding fruit and vegetables, clothing and footwear, and energy and housing—rose at rates close to or above the upper limit of the target.[1]

With regard to the movements of the components of the index in the first half of the year (Figure 3), the rises in transport and communication prices were particularly notable (contributing 0.9 points to the rise in the CPI), with the transport item expressing the effect of the worldwide rise in fuel prices[2]; the rise in food prices contributed 0.5 points to the rise in the overall index, and that of fruit and vegetables, 0.4 points. Acting in the opposite direction, the housing index, reflecting the difference in the exchange rate between the first quarter of the year and the second, and the clothing and footwear index, which continued along the downward trend that has persisted for eight years,[3] contributed minus 0.6 and minus 0.24 points respectively to the overall index. The acceleration in the rate of price increases in the period under review was evident in continued price increases of goods in all the principal industries apart from electricity and water (Figure 4), and in the persistent rise in the wholesale price index (about 2 percent since the beginning of the year).

The main economic forces exerting upward pressure on prices include the faster rate of growth, which was driven by the increase in domestic demand, and the steep rise in prices of imported goods, particularly fuel and energy, whose prices rose again after moderating at the end of 2005 (Figure 5). Unlike these forces, all of which affected inflation in the same direction throughout the period reviewed, the exchange rate affected prices in opposite directions (Figure 6): in the first few months of 2006 the NIS depreciated against the dollar by 2.5 percent, contributing to the rise in the tradable goods index and the housing index in those months; from April, due partly to domestic factors and against

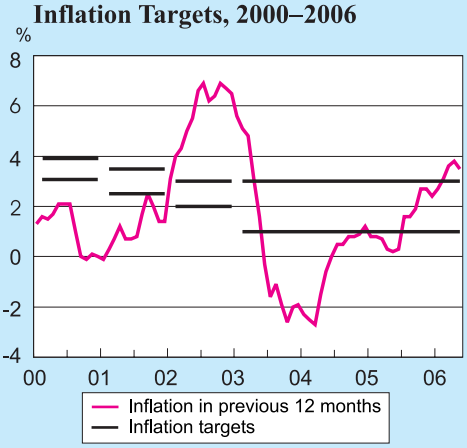
[1] For a fuller discussion of indices of basic (core) inflation and their uses, see the Bank of Israel Inflation Report No. 16, January–June 2005, Box 1, p.11.
[2] The rise in oil prices refers to the transport item only.
[3] The downward trend in this category is due to the drop in import prices of these items, the result of the globalization process.

Figure 1
Monthly Rates of Change of the CPI, 2002–2006



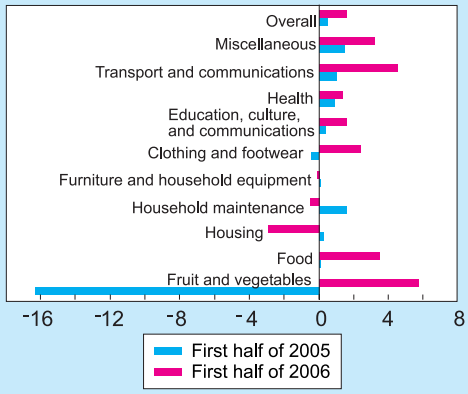
SOURCE: Central Bureau of Statistics.

Figure 2
Inflation in Previous 12 Months, and Inflation Targets, 2000–2006



SOURCE: Central Bureau of Statistics.

Figure 3
Changes in the Components of the CPI in the First Half of the Year, 2005 and 2006 (percent)



SOURCE: Based on Central Bureau of Statistics data.

Figure 4
Inflation in Product Prices, by Principal Industry, 2004-2006
(percent)

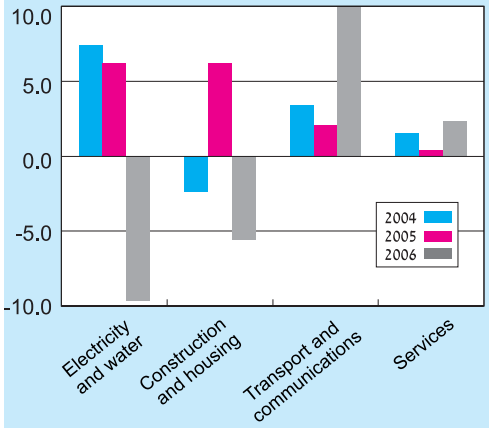
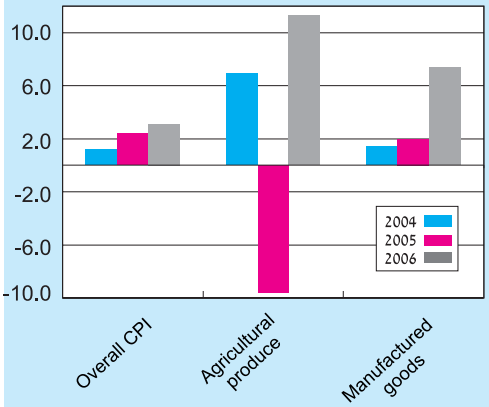
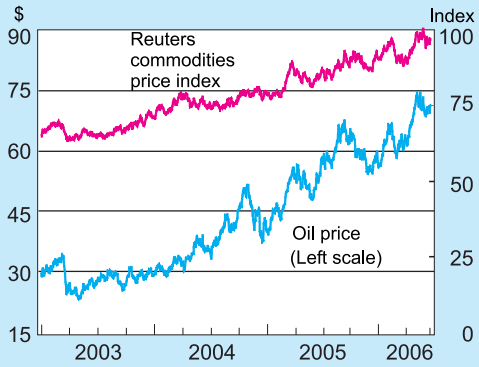


Figure 4 (cont.)
Inflation in Product Prices, by Principal Industry, 2004-2006
(percent)



SOURCE: Based on Central Bureau of Statistics data.
2006 data is for the first six months, annualized.

Figure 5
The Commodities Price Index and Oil Prices, 2003-06



SOURCE: Bloomberg.

the background of the weakness of the dollar in the international markets, the NIS appreciated by 5.5 percent against the dollar, serving as one of the moderating forces affecting inflation in the latter months of the first half of the year.[4]

Continued contractionary fiscal policy also contributed to keeping prices down. In January–May, with the delay in the approval of the budget because of the general election, the government underspent, and this, along with higher tax revenues, resulted in a significant budgetary surplus of NIS 10.4 billion (excluding net credit). Fiscal restraint moderated the price level in two ways: directly, by reducing public consumption, and indirectly, by lowering net government borrowing and the public debt, which led to stability in the financial markets by holding down the rise in yields.

The Bank of Israel's monetary policy in the first half of 2006 acted against the background described above, and was aimed at restraining the inflationary forces. This policy was expressed by rises in the interest rate totaling 0.75 of a percentage point, in the wake of a similar rise in the last two months of 2005. This monetary policy in the first half of 2006 helped to keep the financial markets stable and to prevent a build-up of inflationary forces stemming from the exchange rate.

An acceleration of the rate of inflation calls for deviations from the price stability target to be addressed. For most of the period reviewed inflation over the previous twelve months was higher than 3 percent[5] (the upper limit of the target range). The main reasons for this deviation from the upper limit seem to be the depreciation of the NIS that began in the last quarter of 2005 and continued until February 2006, and the sharp rise in the prices of imported goods, in particular energy. The question arises, "does the deviation from the target range indicate an insufficient degree of monetary restraint?" The flexible monetary policy implemented by the Bank of Israel within the continuous inflation target regime[6] allows inflation to deviate from the target for a reasonable time so as not to harm real economic activity. In addition, the Bank of Israel avoids sharp changes in the interest rate in order not to cause shocks to the financial markets.[7] And indeed, the high probability that the inflation rate over the previous

[4] The appreciation of the NIS in the latter months of the first half of the year is expected to have a moderating influence on prices also in the next few months.
[5] The rise in inflation during the previous twelve months was strongly affected by the steep rise in the CPI in July 2005.
[6] For a fuller discussion of flexible inflation targeting see L. Svensson, *Flexible Inflation Targeting: Principles and Possible Improvements*, Bank of Norway, 2004.
[7] For a fuller discussion of interest smoothing see M. Woodford, *Interest and Prices: Foundations of a Theory of Monetary Policy*, Princeton University Press, 2003.

twelve months will apparently revert to within the target range in July supports the argument that the path of interest-rate hikes taken in the period reviewed was consistent with this approach to the inflation target.

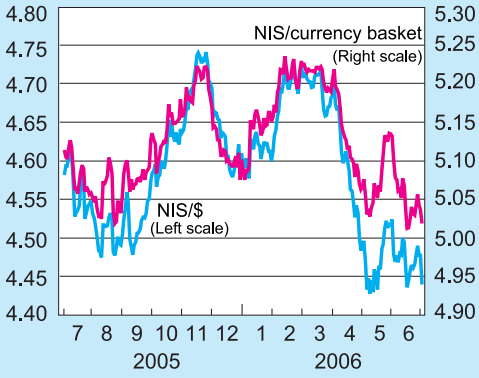
b. Monetary policy

The Bank of Israel raised the interest rate in three of the four months January to April, by 25 basis points each time, following the increases in the rate in the second half of 2005. Underlying this policy was the strengthening of inflationary pressures (described in detail below), expressed by the deviation of actual inflation from the target range in most of the period under review, and the expectation that the deviation would widen (if there were no further hikes in the interest rate). On the other hand, in May and June, in the light of the appreciation of the NIS against the dollar, which acted to moderate the upward pressure on prices, the Bank of Israel took the decision not to raise the interest rate for June and July. The interest-rate policy conducted in the first half of the year was in line with expected interest-rate changes, as reflected by the yield curve and forecasters' assessments.

Monetary policy in the first half of 2006 was conducted against the background of relative stability in the domestic financial markets. This stability was reflected inter alia by inflation expectations for the next twelve months derived from the capital market, which hovered close to the midpoint of the target range during the period reviewed (Figure 7), and by the stability of capital-market yields, against the backdrop of the government's adherence to a long-term strategy of responsible budget management. Also underlying monetary policy during the period was the trend of rising interest rates world wide, and specifically in the US.[8] Rising interest rates abroad have the potential to create pressures for the depreciation of the NIS against other currencies which are likely to result in price rises in the short and long terms.

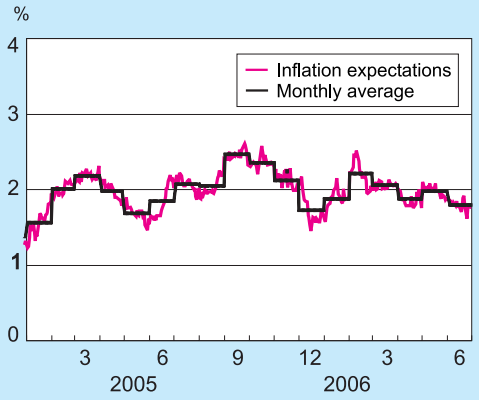
The stability in the financial markets was particularly notable in view of the increased geopolitical uncertainty in the first quarter of the year. The uncertainty was caused mainly by (a) the hospitalization of the Prime Minister, the early general election, and apprehensions that the new government might change economic policy, (b) the results of the election in the Palestinian Authority and their possible effects on the security situation,

Figure 6
The NIS/$ and NIS/Currency-Basket Exchange Rates, July 2005 to June 2006



SOURCE: Bank of Israel.

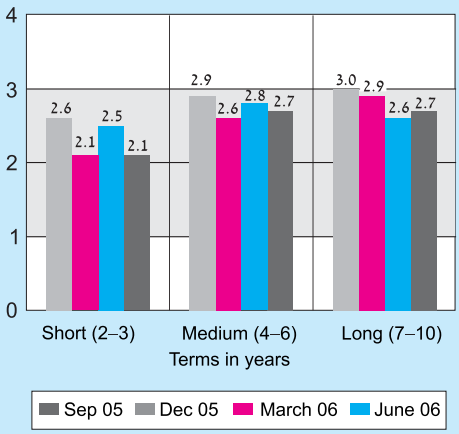
Figure 7
Twelve-Month Inflation Expectations Derived from the Capital Market, January 2005 to June 2006 (daily data, monthly averages)



SOURCE: Bank of Israel Monetary Department.

[8] For a discussion of the connection between monetary policy in Israel and in the US, see Box 3 on p. 25 of the Bank of Israel Inflation Report No. 17, July–December 2005.

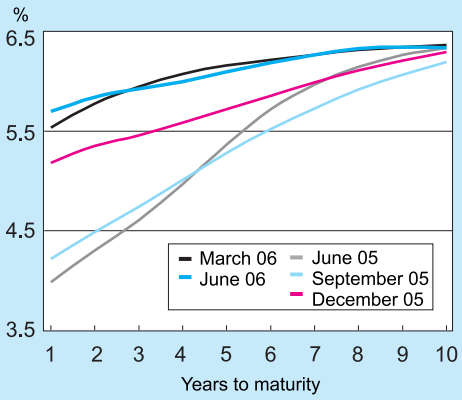
Figure 8
Long-Term Forward Inflation Expectations Derived from the Capital Market, September 2005 to June 2006
(daily data, monthly averages)



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

SOURCE: Bank of Israel Monetary Department.

Figure 9
Yield-To-Maturity Curve of Unindexed (*Shahar*) Bonds, June 2005 to June 2006
(monthly averages)



SOURCE: Bank of Israel Monetary Department.

and (c) anxiety concerning Iran's nuclear program. The relative stability in the domestic financial markets continued even when other emerging markets were beset by sharply falling share prices from May that led to significant declines in the values of their currencies vis-à-vis the dollar and the euro.

Share prices in the first half of 2006 did not follow a clear path: until April the share indices rose at similar rates to those in the US, but slower than those in the emerging markets; in the latter months of the half year, against the background of the occurrences in the emerging markets,[9] share price indices on the domestic market fell, but more moderately than they did in most emerging markets, and the volatility of their daily changes was lower.

The stability in the markets was an expression of the high level of confidence in fiscal and monetary policies, and was evident in the main indicators used to estimate the inflation environment: one-year-forward inflation expectations derived from the capital market were close to the midpoint of the target range (2 percent inflation a year) during most of the period reviewed, with expectations of a rise in the interest rate in the next year, expectations which declined as the Bank of Israel raised the rate. Inflation expectations for longer periods (more than two years) were very stable too (Figure 8), and were within the target range (of 1–3 percent) throughout the period. The stability was also reflected in the development of nominal and real yields on the capital market; this took place against the background of what was in effect a contractionary fiscal policy which adhered to the government's commitment to continue following a responsible path and to avoid a breach in the framework of the budget, despite the claims of the coalition partners following the general election.

The level of exchange-rate risk[10] as perceived by the public was also relatively stable, especially in the first months of the year (except for January, when uncertainty rose following certain domestic events). In May and June uncertainty grew, against the background of the developments in the emerging markets, albeit to a lesser degree than in those markets.

During the first quarter of the year the same forces that acted to create inflationary pressure, most of which had started at the end of 2005, continued to be felt, and some actually gained strength. These forces included primarily the contraction of the output gap

[9] The circumstances surrounding the events in the emerging markets are described below, in the section on developments in the exchange rate.
[10] The level of uncertainty of the exchange rate is measured by the implied volatility of NIS/$ options.

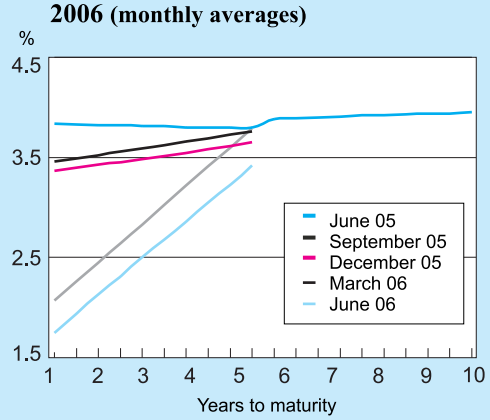
in light of increased demand, that derived chiefly from private consumption, the rise in prices of imported goods and energy, and the nominal depreciation of the NIS against the dollar. As a result, the actual inflation rate rose: from the beginning of the year prices rose by 1.6 percent, close to the path consistent with the target inflation rate of 3 percent, taking seasonal factors into account.[11] In addition, the upward trend of inflation over the previous twelve months, that had started in mid-2005, persisted: in the first months of 2006 it was close to the upper limit of the range (3 percent), and for the rest of the half year exceeded it. At the end of the half year the rate of the rise in prices over the previous twelve months was 3.5 percent.

In January to April nominal and real yields at all maturities rose on the domestic capital market (Figures 9 and 10), due mainly to steep rises in yields in the US. The rises in yields in Israel were more moderate than those in the US, however, as a result of the government's reduced borrowing requirements—the outcome of the considerable budget surplus. This surplus arose from increased tax revenues, the result of the rapid economic growth rate, on the one hand, and from continued restraint of government expenditure in the absence of an approved budget for 2006, on the other.[12] Other forces were also acting to moderate yields in the period reviewed: firms' reduced need to raise capital, due to internal financing made possible by the high rate of profitability, and due to the expectation of increased demand for bonds following the planned entry of market makers into the government-bond market.

In the light of the various domestic and external forces acting to boost inflation, the Bank of Israel took the decision in the first four months of the year to raise the policy rate of interest by a cumulative 75 basis points, following the cumulative rise of one percentage point in the last four months of 2005. By the beginning of May the rate stood at 5.25 percent.

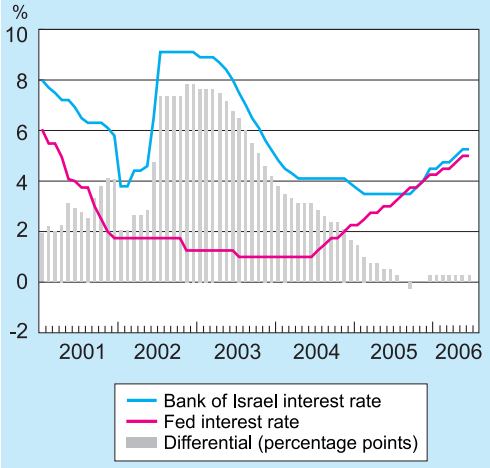
Towards the end of the first quarter and at the beginning of the second, some of the economic indicators changed direction. The NIS appreciated by about 5 percent against the dollar, despite the fact that the interest-rate differential between the two was low and steady (Figure 11). The NIS continued to appreciate during the rest of the period reviewed, although the currencies of most developing countries weakened against the dollar, against the background of the crisis that erupted there at the beginning of May.

Figure 10
Yield-To-Maturity Curve of CPI-Indexed Bonds, June 2005 to June 2006 (monthly averages)



SOURCE: Bank of Israel Monetary Department.

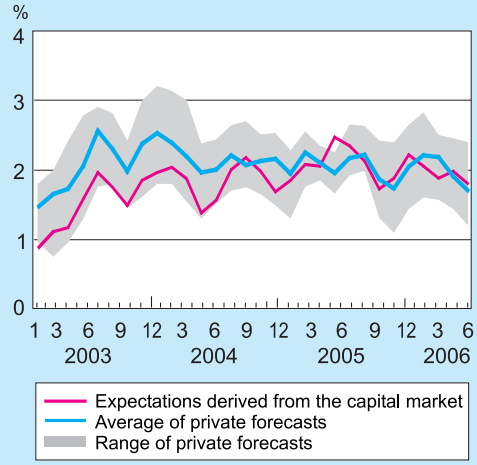
Figure 11
Short-Term Interest Rates in Israel and the US and the Differential Between Them, 2001–June 2006 (monthly averages)



SOURCE: Bank of Israel.

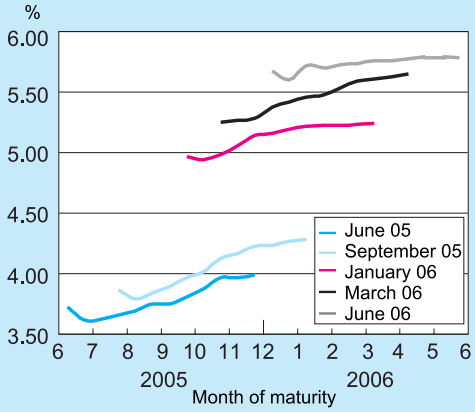
[11] During every month from January to April the price level exceeded the seasonal path consistent with the upper limit (3 percent) of the inflation target.
[12] The 2006 budget did not pass its second and third readings until June 2006.

Figure 12
Inflation Expectations for the Next Year Derived from the Capital Market and According to Private Forecasters, 2003 to June 2006 (monthly averages)



SOURCE: Private forecasters' reports and Bank of Israel Monetary Department.

Figure 13
Yields on *Makam* for 1-12 Months to Maturity June 2005 to June 2006 (monthly averages)



SOURCE: Bank of Israel Monetary Department.

The appreciation of the NIS against the dollar in the second quarter in effect wiped out the depreciation that had taken place in the second half of 2005 and at the beginning of 2006, but it was not fully reflected by prices. Capital flows indicate that the appreciation of the NIS was due mainly to activity by nonresidents, who increased their investments in Israel via short-term and long-term instruments.[13] The underlying reasons for the investments were domestic, chief among them the formation of the government and the continued stability in the financial markets. The appreciation of the NIS against the dollar provided significant moderating forces that served to restrain inflation to a significant degree in the near term, forces that are likely to be reflected mainly in indices whose transmission mechanism operates immediately (for example, the housing index), but also in the long term, as the transmission from the exchange rate to some of the indices acts more gradually, due to nominal rigidities.

Together with the above developments, the upward trend in nominal and real yields halted in May/June, and some yields, mainly long term, actually declined. Moreover, all the indicators that are used to assess the inflation environment when formulating monetary policy presented the same unambiguous picture:[14] inflation expectations derived from the capital market, the Bank of Israel's Companies Survey and the econometric models developed by the Bank all showed that inflation in the next twelve months and during 2006 was expected to be within the target range, with the expectation also that the interest rate would continue to rise during the next year, but more moderately than previously expected. The expectations of more moderate Bank of Israel interest-rate hikes were also reflected in the yields on makam (short-term bills issued by the Bank of Israel) (Figure 13): these rose by more for short maturities than for long ones, so that the slope of the curve flattened somewhat.

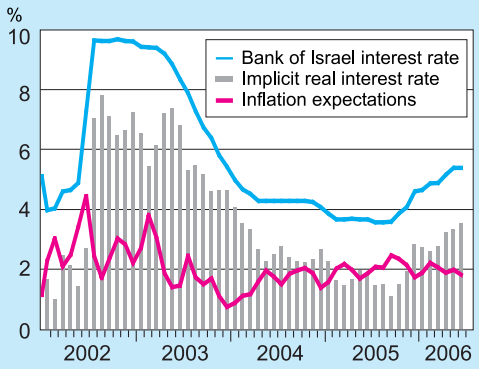
Some of the forces serving to create inflationary pressures continued acting in the second quarter, but the appreciation of the NIS against the dollar, assessments regarding the stability of the NIS and the possibility that it might even continue appreciating in the future acted to moderate future inflation. These forces, together with the assessments derived from various indicators that the inflation environment would be low in the future, led the Bank of Israel to refrain from raising the interest rate for June and for July 2006 (Figure 14).

[13] For details see below, in the sections on exchange rate developments.
[14] These indicators are described in detail below.

II. THE ECONOMIC AND FINANCIAL ENVIRONMENT

In order to make its decisions on the rate of interest, the Bank of Israel monitors the development of real economic activity and the changes in the various economic indicators in the capital, financial and foreign exchange markets. It also uses econometric models for forecasting inflation, which assess the development of prices under various scenarios of monetary policy and economic trends. Monitoring these indicators enables the Bank of Israel to assess the reaction of the markets and its effect on expected inflation on an ongoing basis and to set the rate of interest at what it considers the appropriate level of interest for the achievement of the price stability target for the next period while maintaining stability in the financial markets. The developments in real activity, in the exchange rate and in capital flows, as well as in the monetary indicators and the global economy, are described below.

Figure 14
The Bank of Israel Interest Rate,[a] Inflation Expectations,[b] and the Implicit Real Interest Rate, 2002 to June 2006 (monthly averages)

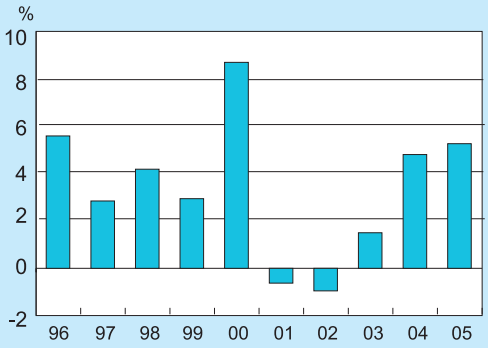


[a] The effective interest rate in the Bank of Israel auctions.
[b] For 12 months, derived from the capital market.
SOURCE: Bank of Israel Monetary Department.

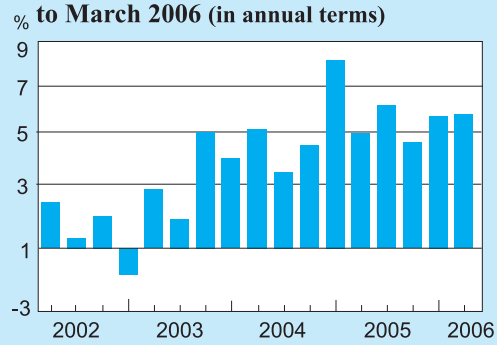
a. Real activity

In the first half of 2006 the upward trend in economic activity continued, and even intensified. This was expressed by the fast expansion of GDP and business-sector product, which in the first quarter rose by 6 percent and 7.7 percent respectively, in annual terms (Figure 15). Economic activity in the first half of the year was supported by the continued expansion of world trade (Figure 16) and the relative calm in the security situation, while fiscal policy, reflected by the reduction of government expenditure alongside continued tax cuts, contributed to further economic growth.[15] On the other hand, the resumption of the rise in prices of energy and fuel world wide (by 37 percent in the last twelve moths), which worsened the terms of trade, to some extent offset some of the rate of growth. Among the components of business-sector product, the output of the financial and business service industries grew rapidly (at about 28 percent a year), electricity and water (about 27 percent) and the manufacturing industry (about 22 percent), and the leading index, derived from the data in the Bank of Israel's Companies Survey[16], indicates that the rise in business-sector activity is continuing in the third quarter

Figure 15
GDP Growth Rates, 1996–2005



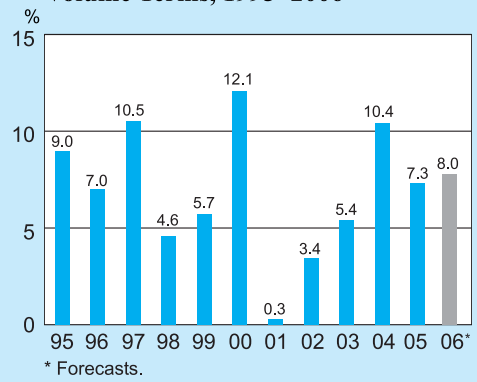
Quarterly Growth Rates, January 2002 to March 2006 (in annual terms)



SOURCE: Central bueau of statistics data.

[15] Although the reduction of expenditure modifies the rise in demand in the short term, in the long term a contraction of the share of government expenditure in GDP is likely to lead to the expansion of economic activity, by means of a reduction in the business-sector financing constraint, that enables it to increase its investments.
[16] It must be stressed that the Companies Survey is based on responses that were given before the outbreak of hostilities in the north.

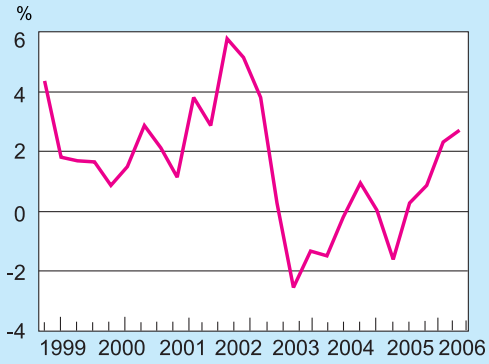
Figure 16
The Increase in World Trade, in Volume Terms, 1995–2006



* Forecasts.

SOURCE: World Economic Outlook, IMF, April 2006.

Figure 17
GDP Price Inflation in Israel, 1999 to June 2006
(rise in index in previous four quarters)



SOURCE: Bank of Israel.

too, and this is expected to encompass all the principal industries, including construction.[17]

The rise in GDP in the period reviewed reflected the increase in domestic uses, especially private consumption, fixed investment, and an increase in exports. The faster rise in demand in the last year reduced the economy's surplus production capacity and raised doubts over the supply side's ability to meet that demand, which served to increase inflationary pressures via firms' updating of prices (adjusting the markup). The economy's rapid recovery from the recession and the establishment of the growth process made price markups possible despite the absence of direct pressure from the labor cost side, as was reflected by the slight decline in the index of unit labor cost (Figure 21). Prices rose quickly in different industries, and the 3 percent rise in the GDP price index over the last year (Figure 17) signals that GDP is approaching its potential.

The transmission mechanism from the development of business activity to a change in the rate of inflation of GDP prices operates along three main channels: demand, labor market costs (the wage level), and prices of raw materials. Thus, GDP price inflation, together with changes in prices of imported goods, filters down into CPI inflation.

Based on an analysis of the strength of the effects along these channels on the price level in the period under review, it may be claimed that rising demand did indeed affect the rate of inflation, as described above. Nevertheless, it is doubtful whether the contribution of demand can explain the steep rise in prices in the first months of the year.[18] Based on an estimated model of Israel's economy similar to models for other small open economies, the transmission from the output gap to prices is weaker than that from the exchange rate and from import prices.[19] This hypothesis is supported by the behavior of the CPI in the period under review: the continuous uniform effect of demand did not boost the change in the CPI in the second quarter; the sharp rise in the index occurred in February and March, when the NIS depreciated and import prices rose. Imported inflation, in addition to the

[17] Other indicators, such as the index of manufacturing production, and the indices of sales and revenue in the trade and services industries, which constitute more than half of business-sector product, indicate that the process of economic growth is becoming more solidly based.

[18] According to models developed in the Bank of Israel, a 4 percent reduction in the output gap contributes about half a percentage point to the rise in the CPI.

[19] See Ball (1999) Policy Rules for Open Economies in: Taylor I. (ed.) *Monetary Policy Rules*, The University of Chicago Press, and Djivre J. and Ribon S. (2003) *Monetary Policy, the Output Gap and Inflation: A Closer Look at the Monetary Policy Transmission Mechanism in Israel, 1989-1999*, Bank of Israel, Research Department.

change in the exchange rate, therefore played the major role in price developments in the first half of 2006.

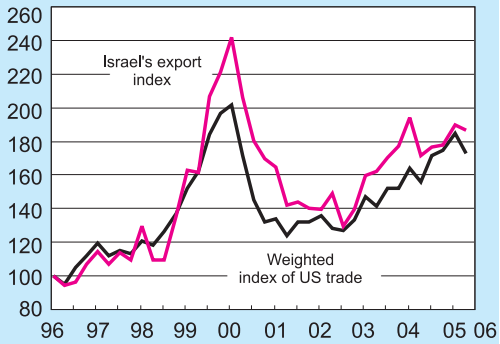
A review of the main factors through which the transmission mechanism from real activity to the price level operated in the period reviewed is given below.

The rapid growth in the first half of 2006 was to a great extent a reflection of an accelerated increase in private consumption (of about 8 percent, excluding consumer durables) and the continued rise (2.6 percent) in the export component (excluding diamonds, ships and aircraft). The rise in private consumption may be ascribed to the fall in the unemployment rate in the last few years, to individuals' higher disposable income, and to their increased wealth that derived partly from the rise in the financial markets,[20] whose robustness in the face of the prevailing geopolitical uncertainty was impressive. The steep increase (16 percent) in the consumption of durables, on top of the rise in current consumption, also provided an indication of the consolidation of economic growth and of the public's confidence in it.[21]

Exports grew in the period reviewed, after slowing down somewhat in the second half of 2005. The expansion was mainly in services exports, and this was based on the continued rise of tourist services exports (a rise of about 10 percent from the level in the last quarter of 2005). The overall increase in exports reflected an extension of the upward trend in exports at all levels of technological intensity, and this despite the slowdown in US trade (Figure 18), which for some time has been correlated with Israel's exports in the advanced industries.

Fixed investment increased, with a sharp rise in investment in equipment and machinery,[22] indicating that the economy may be approaching full capacity. Investment in the principal industries in the period reviewed rose rapidly compared with the continued decline (–0.6 percent) in housing investment, although there were signs that the construction industry was stabilizing, with a slight improvement in housing demand in the first few months of 2006.[23]

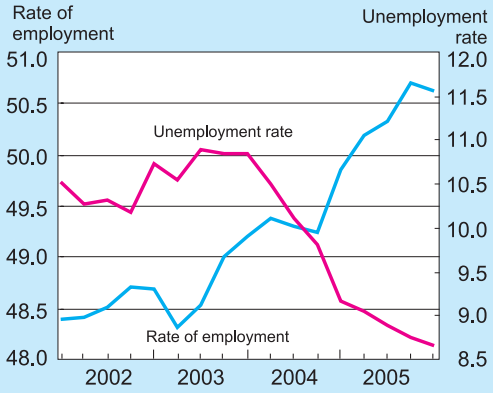
Figure 18
The Electronics Industry: Israel's Exports, and US Trade, December 1996-March 2006



SOURCE: Israel's exports based on Central Bureau of Statistics data; US data-United States International Trade Commission.

[20] See the discussion on the public's asset portfolio below.
[21] The survey of consumers' confidence, which has some forecasting capability, yields an indication of optimism with regard to the growth process in the next quarters.
[22] Investment in imported components, concomitant with a decline in investment in domestic manufactured equipment.
[23] Housing has a very important effect on the price level, because of its high share (about 20 percent) in the public's total consumption basket. The expected improvement in the construction industry in the future is thus likely, in the long term, to provide upward pressure on prices, although in the near term the effect of the exchange rate on the housing services component is likely to be the dominant factor.

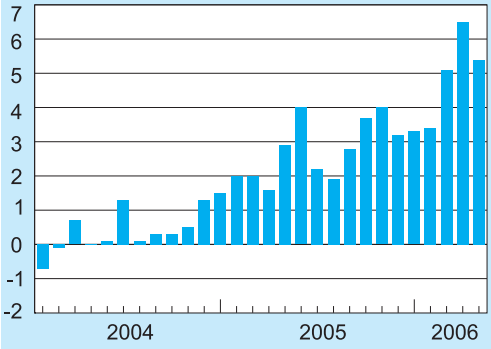
Figure 19
The Rate of Employment and the Unemployment Rate,[a] 2002-March 2006
(seasonally adjusted, percent)



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

SOURCE: Labour Force Surveys.

Figure 20
Rate of Change in Wages per Employee Post in Business Sector, 2004 to April 2006
(Rate of change in past 12 months, 2 monthly running average)



SOURCE: Bank of Central Bureau of Statistics data.

Goods imports (excluding defense imports, diamonds and ships) rose by a buoyant 8.6 percent (annual rate) in the period reviewed. Consumer goods imports increased, and the upward trend in imports of production inputs—which had started in the third quarter of 2005—persisted. The decline in the import component in the last few years derived from real depreciation over that period, supported by a gradual structural change taking place in Israel's economy—the rise in the share in business-sector product of the services sector, which is not import intensive, and the diversion of demand to that sector. Nevertheless, in the light of relatively modest rise in imported goods, the surge in import prices was very notable (about 8 percent, in annual terms) based on National Accounts data for the first quarter.[24] The rise in prices was due to (a) the worldwide rise in energy prices and their return to the path they had followed from the beginning of 2005, and (b) the rise in consumer goods prices. Thus the rise in import prices contributed both directly (via the rise in consumer goods prices) and indirectly (via the rise in raw material prices) to the sharp rise in the CPI in the first quarter of 2006.

(i) The labor market

The economic growth trickled down to the labor market too, with the rate of unemployment falling from 11 percent in 2003 to 8.7 percent in the first quarter of 2006 (Figure 19). The Labor Force Survey shows, however, that the 0.1 percentage point dip in the unemployment rate in the first quarter of 2006 resulted from a decline in the participation rate, without which the unemployment rate would have been higher. Although the Labor Force Survey data indicate stability in the labor market in the first quarter of 2006, demand for labor in the business sector continued to rise (the number of employees increased by 1.4 percent), while employment in the public services fell (by 3.1 percent). This was also reflected by the 5.4 percent increase in the average nominal wage in the business sector in the last twelve months (Figure 20), while in the public sector the wage rose by only 1.5 percent. Israel's labor market is very segmented, and this is seen in non-uniform changes in unemployment and wages in different industries and in the division of the market according to educational level. An analysis of these parameters (in the Bank of Israel Annual Report, 2005, pp 218-219) shows the different paths followed by the unemployment rate among the educated

[24] The sharp rise in import prices in the first half of 2006 was particularly notable as it ran counter to the long-term trend of switching to Asian countries as a source of imports, a trend that served to lower import prices.

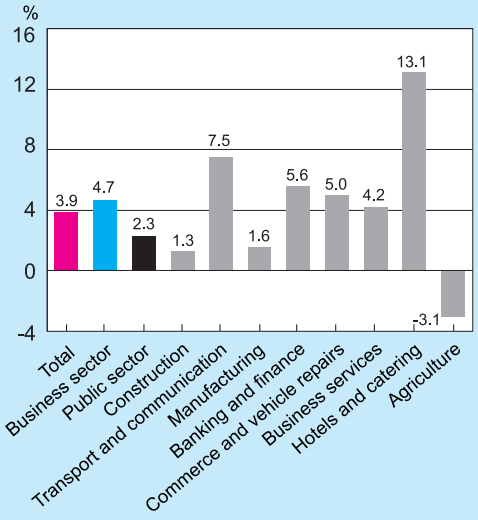
and the less educated: among the former (those with sixteen or more years of education) the unemployment rate was lower than 5 percent, while among those with under twelve years of education the rate was close to 13 percent. The differential development of the average wage per employee post was consistent with the heterogeneous path of the unemployment rate. A rapid increase in the wage occurred in only a few industries—banking, insurance and financial institutions (11.3 percent), electricity and water (14 percent), and business services (3.2 percent), which may be converging to full employment.[25] Although nearly all the principal industries showed a rise in labor input, the rise in wages was lower in those with a high proportion of less educated workers, due to the high rate of unemployment (Figure 21).

The change in wages may have an indirect effect on prices, via its effect on production costs, but as productivity rose faster than did wages (apparently due to greater utilization of capital), unit labor cost continued downwards (Figure 22). From this it may be assumed that at present production costs are not exerting inflationary pressure, and it seems that companies are increasing their production by increasing their utilization of factor inputs.

(ii) Fiscal policy

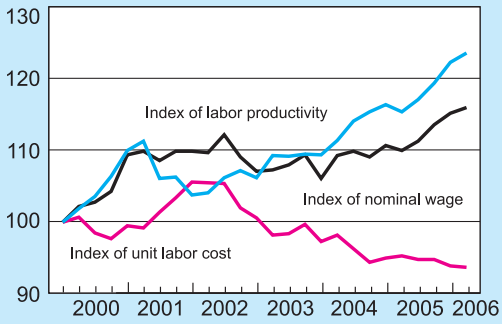
Against the backdrop of the early general election and the change in Israel's internal political balance, the approval of the budget was delayed until the end of the period under review, and from the beginning of the year the government used the 2005 budget framework.[26] The delay in the approval of the budget resulted in underspending by all the government ministries (relative to the proposed 2006 budget), and this followed underspending in 2005 too. Thus, in the period reviewed, there was an overall budget surplus of NIS 4.7 billion (excluding net credit granted), in excess of the amount consistent with the achievement of the target deficit ceiling for 2006 of 3 percent of GDP (Figure 23). This surplus reflected increased tax revenues—the result of rapid growth—and the decline in government expenditure, which was significantly below the seasonal path. Despite the uncertainty regarding the new government's economic policy, the indicators from the capital market (Figure 24) pointed to the public's confidence in the government's commitment to the achievement of the deficit target. The moderation of public consumption and its

Figure 21
Percentage Increase in the Number of Employed Israelis, by Industry,
(average over last four quarters vis-a-vis equivalent period in previous year)



SOURCE: Labour Force Surveys.

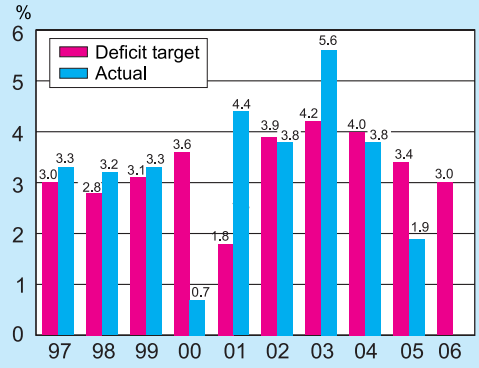
Figure 22
Index of Nominal Unit Labor Cost in the Business Sector, 2000 to March 2006
(quarterly, seasonally adjusted)



SOURCE: Bank of Israel.

[25] In these industries, which are at the forefront of the economy's GDP growth, labor input rose more slowly than in the other industries. Furthermore, the data in the Ministry of Industry, Trade and Labor survey on the filling of vacancies show that the difficulty of recruiting skilled staff persisted.
[26] Monthly expenditure restricted to one-twelfth of the 2005 budget.

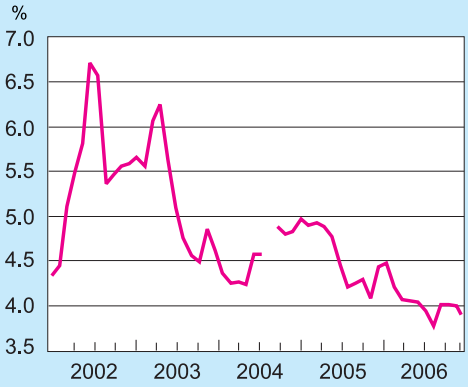
Figure 23
The Government Deficit (percent of GDP), Targets and Actual, 1997–2006[a]



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

SOURCE: Bank of Israel.

Figure 24
Implied Yield on 5-9-Year Bonds in Israel, 2002-2006
(monthly figures, percent)



SOURCE: Bank of Israel.

influence toward reducing government borrowing had a positive effect not only on the stability of the financial markets but also on the level of prices from the beginning of the year. Adherence to fiscal discipline, i.e., continuing along the path followed in the last two years, is likely to contribute to price stability during the rest of the year too.

b. The exchange rate and its risk level

In the first half of 2006 the NIS appreciated by 3.5 percent against the dollar and by 1.4 percent against the currency basket. The exchange rate did not follow a steady path during the period, however. Up to the general election at the end of March, the NIS depreciated by 2.2 percent against the dollar and by 2.5 percent against the currency basket. After the election the NIS started appreciating: it strengthened by 5.6 percent against the dollar and by 3.8 percent against the basket (Figure 6).

In analyzing changes in the NIS/$ exchange rate it is important to distinguish between global factors and domestic ones. A long-run analysis of the changes in the exchange rates of various currencies against the dollar shows that the reference group for the NIS consists of the currencies of several emerging markets, and the changes in their exchange rates against the dollar indicate the extent to which the change in the NIS/$ rate derives from global factors, and how much is due to domestic factors.[27] In the first quarter of 2006 the weakening of the NIS against the dollar stood in contrast to the global trend of the strengthening of the currencies of emerging markets against the dollar, leading to the conclusion that the depreciation of the NIS in that quarter derived from domestic factors that distinguished the NIS from its reference group. In the second quarter as well it was domestic factors that determined the exchange-rate trend, as the emerging markets' currencies weakened very considerably against the currencies of the advanced economies, whereas the NIS, together with the currencies of the advanced economies, actually strengthened against the dollar (Figure 25).

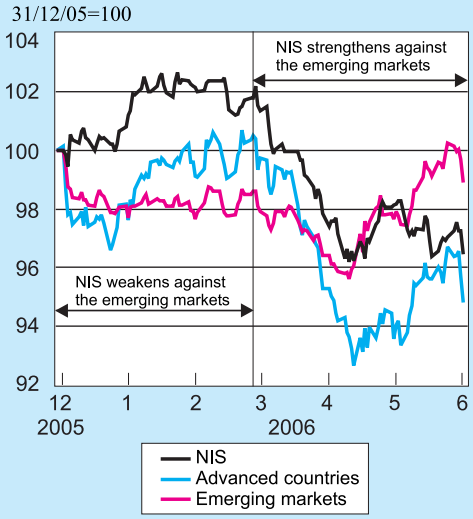
The domestic elements acting to weaken the NIS at the beginning of the first half of 2006 included the hospitalization of the Prime Minister, the Hamas victory in the Palestinian Authority election, the uncertainty regarding Israel's general election and its outcome, and the concern over the budgetary

[27] For a more detailed explanation of the method of distinguishing between global and domestic factors on the NIS/$ exchange rate see Box 2.1.1 on P. 97 of the Bank of Israel Annual Report 2004, Foreign Exchange Activity Department, Part II, The NIS-Forex Market.

cost of the coalition agreements that would be signed after the election. At the end of the first half of the year forces acting in the opposite direction strengthened the NIS: immediately after the election the exchange rate trend reversed, as the uncertainty generated by the election dissipated. Later in the half year news of the Iscar deal became known, and had a considerable effect on the share market and the exchange rate even before the deal was implemented. The National Accounts data for the first quarter, which reflected higher than expected growth, also acted as a domestic factor strengthening the NIS. From the middle of May, after significant rises over the last few years, share price indices in the emerging markets fell heavily, in the light of concern over continued rises in the interest rates in the advanced economies and the adverse effect on global liquidity, together with expectations of a slowdown in the global economy. This was accompanied by significant depreciation of the currencies of some of those emerging markets. The stock markets of the advanced economies and the Tel Aviv Stock Exchange did not escape unscathed from the decline in the indices, though the latter remained relatively stable: the falls in Israel at the time of the worldwide decline were more moderate than those in most of the emerging markets (just as the boom in Israel's share market prior to the fall was more modest than that in the emerging markets, Figure 26). The relatively low daily volatility of Israel's share price indices was particularly notable. The NIS exchange rate was also affected only slightly by the global developments.

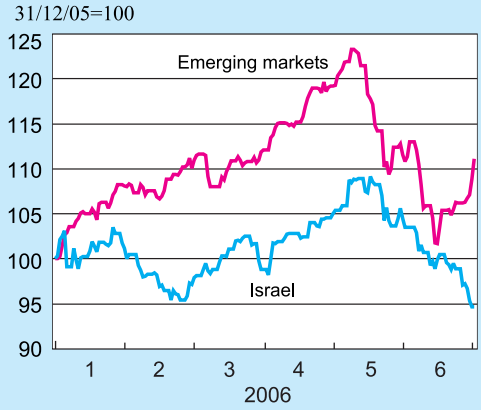
It is noteworthy that the foreign currency market operated throughout the period under review without any exceptional shocks. The excess demand and supply in the market following the various events were absorbed by the market players with generally more moderate movements in the daily exchange rate than is typical of other currencies. This is particularly notable regarding some of the events mentioned, which could have been expected to upset the stability of the market. The behavior of the foreign currency market after the domestic events is all the more noteworthy, in light of the fact that its stability was bestowed mainly by nonresidents. Their confidence in Israel's economy could be seen by the fact that their steady flow of direct investments continued throughout the period reviewed. Although nonresidents' activity in shares in the trading portfolios on the Tel Aviv Stock Exchange was at a low level, they took advantage of the events that were expected to have an adverse effect on the market and to weaken the NIS and sold foreign currency, via short-term instruments, at what was to them an attractive price, and thus they, together with the business sector, served as a

Figure 25
Development of the Dollar Exchange-Rate Index Worldwide and of the NIS/$ Exchange Rate, December 2005 to June 2006



SOURCE: Based on data from Bloomberg.

Figure 26
Tel Aviv 25 (Maof) Index against Average Share Index of Emerging Markets



SOURCE: Based on data from Bloomberg.

stabilizing influence on the exchange rate. Nonresidents' activity counteracted the response of households, which generally react to such events by rushing to buy foreign currency, and thus during the first half of 2006 the link between events that affect the financial markets on the one hand and the exchange rate and inflation on the other was weakened. Nonresidents' positive attitude towards Israel's economy was also reflected in reviews of the economy published by foreign banks, reviews which were generally more optimistic than those of domestic forecasters. These positive reviews appeared also at the time when there were adverse developments in the emerging markets, highlighting the advantage of investing in the NIS and in Israel's economy over investing in other emerging markets. Even in the light of the security crisis that erupted after the period under review, there was no real change in nonresidents' positive attitude to Israel's economy, and their contribution to the stability of the exchange rate continued.

Several other processes, not referred to above, affected the exchange rate. Following the tax reform that went into effect in January 2005, bringing the tax rates on investments in domestic and foreign securities into line with each other, the process of Israelis adjusting their asset portfolios continued, and this was reflected in ongoing pressure towards depreciation due to the increase in the extent of households' and institutional investors' investments abroad. This pressure eased in May and June, when households realized some of their investments in markets abroad, and institutional investors reduced the rate of their investments abroad, because of falling prices in the emerging markets, which made investment in Israel more attractive than investment in those markets. The interest-rate differential between the NIS and the dollar remained constant at 25 basis points throughout the period (Figure 11), so that there was no effect on the exchange rate from this direction. Concern over inflationary pressures in the US led the Fed to raise the interest rate by 75 basis points during the period, to 5 percent, and at the same time the interest rate in Israel was raised to 5.25 percent.[28] Several forces acting to strengthen the NIS may be enumerated: in the course of the period reviewed there were expectations that Israel would be granted an improved credit rating; the surplus in the current account of the balance of payments continued to grow, despite the increase in fuel prices that contributed about $ 0.5 billion more to the trade deficit in the first half of 2006 than in the first half of 2005; the

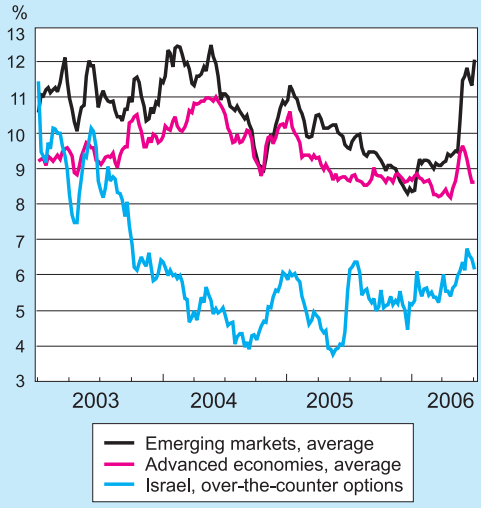
[28] At the end of the first half of the year the interest rate was raised in the US, whereas the rate in Israel for July was left unchanged, so that the differential became zero.

net external debt, which continued to fall, reached a surplus of debt instruments of $ 21 billion.[29]

Exchange-rate risk, measured by the implied volatility of options, rose slightly, on two occasions, following the domestic events that took place in January and the global events in May and June. The change in volatility was smaller than that recorded prior to the disengagement from Gaza in June 2005, when the implied volatility rose by 2.3 percentage points, but the current risk level is similar to that prior to the disengagement. Nonetheless, Israel's exchange-rate risk remains considerably lower than that of other emerging as well as advanced markets. In the emerging markets the risk rose steeply at the end of the first half of 2006 (Figure 27).

Overall, in the period under review the exchange rate did not change very significantly; the different market sectors generally acted in opposite directions. Over time, too, there were movements in opposite directions—in the first quarter the NIS weakened and contributed to the rise in prices, while in the second quarter it strengthened and had the opposite effect on prices, an effect that will probably be felt from the end of the first half of 2006 and during the next few months. Such periods, in which the exchange rate is volatile in the short term but keeps more or less steady in the medium to long term, demonstrate the difficulty that arises from the short-term transmission between the exchange rate and prices (see Box 1).

Figure 27
Implied Volatility of Various Dollar Exchange Rates, 2003 to June 2006



SOURCE: Based on data from Bloomberg.

Box 1
Dollarization in Israel and its Effect on Exchange-Rate Pass-Through Into the Consumer Price Index

From the mid-1970s till the end of the 1990s Israel had two-digit inflation, and, for part of the period, hyperinflation of hundreds of percent a year. During such a period, the local currency loses its ability to serve as a unit of account and a store of value, and so this period was characterized by the creation of many indexation and "dollarization" arrangements. In this context, dollarization refers to the use, to some extent, of a currency that is not legal tender of the economy, either physically or simply as a unit of account. One can point to many examples of dollarization during the inflationary period. Concerning money's role as a store of value, a considerable sum of public savings was deposited in foreign currency-linked deposits, and the government too used to issue bonds linked to the exchange rate. Concerning money's role as a unit of account, the prices of many goods and services were

[29] In the first quarter of 2006 the net debt rose to some extent as a result of the purchase by Teva Pharmaceuticals of the Ivax Corporation, which required the purchase of capital instruments financed in part by the sale of debt instruments. If this deal is excluded, the downward trend of the net debt continued.

denominated in foreign currency, while the actual payment was in Israeli currency according to the exchange rate at the time of payment.[1]

During the 1990s the rate of inflation started falling, and from 1999 inflation in Israel ranged around the long-term inflation target and now does not differ from that in the Western countries. At the same time the NIS/$ exchange rate stabilized: although over an entire year the rate has sometimes fluctuated by more than 10 percent, the volatility is in both directions and overall there is no clear trend in the exchange rate. In light of these developments, the scope of dollarization in Israel contracted. Comparing today's situation to 2000[2], for example, the Israeli government no longer issues dollar-linked bonds (Gilboa), all government levies and fees are denominated only in the local currency and in 2002 an amendment to the Consumer Protection Law was passed obliging businesses to advertise prices of their goods and services in the local currency.

Nevertheless, dollarization still exists in some fields in Israel. In a recent study by the Bank of Israel, the pass-through from exchange rate to CPI according to its components was estimated, allowing the identification of the dollarization effect on the pass-through.

The most prominent example of dollarization is in housing. The housing rental market is almost entirely linked to foreign currency. Observing the housing sample used by the Central Bureau of Statistics to calculate the house rentals element in the CPI, shows only a small reduction in the proportion of contracts linked to the exchange rate, from 97 percent in 2000 to 90 percent in 2004. In an era of low inflation it is hard to find economic logic in this: housing is a characteristically nontradable product, par excellence, and any link between the exchange rate and its price, if at all, is expected to be only in the very long term. The meaning of this is that most housing tenants and landlords in Israel are exposed monthly to changes in the exchange rate, a position that is generally not hedged, for example, in basic dollar income for the tenant or by fixed dollar outgoings for the landlord. This practice has other ramifications: the dollarization in the rental market is one of the factors that causes the entire building industry to continue thinking in terms of dollars despite the obligation to set prices in NIS, which makes ending the practice of linking prices of new houses to the exchange rate all the harder. This has led to all parties linked to the industry being largely exposed to the exchange rate. Moreover this industry significantly increases the exchange rate pass-through on the CPI and thus intensifies inflation's volatility and, to some extent, the interest rate policy that is then demanded.[3]

Other examples can be found in the mechanisms for setting the prices of electricity and fuel in Israel. Electricity tariffs are set by the Public Utility Authority: Electricity according to a formula that provides the Israel Electric Corporation with, inter alia, partial protection from changes in the exchange rate which affect the company's operating and financing expenses. Gate prices of fuel leaving the Oil Refineries are set once a month according to oil prices in Europe denominated in dollars which are translated into NIS once a month according to the exchange rate at the end of the previous month. These two cases are examples of a situation where the pass-through from

[1] For an in-depth description of the historical processes see Shiffer Z. (1999) "The Rise and (Partial) Fall of Indexation in Israel", *Inflation and Disinflation in Israel*, Bank of Israel.

[2] As described in a Bank of Israel working paper "Indexation in Israel in a Low Inflation Environment: Description and Some Recommendations" Monetary Department, July 2000.

[3] Generally the pass-through from the exchange rate to the CPI limits monetary policy and forces it to change interest rate in response to changes in the exchange rate, even when these are the result of events with no connection to the Israeli economy. However, the pass-through also eases the policy in some way, as it allows the interest rate to affect prices quickly through the exchange rate in the case of straying from the inflation target.

exchange rate to NIS prices has some economic logic: although electricity is a nontradable good it is produced using imported raw materials with prices set overseas, and oil is of course an example of a clearly tradable good. Nevertheless it is reasonable to assume that had prices been set by the market, then the pass-through would have been lower as in market conditions there are factors that reduce the pass-through in the short term: the costs of updating prices that bring a lower pass-through when the changes in exchange rate are not considered permanent, a nontradable element in the price of the end product (from the local costs of sales, marketing etc. that stem from prices of labor and land), keeping an inventory of raw materials which allows smoothing out changes in price over time, etc. Moreover, a mechanism of indexation actually exempts suppliers of these goods from the need to hedge their exposure to the exchange rate in the capital market, and in effect loads all the costs associated with exchange rate volatility on the end consumer.

The effect of dollarization in these cases (and in several other examples such as private functions, legal services etc.) on pass-through as found in the study, is shown in Table 1. The entry in the table expresses the cumulative pass-through, calculated as the total pass-through in all quarters after depreciation, but it should be mentioned that 90 percent of the pass-through is expressed in the same quarter of the depreciation. One can see the clear effect of housing as a result of dollarization in this industry, compounded by the method of computing the housing price index for homeowners which uses the sample that serves for the calculation of the housing price index for rentals. The high level of pass-through in this industry and that of electricity is all the more prominent in contrast to the low pass-through for clearly tradable goods such as furniture and home appliances, cars and vehicle maintenance, and travel abroad.

Pass-Through of the Dollar Exchange Rate Into Selected Components of the Consumer Price Index

(percent)

	Weighting in CPI	Pass-through of Exchange Rate on Component	Component's Contribution to Overall Pass-through
Housing	21.6	70.0	15.1
Electricity	2.8	68.0	1.9
Travel abroad	3.6	63.7	2.3
Furniture and home appliances	4.3	42.9	1.8
Vacations, trips and functions	5.1	28.6	1.5
Fuel*	3.4	29.0	1.0
Cars and maintenance	8.7	12.4	1.1
Total pass-through			29.0

SOURCE: Soffer Y. (2006), "Exchange-Rate Pass-through to the CPI, A Micro View", not yet published.
* In the cars and maintenance item. The pass-through is relatively low because of the high weight of fixed NIS elements in the price of fuel to the consumer, such as excise.

c. Monetary and financial developments

In the formulation of monetary policy use is made of several indicators from the financial markets to estimate the inflation environment. The different indicators derived from the financial markets, from the econometric models and from other sources are closely linked. This link has two aspects: the first is a common factor that affects all the economic indicators. For example, global events may affect the indicators in the domestic markets, but they may also influence the forecasters' judgment. The second aspect of the link between the indicators stems from their reciprocal nature. In other words, some of the indicators constitute an information group in the construction of other indicators used in monetary policy. Thus, for example, the assessments by professional economic forecasters and the forecasts from the models of the future rate of inflation may be based on the developments of various market indicators (such as inflation expectations derived from the capital market).

(i) Indicators of expected inflation

Expected inflation is one of the main indicators employed in conducting monetary policy: first, expected inflation affects actual prices by means of the mechanisms by which companies update prices and which determine wages in the labor market. As suppliers of goods and services do not update their prices on a continuous basis but do so once in a while, due to the costs involved in such updates, when they do change prices they take into account also price increases expected in the future. Second, part of the effect of monetary interest on inflation occurs with a lag, so that decisions on the interest rate are taken based on appraisals of the inflation environment expected in the future, which is derived from various forecasts and assessments of future inflation.

One-year inflation expectations derived from the capital market, measured by the yield differential between unindexed securities (makam) and CPI-indexed bonds (Galil), were stable during the first half of the year, and hovered close to the midpoint of the target range (i.e., 2 percent, Figure 7). Despite the rise in geopolitical uncertainty in the first quarter of 2006 and the continued strengthening of the dollar against the NIS, inflation expectations rose only modestly, and in February stood at an average of 2.2 percent, having risen from an average of 1.7 percent at the end of 2005. Close to the second quarter of 2006, against the background of the reversal of the exchange-rate trend to one of appreciation, expectations remained steady, close to the

midpoint of the range, reflecting assessments that the Bank of Israel would continue to raise the interest rate during the next year, albeit more slowly than in the past.

Economic forecasters' assessments of one-year expected inflation[30] were steady during the first half of the year and close to the midpoint of the price-stability target range. During the period under review the gap between the highest inflation forecast and the lowest, which is used as an index of uncertainty, was also relatively stable: in the first quarter it averaged 1.2 percentage points, and in the second quarter it narrowed slightly to 1 percentage point, compared to a gap of 0.8 of a percentage point in the last quarter of 2005 (Figure 12). From the end of 2005, throughout the first half of 2006, as the key policy rate rose, forecasters' inflation assessments went hand-in-hand with forecasts of further hikes in the interest rate: in the first quarter of 2006 forecasters assessed that the Bank of Israel rate would rise by 0.8 of a percentage point in the next year. In the second quarter, despite the hikes in the interest rate since the end of 2005 totaling 0.75 of a percentage point, and considerable strengthening of the NIS against the dollar, forecasters' assessments regarding the rise in the interest rate over the next year eased only slightly, to an average of 0.6 percentage points.

One-year inflation expectations taken from the Companies Survey[31] declined in the second quarter of 2006, in contrast to the upward trend that had started at the beginning of 2005, and averaged 2.6 percent, similar to the level in the last quarter of 2006. Concurrently with the decline in inflation expectations , the share of companies expecting inflation to exceed the upper limit of the target range also fell, from 26 percent in the first quarter to 24 percent in the second. In addition, the share of companies expecting inflation during the next year to be within the target range rose slightly in the second quarter, to 72 percent.

Long-term inflation expectations (more than two years forward) which are measured by the yield spread between unindexed Shahar local-currency bonds and CPI-indexed Galil bonds, moved within the target inflation range throughout the period under review (Figure 8). Near-term (2 to 3 years) and medium-term (4 to 6 years) inflation expectations increased moderately in the first quarter, by 0.3 of a percentage point, while long-term

[30] A sample of eight forecasters from the financial sector, most of them from the banking system.

[31] In the quarterly Companies Survey carried out by the Bank of Israel, participants are asked for their expectations of inflation over the next twelve months. The responses are received each quarter during the last two weeks of the quarter and the first week of the next quarter. Between 500 and 600 responses to the question on inflation expectations are received each quarter.

expectations (7–10 years) went down by a similar amount. In the second quarter near- and medium-term expectations declined by an amount corresponding to the rise in long-term expectations, so that nearly all the changes in expectations that occurred in the first quarter were offset. At the end of the first half of 2006 near-term expectations stood at 2.1 percent, and medium- and long-term expectations at 2.7 percent.[32]

The econometric models developed by the Bank of Israel help in the assessment of expected inflation and the interest-rate path required to achieve the inflation target. Such models—a generally accepted tool used by almost all the central banks in the world for economic analysis and forecasting—are used by policymakers to make forecasts that are derived from the alternative assumptions of the future paths of a variety of variables. The models are based on the theoretical relations between the relevant variables and thus provide a structured and convenient framework for analysis. However, models are not necessarily appropriate for all economic situations and developments, particularly when the economy is undergoing considerable and unexpected changes. Therefore, the models constitute only one of the tools used in assessing expected inflation alongside other tools of analysis and the exercise of judgment in the evaluation of all the relevant indicators.

During the first quarter of 2006, the models showed that the actual Bank of Israel rate of interest was lower than that required to achieve the inflation target and indicated the need for an increase in the course of the remaining three quarters of 2006. The main factors involved in creating the rising interest-rate path according to the models were excess demand, the depreciation of the NIS against the dollar, the rise in import prices (including energy prices), and expectations of further hikes in the interest rate in the US. In the second quarter, against the background of the appreciation of the NIS against the dollar, the forecasts of interest-rate rises during 2006 moderated, and they actually indicated a certain reduction in rates towards the end of the year. At the same time inflation expectations for the next four quarters went down and returned to within the limits of the target.

(ii) Additional indicators from the capital market

The yields on makam,[33] rose throughout the first half of 2006, continuing the upward trend that started in the last quarter of

[32] The expectations measured include a risk premium which increases with the term of the expectations.

[33] For a discussion on the information contained in yields on *makam* (short-term bills issued by the Bank of Israel for purposes of monetary management) see Box 2.

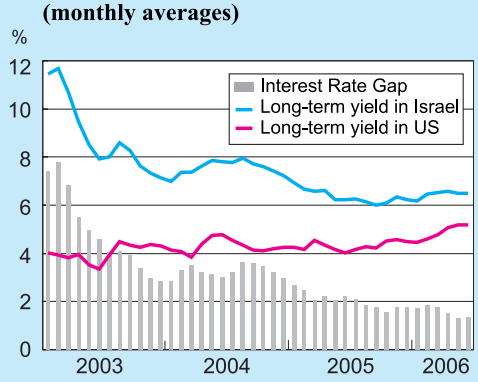
2005 (Figure 13). The rise in yields in the period reviewed was due to the hikes in the interest rate and to market expectations of further rises during the next year. An estimate of market expectations of changes in the Bank of Israel interest rate[34] in the next year averaged 0.9 of a percentage point in the first quarter of 2006, and declined to 0.5 of a percentage point in the second quarter. Similar estimates of expected changes in the Bank of Israel interest rate, by private forecasters and by the market, were based on similar assessments of the inflation rate over the next twelve months.

The yields on unindexed Shahar bonds rose during the first half of the year, by 0.6 of a percentage point on short maturities, and by less on medium and long maturities, 0.4 and 0.2 of a percentage point respectively, so that at the end of the period yields reached their highest level for a year and a half (Figure 9). Most of the rise in nominal yields took place in the first four months, while in May and June some yields actually fell, particularly on long maturities. The rises in nominal yields in Israel resulted mainly from the yield rises in the US. The rises in the Bank of Israel interest rate[35] also supported the rises in yields, and their effect was reflected mainly by short-term yields.

The yields on CPI-indexed bonds rose during the first half of the year for both short and medium maturities by 0.4 percentage points, but for the long term they remained almost unchanged (Figure 10). Thus, the slope of the real yield curve moderated over time, flattening out completely at the end of the first half; apparently the public does not expect any rise in real interest rates in the future. The increase in real yields stemmed mostly from the real yields in the US although the increases in Israel were more moderate.

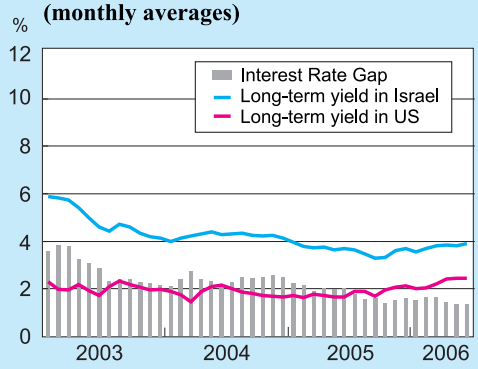
The yield gaps, both nominal and real, between Israel and the US for the long term continued to contract during the first half of 2006, continuing a trend that began in recent years (Figures 28-29), and reached their lowest point since 2000. This contraction of nominal and real gaps can be linked principally to the fall of Israel's risk premium in the period under review. During the first quarter of the year the nominal gaps were stable at levels of 1.6 and 1.9 percent for 5- and 10-year terms, respectively, compared to 2.5 percent at the beginning of 2005. During the second quarter nominal gaps fell significantly for these terms, reaching 1.2 and 1.4 percent respectively at the end of June. Real gaps fell too,

Figure 28
Long-term (10-year) Nominal Interest Rates in US and Israel and the Gap Between Them, 2003 to June 2006
(monthly averages)



SOURCE: Bank of Israel

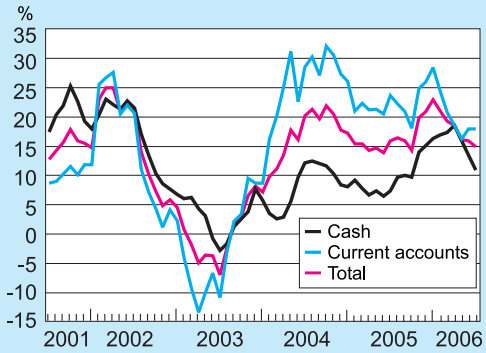
Figure 29
Long-term (10-year) Real Interest Rates in US and Israel and the Gap Between Them, 2003 to June 2006
(monthly averages)



SOURCE: Bank of Israel

[34] The implied risk premium in *makam* yields makes a precise derivation of market expectations of interest-rate changes difficult.
[35] In the first half of 2006 the Bank of Israel interest rate was raised by a total of 75 basis points.

Figure 30
Annual Change in M1 and its Components, June 2001 to June 2006
(monthly averages)



SOURCE: Bank of Israel Monetary Department.

although at a more moderate pace, and at the end of the period stood at 1.4 percent for both 5- and 10-year terms.

The real rate of interest expected on Bank of Israel funds is derived from the difference between the Bank of Israel rate of interest and the one-year-ahead expectations of inflation and is viewed as an indicator of the extent of monetary restraint. At the end of the third quarter of 2005 the real expected rate of interest fell to its lowest level in four years, to an average of 1.1 percent (Figure 14). From the fourth quarter of 2005 and through the first half of 2006 the real expected rate of interest followed a rising trend, as a result of the increases in the Bank of Israel rate of interest, and at the end of the first half it reached an average rate of 3.5 percent. Though the real short-term rate of interest is historically low, continued rises in the coming months could moderate the expansion of real activity, which has occurred recently[36].

(iii) Money and credit aggregates and the public's asset portfolio

The means of payment expanded during the first half of 2006 at a moderate rate of 3.4 percent, while the annual growth rate of the M1 aggregate reached 15.6 percent, the lowest rate since mid-2005 (Figure 30). The main source of growth in the money supply in the first half was the expansion in demand deposits, which increased by 4.7 percent, while cash balances in the hands of the public grew by a more moderate rate of 1.6 percent. The annual rate of increase in means of payment is greater than the rate of inflation together with the growth in GDP and takes into account changes in the monetary interest rate[37], but in terms of following an inflation target, when the interest rate is the tool of monetary policy, the effect of the money supply (M1) on prices is doubtful, as M1 is set by public demand.

The wide monetary aggregate (M2)[38] grew in the first half of the year by 1.3 percent and in the past 12 months by 3.0 percent, the lowest rate in two years. In examining the aggregate's components,

[36] The restraining effect of a rise in short-term real interest rates on real levels of activity can be expressed only in the short term due to nominal rigidities which can cause short-term real interest rates to deviate temporarily from the equilibrium real rates (the natural interest rate). In the long run, the short-term real interest rate is set by the equilibrium real interest rate while monetary policy has no effect on the real variables in this time period. According to Bank of Israel estimations, the Israeli economy, which is small and open, the effect of the interest differential—the gap between short-term real interest rate and the equilibrium real interest rate—on real activities (the output gap) is relatively small, at 0.1 percentage points.

[37] The exceptional growth in the means of payment is derived from econometric models developed by the Bank of Israel.

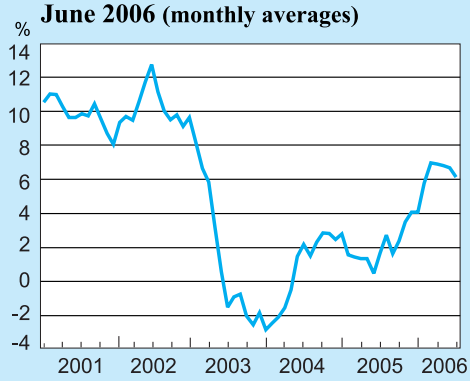
[38] The aggregate M2 includes unindexed deposits of up to three months and deposits of 3-12 months.

it was found that up till the end of 2005 the trend continued of a rising proportion of short-term deposits (up to three months) at the expense of medium-term deposits (from three months to a year), which fell. The trend of increasing liquidation of the aggregate halted in the first quarter of the year, as the weight of medium-term deposits increased (at the expense of short-term deposits). During the rest of the period under review the weights of short- and medium-term deposits saw no change and stood at 90.6 and 9.4 percent respectively.

The total bank credit aggregate (C3) expanded in the first half of the year by 3.5 percent and its rate of increase in the past 12 months stood at 6.1 percent (Figure 31). Despite this annual rate of growth during the first half, apparently due to continued rapid economic growth, the rate remains moderate. It is reasonable to assume that the moderate demand for bank and non-bank credit (which saw its growth rate slow considerably in the period under review) is a direct result of the rise in companies' self-financing in light of increased profits.

The value of the public's financial assets portfolio continued to rise during the first five months of the period under review by 4.9 percent. Most of the components of the portfolio registered increases, except for the unindexed component which fell by 1 percent. The major factors in the increase in the value of the portfolio were the shares both in Israel and abroad.[39] An analysis of the composition of the portfolio, ignoring shares, by type of indexation shows that the trends which characterized the composition of the portfolio during 2005 continued; the weights of CPI-indexed and foreign currency-indexed assets increased to 41.0 and 20.5 percent, respectively, while the share of unindexed assets fell to 38.5 percent.

Figure 31
Annual Rates of Change of Bank Credit to the Public (C3), 2001 to June 2006 (monthly averages)



SOURCE: Bank of Israel Monetary Department.

Box 2
Information Derived from *Makam* Yields

Makam bonds are one of the most central and efficient instruments used in monetary policy to manage liquidity in the economy. Yields to maturity required on makam, as set by the market, are also central indicators of assessing monetary interest rates that the investing public foresees for the future: the slope of the *makam* yield curve, measured as the difference between short- and long-term yields, allows monetary policy makers to identify the direction and strength of changes that the market sees in future Bank of Israel interest rates, and to learn from them the level of

[39] The figures for the developments in the value of the public's financial assets portfolio are until May 2006.

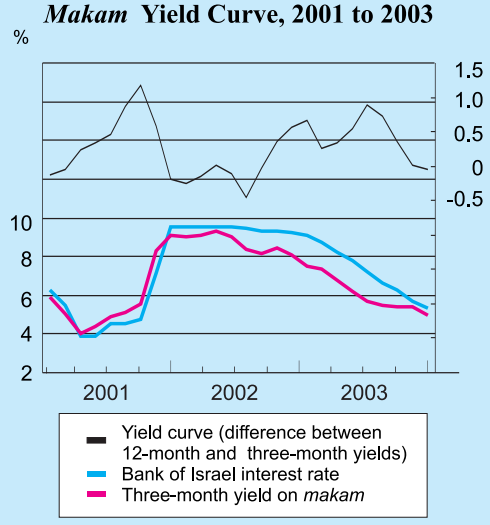
monetary interest rate considered consistent with price stability, assuming a high confidence in the inflation-target policy.

However yields on makam are not independent of monetary policy; on the contrary, monetary policy directly affects makam yields, particularly in the short term, by setting the basic interest rate in the economy. In addition, through the mechanism of policy effect on public expectations of inflation and future interest rates, longer-term yields are also set in the makam market[1]. In other words: public expectations of changes in the monetary interest rate for the next year, as derived from the makam yield curve, are based on their assessment of expected inflation for the same period and therefore on the monetary policy steps to be taken in the future.

The close reciprocal relationship between the makam market and monetary policy, as described above, allows constant monitoring of the public's examination of monetary steps, and thence to identify the public's level of confidence in policy. Exceptional changes over time in makam yields for various terms—beyond the changes in the Bank of Israel interest rate—which do not stem from global events or from changes in basic factors of the curve,[2] could testify to dents in the public's confidence; all of this subject to additional indicators from the markets.

To illustrate this point, we examine Figure 1 which presents the Bank of Israel's (effective) interest rate and the makam yield for three months, and the makam yield curve as defined here as the difference between three-month and 12-month yields. One can see, for example, that immediately after the 2 percentage-point cut in the interest rate in December 2001, the makam yield reacted with a similar fall.[3] However over the next five months, while expectations of inflation rose, makam yields increased by 1.5 and 2.5 percentage points on three- and 12-month terms respectively, far more than the rise in the Bank of Israel interest rate during the same period.[4] According to this development in makam yields, the public believed that the Bank of Israel interest rate was inconsistent with price stability and therefore required a raise both immediately and in the longer term. This development in the makam market and with it developments in many other indicators, provided concrete evidence of a public loss of faith in policy. Only two consecutive raises in the Bank of Israel interest rate by a cumulative 4.5 percentage points stemmed the drop in public confidence in policy; inflation expectations from the capital market dropped, as did makam yields, and the *makam* yield curve flattened out, even turning slightly negative which pointed to an expectation of a cut in the Bank of Israel interest rate particularly in the short term.

Figure 1
Bank of Israel Interest Rate, *Makam* Yield for Three Months and *Makam* Yield Curve, 2001 to 2003



SOURCE: Bank of Israel

Makam yields, in addition to investors' interest rate expectations, also embody the risk premium that increases with longer terms to maturity. This term premium is an extra yield on *makam*, that the

[1] *Makam* yields are for terms of one to 12 months.
[2] For example a change in the liquidity premium, changes in taxation on *makam* bonds etc.
[3] For details of market developments see Bank of Israel Annual Report 2002.
[4] During the first five months of 2002 the Bank of Israel raised the interest rate by a cumulative 0.8 percentage points.

investing public demands for the risk stemming principally from the uncertainty on future inflation or interest rate, and as compensation for the loss of liquidity in investing in the bonds for up to one year. It is reasonable to assume that this premium is not fixed but rather changes over time according to levels of uncertainty in the economy and levels of public confidence in policy[5]: in times of rising uncertainty (such as in the first half of 2002) the public demands greater compensation, and as a result the *makam* yield curve will be steeper beyond that of the increase derived from the public's expectations.

The positive or negative slope of the *makam* yield curve can point to the initial direction that the public believes interest rates will move in the future; however an exact identification of the change is problematic for two major reasons: firstly because the risk premium which changes over time is unknown and as a result, one could incorrectly attribute the entire change in slope of the *makam* yield curve to a change in expectations when in fact the slope change partly reflects a change in the premium. And secondly, the expected future interest rate and the changes in it are reflected in the implied forward rate on the yield to maturity in the market. As the interest rate expected by the market is derived from theoretical assumptions, it can be defective in its measurements.

Despite limitations of the use of yields to derive information on market expectations of expected changes in the interest rate, this method is practiced not only by the Bank of Israel but also by many central banks around the world. Sweden, England and other countries publish in each inflation report, along with other indicators, the market expectations of the interest rate not just for the coming year but for longer periods too.

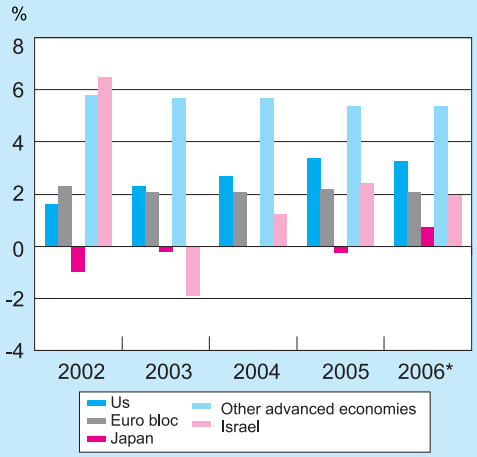
[5] An estimation of the premium within the *makam* yield and the public's expectations of changes in the interest rate can be seen, for example, in the work of Ilek A., Suchoy T. and Klein N. (2005) *Estimation of the Premium Latent in the Makam Yield*, Bank of Israel Research Department.

d. Global developments

Inflation in a small open economy such as Israel's is influenced in the short run by global developments. Growth and global inflation affect local prices through exports of goods and services and through the change in prices of imported consumer goods and production inputs which affect the CPI, directly or otherwise. These were the principal global developments during the period under review, according to initial indicators:

- The US economy, which suffered several knocks in the past year principally due to hurricanes and rising oil prices, showed impressive resilience and remains the major engine of growth in the world economy. After very low growth in the last quarter of 2005—the lowest rate since the end of 2002––growth forecasts for the US economy in 2006 rose to 3.4 percent, despite the large deficit in balance of payments and a tight monetary policy. The Fed interest rate has risen since the beginning of the year to 5.25 percent and is expected to rise further.

Figure 32
Inflation in the Advanced Economies, 2002-2006



* 2006 data based on IMF forecasts.
SOURCE: IMF

- Growth in the euro zone consolidated at the beginning of the year after moderating in the second half of 2005. The recovery in the global economy was expressed through the expansion of European exports, although the high rate of saving shows that at this stage there are no signs of support for continued growth from private consumption. The improved economic activity in Europe could affect the local market as the euro zone accounts for some 40 percent of Israel's total trade. In addition to these developments, the European central bank raised its interest rate at the end of the first half and it now stands at 2.75 percent.
- Japan has also enjoyed an expansion in economic activity; an improvement in the labor market (a fall in the level of unemployment) and a rise in nominal wages are further indications of an end to the deflationary period and an acceleration in growth for the Japanese economy. The Japanese economy, alongside that of the US, is expected to be an engine of growth for the global economy in the coming year.
- Growth in the emerging markets continues to surpass expectations. The contribution of these to the world economy grows ever faster. The trend of rising economic activity in Russia, China and India contributed some 25 percent of global growth. China is growing rapidly—at 10 percent a year—principally due to increased investment and a surplus in its current account. India's growth is supported by low interest rates and also by the fast rise in the stock market in recent years.

In summary, the leading indicators in most countries point to continued growth both in the short and long term. The US and Japanese economies are expected to lead the way for global growth in the coming year with support from the euro zone and accelerated growth from the developing countries. Among the major factors supporting global growth are world trade, investment and favorable financial conditions, which permit capital flows toward the developing countries. The price of oil continued to rise during the period reviewed against higher demand in the emerging markets. This, together with limited oil supply and a low level of investment in further discoveries by oil producers, in addition to expanded demand, are likely to bring further price rises around the world. Despite this, the inflationary environment (Figure 32) has not changed and international trade is expected to grow slightly faster than last year.

III. EXPECTED DEVELOPMENTS IN INFLATION, AND PROJECTION FOR THE NEXT FEW YEARS

a. Real activity and fiscal policy

(i) Real activity

The expansion of real activity in the Israeli economy is expected to continue in the coming years (2006-2007) though the rate of growth is expected to be more moderate than in 2005, despite the expected expansion in global economic activity and accelerated growth in the economy in the first months of the year. The forecast for GDP growth in 2006—before the outbreak of hostilities—was 5 percent, while the growth rate of business-sector product was expected to be similar to that of the previous year (at 6.5 percent). However this projection, as mentioned, was formed before the outbreak of hostilities in the north, and uncertainty surrounding its realization has greatly increased. It must be stressed that the escalation of hostilities in the north that began in July could detrimentally affect the economy's growth rate. Assuming the current conflict will end soon, its effect on real activities will be seen mostly in 2006, through the impact on exports of tourist services[40], the postponement of investments and also the effect on private consumption and exports of goods. However, if the conflict does not end within a short time, the effect on real activities will be far more substantial and could certainly affect 2007 as well.

Growth in GDP for 2007 is expected to be 4.1 percent. This projection is based mainly on three assumptions: that the global environment will continue to support the economy's rate of growth; secondly, that calm in the security situation will return within a relatively short time, and therefore will not impact significantly on developments in 2007; and thirdly, that fiscal policy will attain the expenditure and deficit targets and that the tax program will be implemented fully. Furthermore it is assumed that the short-term real interest rates will rise in the next two years as a result of a contraction in the output gap in Israel and expected developments abroad. The various factors that will lead growth in the coming years are: the export component which is expected to grow but at a slower pace than world trade, as well as an increase in private consumption following a rise in individuals' disposable income and the "wealth" effect resulting from growth in the financial markets, together with expected reductions in taxation. The contraction of the output

[40] A fall in incoming tourism of 50 percent for two quarters, for example, would reduce GDP by 0.4 percent.

gap and the economy's approach toward full capital utilization is expected to cause a positive turnaround in investment. Among the various industries, forecasts for growth of fixed investment, particularly for residential construction, are the most prominent. These developments, together with expectations of falling unemployment, will add to inflationary pressures in the coming year, due to the rapid reduction in excess production capacity.

(ii) Fiscal policy

The budget deficit in 2006 is expected to be significantly lower than the deficit ceiling set by law. The low deficit is expected to support the stability of the financial markets and prices. Assuming continued growth in tax revenues until the end of the year, and a government expenditure 1.5 percent lower than that budgeted, the budget deficit should total less than 1 percent of GDP. Even if expenditure reaches the amount budgeted, the deficit in 2006 will total less than 1.5 percent of GDP, significantly lower than the deficit ceiling of 3 percent. According to the initial budget proposals for 2007, government expenditure will rise by 1.7 percent in real terms, and the deficit target is expected to fall to 2 percent. Assuming also that no further tax reductions will be introduced, beyond those planned, government debt could fall to 90 percent of GDP by the end of 2006. Approving the Ministry of Finance's plan to reduce VAT by one percentage point to 15.5 percent at the start of July could lessen the annual rate of price increases, though in the longer term it will increase demand.

The effect of the military activity on the northern border on the 2006 budget may be expressed in some increase in the deficit and defense spending beyond the basic forecast, though this is not expected to be great as long as the conflict is short-lived and does not involve additional parties. It is reasonable to assume that the 2007 budget will not be affected by these recent developments, unless the security situation deteriorates into an ongoing crisis and particularly if it threatens to turn into a regional crisis.

b. Expected developments in the foreign exchange market

According to the Bank of Israel’s assessments, foreign currency flows of the basic account—which express long-term capital movement and foreign currency flows stemming from the current account—are expected to manifest in net capital inflows in considerable quantities also in the second half of 2006. Nonresidents' direct investments will be expressed first of all through the receipts of the sale of Iscar, one of the largest transactions in Israeli history. Moreover, direct investment flow,

which continued throughout the first half of the year, shows that these investments are little affected by short-term events such as those that recently occurred in the emerging markets in May and June or from geopolitical events, and therefore the investments are expected to continue, and will be seen in net capital inflow in the next six months. The appointment of foreign banks as market makers from September 2006 is expected in the first place to lead to these banks' buying government bonds in great quantities; and in the second stage, alongside the possibility of the resale of these bonds to Israelis, the foreign banks' involvement in the Israeli bond market is expected to draw foreign investors into this market. The surplus in the current account is expected to continue growing, especially if global oil prices remain at their current levels. On the other hand, institutional investors' investments abroad, in light of the tax reforms and expectations of stabilization of long-term yields in the US, are expected to continue also in the next half.

Various scenarios could reduce the basic pressure for an appreciation of the NIS which comes from the projection of a surplus in the basic account, but recent events limit these scenarios: nonresidents' portfolio investments are also dependent on developments in global and domestic markets. In this light, one should note the confidence that nonresidents' have acquired in the Israeli economy recently, given positive forecasts by the leading investment houses on the Israeli economy in general and on the NIS exchange rate in particular[41]. This was also apparent in the relatively moderate amounts of nonresidents' withdrawals, which did not shock the local stock market as they shocked the emerging economies' markets in May and June. A worsening of the crisis in the emerging economies, or a deterioration in the geopolitical situation in Israel, could strengthen the trend of investments' leaning toward the developed economies, and this would be seen principally in the purchase of foreign currency by households. However one must note that the instability in world markets has so far been expressed actually by Israeli households' import of capital through partial sales of their holdings in overseas markets. So the event of May-June resulted in a net capital inflow; households' sales in overseas markets were greater than nonresidents' sales in Israel. This pattern of behavior could, if falling prices in overseas markets reoccur, protect the NIS exchange rate from "being infected" with the depreciation of other currencies. The probability of households behaving this way

[41] These positive forecasts have been expressed even during the events in the north, with credit rating agencies Fitch and Standard & Poor's announcing that they do not foresee any downgrading of Israel's credit rating in the near future.

is not low given their high exposure to shares overseas. Similarly, instability abroad, and the renewed probability of a rise in the US interest rate, has so far slowed the rate of institutional investors' taking their investments abroad and such an event is likely to moderate the affect of future crises in markets overseas on the Israeli economy.

The small short-term interest rate differential between Israel and the US will continue to affect the short-term exchange rate in the direction of depreciation, although the pressure for the NIS to appreciate, which derives from the long-term forces described above, is expected to be relatively strong. A deterioration in the security situation could strengthen the pressure for a depreciation, particularly if households begin to buy considerable amounts of foreign currency. However in such a scenario, the business sector may return to its structural habit and moderate the depreciation in the NIS by selling foreign currency at, what it considers, an attractive exchange rate. Furthermore, the total reactions of nonresidents to the security events, including those that began in July, show that nonresidents focus more on long-term economic developments than short-term security events.

c. Expected global developments

The initial economic indicators for 2006 show that global economic growth will continue to increase beyond expectations, particularly in the emerging markets. According to estimates by the International Monetary Fund the global economy is expected to grow by 4.9 percent in 2006 based, as in the previous year, on expanded increase in global trade which is expected to reach 8 percent in 2006 (the OECD is more optimistic and points to growth in trade higher than 9 percent). Favorable conditions in the financial markets, together with continued accommodative macroeconomic policies, are also likely to support continued global growth. In a geographical breakdown:

- Growth in the US is expected to moderate relative to the previous year, and will reach 3.4 percent. Continued growth together with the fiscal deficit and the deficit in the current account are expected, this year too, to affect US monetary policy and to be reflected in additional interest rate rises, which will force Israel's monetary policy-makers to react in the case of capital outflows from the economy.
- In the euro zone, despite the slowing of growth in the last quarter of 2005, there are signs of expanding economic activity in the current year. The rate of expected growth in Europe has risen to 2 percent but the weakness of private consumption

exposes the European economies to both internal and external shocks. Inflation rates are expected to remain at the level that has characterized the euro zone in recent years, around 2 percent.

- The Japanese economic recovery, which began at the end of last year, is expected to continue. The deflationary pressures will continue to contract and the risks of inflation will rise, particularly if private consumption expands in response to a considerable improvement in labor market conditions.
- Economic activities in the emerging countries will remain strong this year too. Growth in China and India is expected to reach 7.3 and 9.5 percent respectively.

Table 1
Data and Estimates of Economic Growth and Inflation, Selected Countries, 2004-2007 (annual, in percent)[a]

		2004	2005	2006 (forecast)	2007 (forecast)
Growth	US	4.2	3.5	3.4	3.3
	Euro zone	1.8	1.4	2.2	1.9
	Japan	2.3	2.7	2.8	2.1
	Emerging markets	7.6	7.2	6.9	6.6
Inflation	US	2.7	3.4	3.3	2.5
	Euro zone	2.1	2.2	2.1	2.2
	Japan	0	-0.3	0.7	0.6
	Emerging markets	5.7	5.4	5.4	4.8

[a] Data as of April 2006.
SOURCE: IMF World Economic Outlook, April 2006.

d. Assessments of future inflation and the balance of inflation risks

(i) Assessments of future inflation

According to all assessments, inflation in 2006 and for the next 12 months is expected to lie within the target range of price stability; this is indicated by assessments of inflation derived from private forecasters, the capital market and the Bank of Israel's Companies Survey (Table 2).

These assessments are based principally on similar expectations of a continued rise in the Bank of Israel's key interest rate of up to one percentage point during 2006, and on the continued expansion of real activity.

The assessment of developments in the exchange rate rely on several assumptions: foreign financial institutions that publish their forecasts of the NIS/$ exchange rate expect a strengthening of the NIS over the next 12 months; according to the private

forecasters' assessments, the same period is expected to see relative stability in the exchange rate. However most of the companies in the economy expect the NIS to depreciate against the dollar over these 12 months. According to the Bank of Israel's assessments, assuming a stable exchange rate and a continuation in the trend of a shrinking output gap and a rise in import prices, then inflation at the end of 2006 and during the next 12 months will be within the range of price stability, while the Bank of Israel's interest rate will rise moderately over the next year. The conflict in the north is expected to cause a slowdown in activities from both the demand and supply sides, and to be reflected too in a rise in the economy's risk, which will moderate the pressure for an appreciation of the NIS; in the short term at least this will push up inflation.

Table 2
Inflation Assessments for 2006 and for the Next 12 Months (percent)

	Target	Capital market	Private forecasters	Companies Survey
2006, average	2	*	2.8	*
(range)	(1-3)			(2.2-3.9)
Next 12 months, average	2	1.7	2.3	2.6
(range)	(1-3)		(1.8-3.0)	

* There is no data for periods of less than one year.

(ii) The balance of inflation risks

According to the above assessments, the likelihood of overshooting the price-stability target in the next 12 months is the same as undershooting it. This is supported by a number of factors:

- Despite the fact that inflation over the past 12 months (as measured at the end of the period under review) is above the upper limit of the target range, the fact that all the indicators used in assessing the inflationary environment show that the inflationary environment is stable around the mid-point of the target, together with the absence of findings of inflationary inertia,[42] suggest that the current deviation is not expected to affect the rate of price increases in the future.

[42] The lack of inflationary inertia in Israel is documented for example in Elkayam D. and Ilek, A. (2004) *The Information Content of Inflationary Expectations Derived from Bond Prices in Israel*, Bank of Israel Monetary Studies 04.03

- Exchange rate:
  - Continued deterioration in the security situation could reduce the attraction of investing in Israel in favor of all other alternatives facing residents and nonresidents, and thereby create upward pressure on the exchange rate and hence on prices.
  - The expected development in the basic account, according to which there will be a surplus in long-term foreign currency flows into the economy, will act to stabilize the exchange rate at its current level or to strengthen it.
  - The drop in share prices and the sharp depreciations in the emerging markets have acted up to now to increase the relative attractiveness of the Israeli economy for these investors and so the NIS exchange rate has remained stable or even strengthened recently. This trend is expected to continue and strengthen in light of the possible improvement in Israel's credit rating by foreign rating agencies.
  - A possible strengthening of inflation in the US which would be accompanied by rises in short- and long-term interest rates could create capital outflow from the economy and bring with it depreciation. However these forces could be tempered by rising uncertainty and the fall in relative attraction of investment in the US in light of the continued worsening of fiscal policy in the US.
- The accelerated growth rate in the first half of 2006 and its expected continuation in the next period are a result of growth in demand. On the other hand, increasing the utilization of capital stock has recently brought increased investment in plant and equipment, which increases capital stock, which in turn is expected, together with growth in the labor market participation rate, to contribute to expanding production capacity and potential product. These counterbalancing forces have opposite effects on future price developments.
- The labor market: If nominal wages in the economy rise by more than productivity, which will be seen in a rise in unit labor costs, then this could create inflationary pressures in the labor market.
- Oil prices: There is uncertainty over future developments in oil prices. However the current projection believes it to be probable that the price of oil will continue to rise, and this implies a potential rise in prices in Israel.
- In fiscal matters:
  - The 2006 budget has been approved and is expected to be adhered to, unless there is a continued deterioration in

the security situation which will require greater defense spending.

- For 2007 government expenditure is likely to rise significantly in light of the plans for "convergence". These expenditures, the size of which is difficult to assess, could raise inflationary pressures and affect financial stability.
- During the second half of 2006 new wage agreements in the public sector are expected to be signed, which will include significant wage increases which will also add to inflationary pressures.

Appendix Table 1
Annual Inflation and the Standard Deviation of the Monthly Change in the CPI, Housing Index and Exchange Rate, 1996 to 2006

(rate of change during the period, percent)

	CPI (1)	CPI excluding fruit and vegetables, clothing and footwear (2)	Index of housing prices (3)	NIS/US$ exchange rate (4)	Inter-month standard eviation of the CPI (5)
			(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
			(semi-annual data)		
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

[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, 1998–2006

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)		
1998		13.50		4.75		8.75	
1999		11.20	-2.30	5.50	0.75	5.70	-3.05
2000		8.20	-3.00	6.50	1.00	1.70	-4.00
2001		5.80	-2.40	1.75	-4.75	4.05	1.60
2002		9.10	3.30	1.25	-0.50	7.85	6.80
2003		5.20	-3.90	1.00	-0.25	4.20	3.00
Monthly data							
2004	January	4.80	-0.40	1.00	0.00	3.80	2.85
	February	4.50	-0.30	1.00	0.00	3.50	3.28
	March	4.30	-0.20	1.00	0.00	3.30	3.53
	April	4.10	-0.20	1.00	0.00	3.10	3.25
	May	4.10	0.00	1.00	0.00	3.10	3.12
	June	4.10	0.00	1.00	0.00	3.10	3.04
	July	4.10	0.00	1.25	0.25	2.85	3.21
	August	4.10	0.00	1.50	0.25	2.60	3.60
	September	4.10	0.00	1.75	0.25	2.35	3.58
	October	4.10	0.00	1.75	0.00	2.35	3.48
	November	4.10	0.00	2.00	0.25	2.10	3.21
	December	3.90	-0.20	2.25	0.25	1.65	2.98
2005	January	3.70	-0.20	2.25	0.00	1.45	2.67
	February	3.50	-0.20	2.25	0.00	1.25	2.49
	March	3.50	0.00	2.50	0.25	1.00	2.04
	April	3.50	0.00	2.75	0.25	0.75	2.24
	May	3.50	0.00	3.00	0.25	0.50	2.07
	June	3.50	0.00	3.00	0.00	0.50	2.20
	July	3.50	0.00	3.25	0.25	0.25	2.09
	August	3.50	0.00	3.50	0.25	0.00	1.87
	September	3.50	0.00	3.75	0.25	-0.25	1.79
	October	3.75	0.25	3.75	0.00	0.00	1.59
	November	4.00	0.25	4.00	0.25	0.00	1.76
	December	4.50	0.50	4.25	0.25	0.25	1.74
2006	January	4.50	0.00	4.25	0.00	0.25	1.71
	February	4.75	0.25	4.50	0.25	0.25	1.85
	March	4.75	0.00	4.50	0.00	0.25	1.77
	April	5.00	0.25	4.75	0.25	0.25	1.52
	May	5.25	0.25	5.00	0.25	0.25	1.31
	June	5.25	0.00	5.00	0.00	0.25	1.33

[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

(monthly average, percent)

		Bank of Israel interest rate			Yield on 12-month unindexed *Makam*	Yield on CPI-indexed 10-year bonds	Yield on 10-year unindexed on 10-year bonds
		Headline[a]	Effective[b]	Real[c]			
2002	December	9.1	9.6	7.2	8.3	5.7	10.9
2003	December	5.2	5.4	4.6	4.9	4.1	7.0
2004	January	4.8	5.0	4.1	4.7	4.0	7.0
	February	4.5	4.7	3.5	4.8	4.1	7.4
	March	4.3	4.5	3.3	4.7	4.2	7.4
	April	4.1	4.3	2.7	4.8	4.3	7.6
	May	4.1	4.3	2.3	5.2	4.4	7.9
	June	4.1	4.3	2.5	5.0	4.3	7.8
	July	4.1	4.3	2.7	4.8	4.3	7.8
	August	4.1	4.3	2.4	4.8	4.3	7.9
	September	4.1	4.3	2.3	4.7	4.2	7.7
	October	4.1	4.3	2.2	4.8	4.2	7.6
	November	4.1	4.2	2.3	4.7	4.2	7.4
	December	3.9	4.1	2.7	4.3	4.1	7.3
2005	January	3.7	3.9	2.3	4.2	4.0	6.9
	February	3.5	3.7	1.6	4.2	3.8	6.7
	March	3.5	3.7	1.5	4.1	3.7	6.6
	April	3.5	3.7	1.6	4.1	3.8	6.6
	May	3.5	3.7	2.0	4.0	3.6	6.2
	June	3.5	3.7	1.8	4.0	3.7	6.2
	July	3.5	3.6	1.5	4.2	3.6	6.3
	August	3.5	3.6	1.5	4.2	3.5	6.1
	September	3.5	3.6	1.1	4.3	3.3	6.0
	October	3.8	3.9	1.5	4.6	3.3	6.1
	November	4.0	4.1	1.9	5.0	3.6	6.3
	December	4.5	4.6	2.8	5.2	3.7	6.2
2006	January	4.5	4.7	2.7	5.2	3.6	6.2
	February	4.8	4.9	2.6	5.5	3.7	6.5
	March	4.8	4.9	2.8	5.6	3.8	6.5
	April	5.0	5.2	3.2	5.7	3.8	6.6
	May	5.3	5.4	3.3	5.8	3.8	6.5
	June	5.3	5.4	3.5	5.8	3.9	6.5

[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

(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	1.2	-1.5
2003	December	-0.5	1.7	-0.5
2004	January	-0.3	2.0	-0.1
	February	0.2	2.7	0.6
	March	0.2	2.8	0.9
	April	0.6	3.4	1.6
	May	0.9	3.6	2.1
	June	0.7	3.5	1.8
	July	0.6	3.5	1.6
	August	0.5	3.7	2.0
	September	0.5	3.4	2.0
	October	0.5	3.3	2.0
	November	0.4	3.2	1.9
	December	0.2	3.2	1.5
2005	January	0.4	3.1	1.7
	February	0.5	3.0	2.2
	March	0.4	2.9	2.3
	April	0.5	2.9	2.1
	May	0.3	2.6	1.7
	June	0.3	2.6	1.9
	July	0.6	2.7	2.2
	August	0.7	2.6	2.0
	September	0.7	2.4	2.2
	October	0.7	2.2	1.8
	November	0.9	2.3	1.7
	December	0.6	1.6	0.9
2006	January	0.6	1.5	0.9
	February	0.7	1.6	1.1
	March	0.8	1.6	1.0
	April	0.6	1.4	0.6
	May	0.4	1.1	0.5
	June	0.4	1.1	0.4

SOURCE: Bank of Israel.

Appendix Table 5
Expected Inflation, 2001 to 2006

		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]
2001	December	0.6	1.3	2.5	1.6
2002	December	2.2	3.8	5.3	2.0
2003	December	0.7	1.7	3.2	1.6
2004	January	0.9	2.1	3.3	1.5
	February	1.1	2.5	3.5	1.7
	March	1.2	2.8	3.4	1.7
	April	1.6	3.0	3.6	2.1
	May	2.0	3.1	3.7	2.6
	June	1.8	2.6	3.7	2.3
	July	1.5	2.2	3.8	2.0
	August	1.9	2.6	3.9	2.4
	September	2.0	2.3	3.7	2.5
	October	2.0	2.5	3.6	2.4
	November	1.9	2.0	3.4	2.2
	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	1.8
	February	2.2	2.4	2.7	1.7
	March	2.1	2.5	2.7	2.1
	April	1.9	2.3	2.7	2.2
	May	2.0	2.1	2.7	2.2
	June	1.8	2.1	2.6	1.9

[a] Twelve-month inflation expectations.
[b] Calculated from yields on *Shahar* and *Galil* or *Sagi* 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.