Bank of Israel
Research Department

March 24, 2013

Research Department Staff Forecast, March 2013

Abstract

This document presents the forecast of macroeconomic developments compiled by the Bank of Israel Research Department in March 2013. The forecast was presented to the Monetary Committee on March 21, 2013 during its meeting prior to the decision on the Bank of Israel interest rate for April and May 2013. According to the staff forecast, the inflation rate over the next year (ending in the first quarter of 2014) will be 1.7 percent. The Bank of Israel interest rate, which was 1.75 percent when the forecast was compiled, is expected to remain at that level during the coming year. Gross domestic product (GDP) is projected to grow by 3.8 percent in 2013 and by 4.0 percent in 2014.

FORECAST

The Bank of Israel Research Department compiles a staff forecast of macroeconomic developments on a quarterly basis. The staff forecast is based on several models, various data sources, and assessments based on economists' judgment.[1] The Bank's medium scale Dynamic Stochastic General Equilibrium (DSGE) model developed in the Research Department—a structural model based on microeconomic foundations—plays a primary role in designing the macroeconomic forecast.[2] The model provides a framework for analyzing the factors which have an effect on the economy, and allows the integrating of information from various sources into a coherent macroeconomic forecast for real and nominal variables, with an internally consistent "economic story". In addition to formulating the base forecast, the DSGE model is also used to assess the effects on the economy of changes in the interest rate, to assess alternative scenarios and to evaluate the risks to the baseline forecast.

a. The global environment

The assumptions about the global economy are primarily based on forecasts by international financial institutions (such as the IMF and OECD) and investment houses. Since the formulation of the previous forecast in December, the assessments of these bodies have been revised slightly downward, both in terms of GDP growth in major economies, and in terms of growth of world trade. According to the latest IMF projection, the GDP in advanced economies is expected to grow at a moderate rate of 1.4 percent in 2013, with a gradual improvement expected in 2014, so that the growth rate that year will be 2.2 percent. OECD member state imports are expected to increase by 3.0 percent in 2013 and by 5.0 percent in 2014 (in contrast to the previous

[1] An explanation of the staff macroeconomic forecast, and an overview of the models on which it is based, can be found in Inflation Report 31 for the second quarter of 2010, section 3-C.

[2] A Discussion Paper on the model is available on the Bank of Israel website, under the title: "MOISE: A DSGE Model for the Israeli Economy, Discussion Paper No. 2012.06".

forecast which was for 3.6 percent growth in 2013 and 5.8 percent in 2014)[3]. At the same time, interest rates in advanced economies are projected to remain at their low levels in the coming year as well, and inflation in those countries is expected to be about 2 percent.

In the beginning of the current quarter, oil prices increased slightly, and during the rest of the quarter they moderated to a level similar to that of the previous quarter, of about $111 per barrel of Brent Crude. Global commodity prices, excluding energy, declined by about 3 percent during the quarter.

b. Real activity in Israel

GDP growth is expected to be 3.8 percent in 2013, assuming that natural gas production from the "Tamar" drilling site will begin as planned during the second quarter of 2013. **Excluding the effect of the natural gas from the "Tamar" site, GDP in 2013 is expected to grow by 2.8 percent.**

The decision by the Central Bureau of Statistics regarding how to record natural gas production from "Tamar" (and the replacement of fuel imports) in National Accounts data (at fixed prices) is expected to be reflected, in our assessment, in a contribution of 1 percentage point to growth in 2013, and of 0.7 percentage points in 2014.[4] Should there be a delay in the actual flow of natural gas, the growth forecast for 2013 will be revised downward accordingly, although there is not expected to be any effect on employment and unemployment.

The GDP growth forecast for 2013 remained similar to that which was published in December. The decline in the world trade growth forecast led to a reduction in forecast growth of exports. However, in contrast, current indicators for the first quarter of the year (consumer goods imports, world trade export data, the Purchasing Managers Index, and the Consumer Confidence Index) indicate that growth during this quarter was apparently higher than we forecast in December, in GDP and uses.

Excluding the effect of natural gas production, the growth rate in 2013 is expected to slow compared with that of recent years, with a slowdown in the rate of export growth, and primarily in fixed capital formation (Table 1), with growth of its two main components—investment in primary industries and in residential construction—expected to show a marked slowdown.

---

[3] This assessment is based on the OECD forecast from November 2012, with a slight downward revision in accordance with more updated assessments.

[4] Natural gas production is also expected to be reflected in a marked slowdown in the growth of imports due to the decline in fuel imports.

Table 1: Economic Indicators
Research Department Staff Forecast for 2013 and 2014
(rates of change, percent, unless stated otherwise)

	Actual 2012	Bank of Israel forecast 2013	Bank of Israel forecast 2014
GDP	3.1	3.8	4.0
Civilian imports (excluding diamonds, ships, and aircraft)	6.7	-3.9	3.7
Private consumption	2.7	2.5	2.8
Fixed capital formation	3.2	-1.1	5.2
Public sector consumption (excluding defense imports)	3.3	4.3	2.0
Exports (excluding diamonds and start-ups)	3.6	2.1	5.7
Unemployment rate[a]	6.8	7.0	6.9
Inflation rate[b]	1.6	1.8	1.8
Bank of Israel interest rate[c]	2.10	1.75	2.50

a) Annual average.
b) Average CPI reading in the final quarter of the year compared with the final quarter average in the previous year.
c) Average for the final quarter of the year.
Source: Data - based on Central Bureau of Statistics and Bank of Israel; forecast - Bank of Israel .

In 2014, growth is projected to be 4.0 percent, reflecting accelerated activity[5] influenced by the expected recovery worldwide. This recovery is expected to be reflected primarily in rapid growth of exports and investment (which is supported as well by the low level of interest rates).

c. Inflation and interest rate estimates

In our assessment, the rate of inflation during the four quarters ending in the first quarter of 2014 will be 1.7 percent, slightly below the midpoint of the target range of 1–3 percent. Inflation as measured over the previous four quarters is expected to remain within the target range during the next year. Figure 1 indicates that the forecast for the inflation rate in the four quarters ending in the first quarter of 2014 is 0.2 percentage points lower than our forecast in December (which was 1.9 percent).

The forecast for the inflation rate reflects the combination of a number of economic forces, most of which are acting to restrain inflation. We assess that the marked appreciation of the shekel in the past 2 quarters, as well as continued moderate activity, will continue to restrain inflation in the next period. In contrast, the marked increase in electricity rates for private consumption which will go into effect during the second quarter (in accordance with a framework which spreads out the increase over three years, and which takes into account the expected start of the

[5] From a rate of 2.8 percent (excluding gas production) in 2013 to a rate of 3.3 percent in 2014.

supply of natural gas from the "Tamar" reservoir), is expected to contribute to an increase in the inflation rate.

The **Bank of Israel interest rate**, which was 1.75 percent at the time the forecast was formulated, is expected to remain at its current level in the coming year. This interest rate level reflects, among other things, the low level of interest rates worldwide, which are expected to remain at their low level in the next few years, against the background of the moderate levels of activity and employment in advanced economies. In contrast, at this stage, it does not seem that the Bank of Israel interest rate will decline to the low interest rate environments of the ECB or the Fed, since the slowdown in the growth rate in the Israeli economy is far from being as severe as that of the European or US economies, which are weighed down by the need for dealing with debt crises and deep and prolonged unemployment.

Table 2 indicates that, with regard to the coming year, the Research Department's forecast of the inflation rate is slightly lower than that of private forecasters and expectations derived from capital markets, while the interest rate forecast is similar to the average of private forecasters, and slightly higher than the expectations derived from the capital markets.[6]

Table 2
Forecasts for inflation rate and interest rate for the coming year
(percent)

	Research Department	Capital markets[a]	Private forecasters[b]
Inflation rate[c]	1.7	2.0	1.9
(range of forecasts)			(1.5-2.2)
Interest rate[d]	1.75	1.62	1.75
(range of forecasts)			(1.50-2.00)

a) Average over days betweeen publicaton of the CPI reading for February through March 19. Seasonally adjusted expectations of inflation.
b) Inflation and interest rate forecasts are after the publication of the CPI reading for February.
c) Inflation rate over the next 12 months.
d) Interest rate at the end of the first quarter of 2014. Capital markets forecast derived from Telbor rates.
Source: Bank of Israel.

[6] With that, it should be noted that some private forecasters project a reduction of the interest rate in coming months to 1.5 percent, and an increase back to 1.75 percent later in the year.

d. Balance of risks in the forecast

There are several risk factors which can lead to developments which are different than those in the baseline forecast.

The global environment continues to be a source of significant downside risks to real activity in the coming year. The principal risks continue to be the debt crisis in Europe and the slowdown in growth in the US due to fiscal restraint measures. In the baseline forecast we assumed a gradual recovery worldwide beginning from the second half of 2013, but to the extent that the pace of recovery is slower, or if there is even real deterioration in the global environment, activity and inflation are expected to be more moderate than we assessed in the baseline scenario.

In the domestic environment, there is uncertainty regarding how the new government will deal with the budget challenges. The baseline scenario is constructed on the assumption that public expenditure will develop in accordance with the expenditure rule and that there won't be additional changes in tax policy (even under that assumption, the deficit is expected to deviate from the target—3.6 percent compared with a target deficit of 3 percent). The actual government deficit in 2013 depends on, among other things, the timing of the passage of the new budget law and the deficit reflected in it. With that, an examination of the budget commitments which have already been made indicates that in order to abide by the expenditure rule, the government needs to reduce commitments by about NIS 13 billion (about 1.3 percent of GDP). Even after such cuts, this is still a real expansion of about 4.3 percent compared with the 2012 budget. Deviation in the government deficit is liable to lead to increased interest rates in the economy. The increase in public expenditure (relative to the baseline scenario) reflects an increase in public consumption, investments, and wages.

In the short term, a positive effect on activity is expected, since growth of public consumption means an increase in aggregate demand which is expected to be reflected in GDP growth. However, such growth is liable to lead to increased interest rates as a result of the government's increased fund raising needs and thus in crowding out private demand—consumption, exports, and investments.[7] The increase in interest rates and the decline in investments are liable to be reflected in a negative impact on the economy's growth rate in coming years.

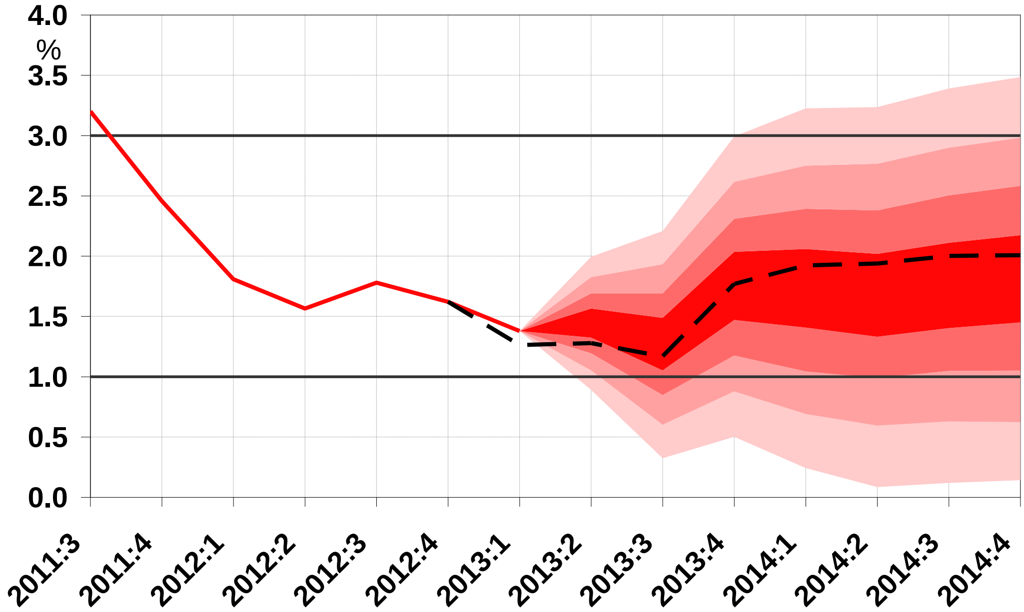
Apart from the deviation from the expenditure rule, in light of the large (cyclically adjusted) deficit in Israel in recent years, an additional increase in the deficit is expected to increase the risk levels of the government and the economy in the eyes of domestic and foreign investors, which has an effect on the government's cost of raising funds (on domestic and foreign markets)—and, as a result, on investments and the growth rate.

[7] If households and companies assess that in the future, the government will be forced to increase tax rates (in order to service the increase in the debt), then it is plausible that there will be an income effect which will increase the negative impact on consumption and investment.

The increase in the deficit and in the cost of raising funds also implies an increase in the government's debt burden (that is, the share of GDP which is used for interest payments on the debt) which is already high (due to the country risk which is unique to Israel and raises the cost of funding the debt). An increase in the government's debt burden means that more sources are required to service the debt, and thus the portion of GDP and the budget which remains for public services and public investments.

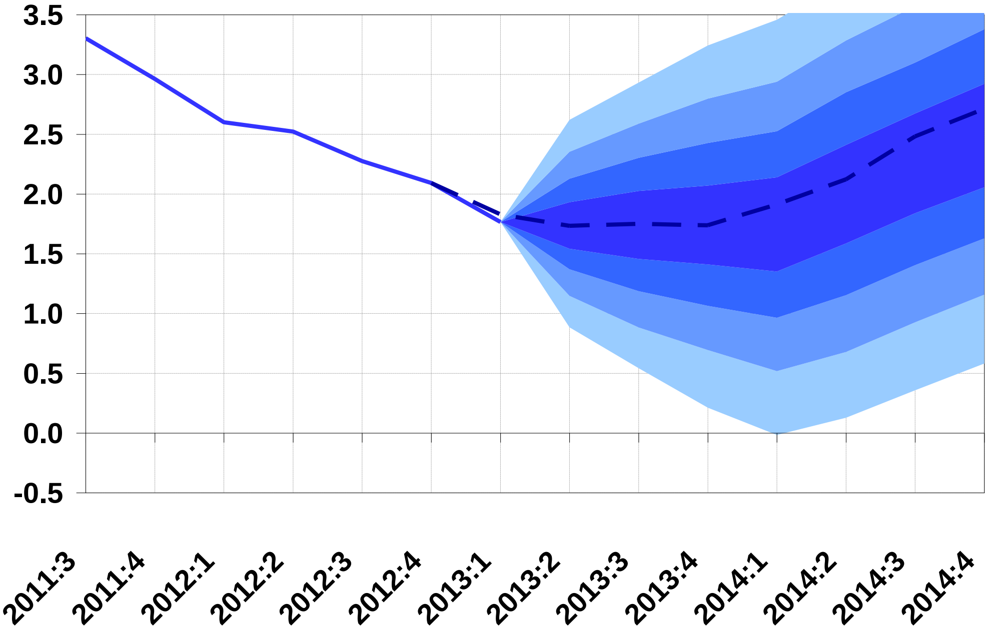
Figures 1 and 2 present fan charts around the inflation rate and interest rate forecasts (the broken line represents the baseline forecast of December 2012). The width of the fan distribution is derived from the **estimated** distributions of the shocks in the Research Department's DSGE model.

Figure 1
Actual Inflation and Fan Chart of Expected Inflation
(cumulative increase in prices in previous four quarters)



The center of the fan charts is based on the Bank of Israel Research department assessment. The width of the chart is based on the department's medium-scale DSGE (dynamic stochastic general equilibrium) model. The full fan covers 66 percent of the distribution of expected inflation.
The dotted line corresponds to the previous staff forecast (published in December 2012).
Source: Bank of Israel.

Figure 2
Actual Bank of Israel Interest Rate and Fan Chart of Expected Interest Rate



The center of the fan charts is based on the Bank of Israel Research department assessment. The width of the chart is based on the department's medium-scale DSGE (dynamic stochastic general equilibrium) model. The full fan covers 66 percent of the distribution of expected interest rate.
The dotted line corresponds to the previous staff forecast (published in December 2012).
Source: Bank of Israel.