BANK OF ISRAEL
Office of the Spokesperson and Economic Information

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Research Department Staff Forecast, August 2020

Abstract

This document presents the macroeconomic staff forecast formulated by the Bank of Israel Research Department in August 2020[1] concerning the main macroeconomic variables—GDP, inflation, and the interest rate. The forecast includes two main scenarios that reflect the boundaries between the realization of an optimistic scenario and the realization of a pessimistic scenario. In the optimistic scenario, the assumption is that control is achieved over the morbidity level, such that there are no additional significant restrictions beyond the current ones. In the pessimistic scenario, the assumption is that control over the morbidity level is low, such that economic activity moderates as a result of additional restrictions (to the point of a formal lockdown) or through the public's voluntary avoidance of activity in view of worsening morbidity data. The pessimistic scenario also includes a second morbidity wave abroad.[2]

In the optimistic scenario, we assume that Israel will return to a path of expanding economic activity starting in September, such that by the end of the year, the level of economic inactivity will decline and stabilize at about 7–8 percent, which will be maintained until a vaccine is found. **In the pessimistic scenario**, we assume that Israel will experience waves of morbidity that will lead to reduced economic activity every few months until a vaccine is found. As a working assumption only, in both scenarios, finding a vaccine will begin to affect the economy in the second half of 2021, when the economy will begin to recover and gradually converge toward the potential activity level.

In the optimistic scenario, GDP is expected to contract by 4.5 percent in 2020. Bringing the pandemic under control will enable a higher level of economic activity, such that in 2021, growth is expected to be relatively high—about 6.0 percent, but the average level of activity will remain about 5 percent lower than the pre-crisis trend. The inflation rate in the coming four quarters is expected to be 0 percent, and in 2021 it is expected to be 0.4 percent. The broad unemployment rate[3] among those aged 15

[1] The forecast was initially presented to the Monetary Committee on August 12, 2020, prior to the interest rate decision reached on August 24, 2020.

[2] These scenarios reflect a reasonable, but not absolute, range of the seriousness of the economic damage resulting from the COVID crisis. There are certainly more pessimistic scenarios (sliding into serious closures as in the past, undermining financial stability, a continuation of the crisis resulting from the failure to find a vaccine, and more), as well as more optimistic scenarios (finding a vaccine sooner, an economy that can cross the 7–8 percent nonactivity threshold during the COVID crisis, a very rapid recovery after the crisis, and more).

[3] The broad unemployment rate relates to those who are unemployed under the ordinary definition (those who have not worked, wanted to work, were available to work, and looked for work), employed people

and up (hereinafter "the unemployment rate") is expected to be 11.6 percent at the end of 2020, and to decline to 7.7 percent at the end of 2021, compared with 10.5 percent and 6.6 percent, respectively, in the July forecast.

In the pessimistic scenario, GDP is expected to contract by 7 percent in 2020, and to grow by just 3 percent next year, so that the average level of activity will be about 10 percent lower than the trend prior to the crisis. The inflation rate in the coming four quarters is expected to be -0.6 percent, and 0.9 percent in 2021. The broad unemployment rate is expected to increase to 13.6 percent at the end of 2020, and to decline to 12.1 percent at the end of 2021.

In both scenarios, the Research Department's assessment is that the interest rate in one year is expected to be within the range of 0–0.1 percent, similar to the forecast from the beginning of July, but the Bank of Israel may expand or accelerate the use of existing or additional monetary tools, including the interest rate, in accordance with developments.

The Forecast

In this forecast, as in the recent forecasts published, special emphasis was placed on an industry analysis in order to understand the economic impact of the crisis and of the policy measures taken due to it. In particular, the forecast is based on an assessment regarding the shutdown of various industries as a result of government measures to fight the spread of the virus. In addition, the forecast is based on several indicators and models, various data sources, and the Bank's DSGE (Dynamic Stochastic General Equilibrium) model developed in the Research Department—a structural model based on microeconomic foundations—which provides a framework for analyzing the forces that have an effect on the economy, and allows information from various sources to be combined into a macroeconomic forecast of real and nominal variables.[4]

a. The global environment

Our assessments of expected developments in the global economy are based mainly on projections by international institutions (the International Monetary Fund and the OECD) and by foreign investment houses. The assumptions regarding GDP, inflation, world trade, and the interest rate in advanced economies are similar to those that we used in the previous forecasts, with slight revisions based on developments and various scenarios. In particular, in the optimistic scenario, the forecast growth of imports to advanced economies in 2020 was revised upward by 1 percentage point to -12 percent, and the forecast for 2021 was lowered to 7 percent. Expected inflation was revised upward to 0.5 percent in 2020 and 1.6 percent in 2021. Similar to the base scenario in the July forecast, we assume that GDP in the advanced economies will contract by 8.0 percent in 2020 and will grow by 4.8 percent in 2021, and that the monetary interest rate will remain at an average level of 0.1 percent until the end of 2021.

who were temporarily absent for an entire week for reasons having to do with COVID (including those on unpaid leave, public service workers on forced vacation, and the self-employed who did not work), and a surplus decline in the labor force (a decline in the participation rate that is beyond the trend).

[4] An explanation of the macroeconomic forecasts formulated by the Research Department, as well as a survey of the models upon which it is based, appear in Inflation Report number 31 (for the second quarter of 2010), Section 3c. A Discussion Paper on the DSGE 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.

In the pessimistic scenario, we assume a worse situation regarding the rest of the world than we do in the optimistic scenario, and it includes a second wave of morbidity in the fourth quarter of 2020. Imports to advanced economies in 2020 are expected in this scenario to contract by 13.5 percent, and to grow by 4.5 percent in 2021, and GDP is expected to contract by 9.8 percent in 2020 and to grow by 2.2 percent in 2021. Inflation in the advanced economies is expected to increase in this scenario by 0.3 percent in 2020 and by 1.1 percent in 2021, while the interest rate is expected to reach an average level of 0 percent in 2021.

Oil prices continued to recover since the publication of the July forecast. Under the assumption that oil prices will remain stable until the end of the quarter, the average price of a barrel of Brent crude oil is about $44 in the third quarter of 2020, about 30 percent higher than the average price in the second quarter. We assume that prices will remain stable moving forward.

b. Real activity in Israel

At the starting point of both scenarios, the damage caused to the economy by the crisis is less than our assessment upon which the July forecast was based. According to the initial estimate of National Accounts data published by the Central Bureau of Statistics, GDP contracted in the second quarter by 28.7 percent in annual terms—which is less of a contraction than the assessment upon which the July forecast was based. Our assessment is that the gap between our assessments and the figure published by the Central Bureau of Statistics is due to two components—our over-assessment of economic inactivity during the first lockdown, and recovery of economic activity in June beyond our assessments (and beyond a sustainable level under the current COVID conditions) due to the attempt to rapidly open the economy and compensation for losses due to the closure.

In addition to the update to the National Accounts, both scenarios include the government assistance programs, which were markedly expanded in July and August. Beyond the direct contribution of these measures, our assessment is also that they are having an indirect effect on GDP in that they are preventing a more serious economic collapse that would have taken place in their absence. However, the assumption regarding the continued economic recovery in 2020 and 2021 has changed. While our assumption in the July forecast was that the economy would be in a continuous process of improvement in activity, under the current optimistic scenario, our assessment is that at the very most (until a vaccine is found) the economy will be able to stabilize at an inactivity level of 7–8 percent, due to a number of activity areas that generally feature a large number of participants, who will not be able to return in the foreseeable future, and due to the more prolonged effects of the crisis thus far.

In the optimistic scenario, GDP is expected to contract by 4.5 percent in 2020—1.5 percent less than in the previous forecast—and is expected to grow by 6 percent in 2021 (Table 1). The upward revision in real activity in 2020 is explained, as stated, by the different starting point in the base forecast, the government assistance programs, and the limited inactivity, which constitutes a barrier to growth until a vaccine is found. The higher GDP expectation for 2020 relative to the July forecast is reflected in all uses other than private consumption (Table 2).

Table 1
Research Department Staff Forecast for 2020–2021
Optimistic scenario and pessimistic scenario

(rates of change, percent, unless stated otherwise)

	2019[a]	Optimistic scenario		Pessimistic scenario	
		Forecast for 2020	Forecast for 2021	Forecast for 2020	Forecast for 2021
GDP	3.5	-4.5	6.0	-7.0	3.0
Private consumption	3.8	-7.5	9.0	-10.5	6.5
Fixed capital formation (excl. ships and aircraft)	2.7	-7.5	4.5	-8.5	1.0
Public consumption (excl. defense imports)	2.7	7.0	1.0	7.0	1.5
Exports (excl. diamonds and startups)	5.5	-4.0	4.0	-6.5	2.0
Civilian imports (excl. diamonds, ships, and aircraft)	5.0	-7.5	7.0	-10.0	4.5
Broad unemployment rate[b]	3.7	11.6	7.7	13.6	12.1
Inflation rate[c]	0.4	-1.0	0.4	-1.5	0.9

a) According to Central Bureau of Statistics estimates from August 16, 2020.
b) Unemployment in the 15+ age range in the final quarter of the year.
c) Average CPI reading in the final quarter of the year compared with the final-quarter average in the previous year.

Table 2
Optimistic scenario and base scenario published on July 6, 2020

(rates of change, percent, unless stated otherwise)

	2019[a]	Forecast for 2020	Change from the previous forecast	Forecast for 2021	Change from the previous forecast
GDP	3.5	-4.5	1.5	6.0	-1.5
Private consumption	3.8	-7.5	-1.0	9.0	0.5
Fixed capital formation (excl. ships and aircraft)	2.7	-7.5	6.0	4.5	-1.0
Public consumption (excl. defense imports)	2.7	7.0	2.5	1.0	-1.5
Exports (excl. diamonds and startups)	5.5	-4.0	9.0	4.0	-3.5
Civilian imports (excl. diamonds, ships, and aircraft)	5.0	-7.5	6.5	7.0	0.5
Broad unemployment rate[b]	3.7	11.6	1.1	7.7	0.6
Inflation rate[c]	0.4	-1.0	0.1	0.4	-0.3

a) According to Central Bureau of Statistics estimates from August 16, 2020.
b) Unemployment in the 15+ age range in the final quarter of the year (see Footnote 3 above).
c) Average CPI reading in the final quarter of the year compared with the final-quarter average in the previous year.

Private consumption is expected to decline by 7.5 percent in 2020, despite the recovery expected starting in the third quarter, in view of the expected negative impact to employment and income, an increase in uncertainty, and purple badge restrictions, which will all moderate demand. In 2021, private consumption is expected to recover and to grow by 9.0 percent, but its level will still be lower than the level derived from the pre-crisis trend.

Investments are expected to decline in 2020 by 7.5 percent in view of the increased uncertainty and the expectation of a decline in activity, and to increase in 2021 by 4.5 percent. Exports are expected to decline in 2020 by 4.0 percent, a much smaller contraction in view of relatively good data in the first and second quarters, relative to the large decline estimated in world trade. In 2021, our assessment is that exports will grow by 4.0 percent.

In contrast, public consumption is expected to increase in 2020 by 7.0 percent, mainly due to the contribution of the fiscal assistance packages approved by the government to support economic activity and employment. The government deficit in 2020 is expected to be about 13.2 percent of GDP, and the debt to GDP ratio is expected to increase to 75 percent (similar to the July forecast). In 2021, the deficit is expected to be 8.2 percent of GDP, and the debt to GDP ratio is expected to be 78 percent.

On the sources side, imports are expected to contract by 7.5 percent in 2020, and to grow by 7.0 percent in 2021, in view of the development of private consumption and investments in those years.

In accordance with our revised assessment, and based on an analysis of industries that have a high probability of remaining vulnerable (tourism and hospitality, leisure and culture), we expect that the broad unemployment rate of those aged 15 and over in the final quarter of 2020 will be 11.6 percent (compared with 10.5 percent in the previous forecast), and that there will be a decline in 2021, such that in the final quarter of 2021, the unemployment rate will be 7.7 percent (compared with 6.6 percent). In other words, even at the end of 2021, the economy is not expected to return to full employment.

In the pessimistic scenario, GDP is expected to contract by 7 percent in 2020, and to increase by 3 percent in 2021. In this scenario, all the uses and sources are expected to contract in 2020 at a higher rate than in the optimistic scenario, except for public consumption, in view of the more serious restrictions that would prevail in the economy under the pessimistic scenario. In addition, growth in 2021 is expected to be more moderate than in the optimistic scenario. In the pessimistic scenario, the broad unemployment rate in the final quarter of 2020 is expected to reach 13.6 percent, and to decline only moderately, to 12.1 percent at the end of 2021. The government deficit is expected to be about 14.6 percent of GDP in 2020, and the debt to GDP ratio is expected to increase to 78 percent. In 2021, the deficit is expected to be 12 percent of GDP and the debt to GDP ratio is expected to be 87 percent.

c. Inflation and interest rates

In our assessment, **in the optimistic scenario, inflation in the next four quarters is expected to be 0 percent (Table 3), and inflation in 2021 is expected to be 0.4 percent (Table 1). In the pessimistic scenario, inflation in the next four quarters is expected to be -0.6 percent (Table 3), and inflation in 2021 is expected to be 0.9 percent (Table 1).**

Assessing the path of inflation during the forecast period is not simple during such uncertainty. In particular, beyond assessing the negative impact to both supply and demand as a result of the COVID crisis, we also must assess where the negative impact will be higher—on the supply side or on the demand side—in order to assess the effect of the crisis on prices.

In the optimistic scenario, our assessment is that expected inflation in the next four quarters, ending in the second quarter of 2021, will be 0 percent (compared with -0.1

percent in the July forecast). The revision is partly due to the July CPI reading, which was higher than forecast, and to a revision to the short-term forecasts for August and September. In 2021, inflation is expected to total 0.4 percent, compared with 0.7 percent in the July forecast.

In the pessimistic scenario, the expected inflation path in the coming year is lower than in the optimistic scenario. In the next four quarters, ending in the second quarter of 2021, inflation is expected to be -0.6 percent. However, at the end of 2021, inflation in the past four quarters is expected to increase sharply to 0.9 percent, which is even higher than the inflation rate at the end of 2021 in the optimistic scenario. This is due to restrictions on the supply side due to the more serious recession that is expected in the period until a vaccine is found.

In both scenarios, the Research Department's assessment is that in one year, **the Bank of Israel interest rate will be 0–0.1 percent** (Table 3), similar to our assessment in the base scenario of the July forecast, but the Bank of Israel may expand or accelerate the use of existing or additional policy tools, including the interest rate tool, in accordance with developments.

Table 3 shows that the Bank of Israel Research Department's range of inflation forecasts during the coming year is significantly lower than the average of private forecasters, and slightly lower than expectations derived from the capital market. Regarding the interest rate, both the forecasters' projections and the expectations derived from the capital market are within the range of the Research Department's forecast.

Table 3
Inflation and interest rate forecasts for the coming year

(percent)

	Bank of Israel Research Department	Capital markets[a]	Private forecasters[b]
Inflation rate[c] (range of forecasts)	-0.6–0	0.1	0.4 (-0.4–1.0)
Interest rate[d] (range of forecasts)	0–0.1	0.0	0.1 (-0.4–0.1)

a) Average expectations following the publication of the July CPI. Inflation expectations are seasonally adjusted.
b) The forecasts published in the week following the publication of the July CPI.
c) Inflation rate in the coming year. Research Department: in the four quarters ending in the second quarter of 2021.
d) The interest rate one year from now. (Research Department: in the second quarter of 2021.) Expectations derived from the capital market are based on the Telbor market.
SOURCE: Bank of Israel.

d. Main risks to the forecast[5]

The Research Departments staff forecast presents two scenarios that reflect differences between an optimistic scenario in which the scope of morbidity is controlled and a pessimistic scenario in which the scope of morbidity is less controlled. The risks to the forecast are therefore developments in the medical field that will lead to a more optimistic scenario than our optimistic scenario or a more pessimistic scenario than our pessimistic scenario in the forecast. Therefore, finding a vaccine more quickly, as well as a more rapid recovery of global economic activity are upward risks relative to the forecast. In contrast, a significant worsening of morbidity data, a delay in finding a vaccine, and an erosion of the political situation are downward risks to the forecast. There are other risks to the forecast on the fiscal side, which are influenced both by political developments, particularly the uncertainty regarding the timing of decisions concerning the state budget, and by government measures and programs to spur the economy.

[5] In view of the anomalous uncertainty in the forecast and the unusual volatility of the activity variables, the forecast is being published without the inflation and GDP fan charts.