Bank of Israel

Monetary Policy Report

First Half of 2022

57

July 2022

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Table of Contents

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According to the Bank of Israel Law, 5770–2010, the Bank of Israel has three objectives: (1) to maintain price stability, as its central goal; Price stability is defined as an annual inflation rate of between 1 percent and 3 percent; (2) to support other objectives of the government's economic policy, particularly growth, employment and reducing social gaps, provided that this support does not prejudice the attainment of price stability; and (3) to support the stability and orderly activity of the financial system.

In accordance with Section 55(a) of the Bank of Israel Law, 5770-2010, this report is submitted by the Bank of Israel to the government and the Knesset Finance Committee twice annually. The report surveys the economic developments that took place during the period covered by the report. It also surveys the policy required—in the view of the members of the Bank of Israel's Monetary Committee, the forum in which monetary policy decisions are reached—to maintain the inflation rate within the range set by the government and to achieve the other objectives of the government's economic policy. The economy's financial stability is surveyed by the Bank of Israel in its Financial Stability Report.

The Monetary Policy Report for the first half of 2022 was prepared by economists in the Research Department, within the guidelines set by the Monetary Committee. The report is based on data published up to the interest rate decision reached on July 4, 2022, and therefore relates to the CPI up to May 2022.

Abstract

This report surveys the monetary policy during the first half of 2022 and the beginning of the second half of the year.[1] In this period, the inflation rate rose above the upper bound of the target. Rising prices reflected growing global demand, continued disruptions in supply chains, and the war in Ukraine, among other factors. All of these led to an increase in energy and commodity prices around the world and accelerated inflation in Israel. Domestic demand also increased in this period, and contributed to rising inflation, especially in nontradable items.

At the same time, economic activity continued at a level that corresponded to the pre-crisis trend. The beginning of the second half of the year was characterized by a significant wave of infection, which led to an unprecedented number of individuals who tested positive for COVID-19 and were in isolation, as well as a significant rise in the number of hospitalized individuals. Nonetheless, despite the exceptional scope of contagion, and by virtue of high vaccination rates, this wave of morbidity was not accompanied by a lockdown and, with the exception of the tourism and leisure sectors, did not adversely affect economic activity.

Monetary policy: Of the interest decisions made in the first half of 2022, in three decisions the Monetary Committee decided to raise the interest rate by 1.15 percentage points, from 0.1 percent at the beginning of 2022 to 1.25 percent. These decisions followed the intervention that commenced in the previous year, which included actions to pursue a contractionary monetary policy. In this contractionary process, the Bank of Israel ended its program of bond purchases and use of other special tools that were implemented during the COVID-19 crisis. In addition, there were no foreign exchange purchases.

Inflationary environment: The first half of 2022 was characterized by a high inflationary environment relative to previous years, against the backdrop of rising energy and commodity prices around the world following the outbreak of the war in Ukraine and rising morbidity in China, and other factors. In the beginning of the reviewed half year, year over year inflation rate rose above the upper bound of the target and in May reached 4.1 percent, the highest rate in the past 10 years. Nonetheless, the rate of inflation in Israel was significantly lower than the rate of inflation in the majority of advanced economies. One-year inflation expectations in Israel and those for medium terms (two and three years) are also above the target, but expectations for the longer term are anchored within the target range.

Domestic real activity: The data and indicators presented to the Monetary Committee in the first half of 2022 indicated that the Israeli economy maintained continuous economic activity at a level that corresponded with the trend that preceded the COVID-19 crisis. That high level of economic activity was maintained even during the wave of Omicron infection, due to factors that included the adjustment of most economic industries to activity alongside the pandemic. The pandemic's effect on economic activity almost completely dissipated in the first half of this year, and the tourism sector recorded considerable recovery. High levels of activity clearly characterized all areas of economic activity, although following the exceptional growth in the final quarter of 2021, GDP contracted slightly in the first quarter of 2022 and stabilized close to its pre-

1 In 2022, decisions were made on January 3, February 21, April 11, May 23, and July 4, 2022.

crisis trend. The decline in GDP in this period was recorded in most major uses and effectively reflected a mirror image of the spurt in economic activity in the previous quarter. At the same time, the first half of the year was also characterized by significant uncertainty in view of global geopolitical developments, political uncertainty, and security incidents in Israel.

The labor market: Employment and job vacancy data show that the labor market is tight, which is expressed in a low unemployment rate alongside a high job vacancy rate. In the reviewed half year, the employment rate hovered around the pre-crisis level and unemployment dropped to a level slightly lower than its pre-crisis rate. In this period, wages in the business sector exceeded the long-term trend that prevailed in the pre-crisis period, while wages in the public sector increased at a more moderate rate.

Exchange rates: In the first half of this year, the trend reversed, and after the appreciation of the shekel that was recorded in recent years, the shekel depreciated against major currencies. No foreign exchange purchases were recorded between February and June.

The global economy: In the reviewed half year, the global economy recorded a slowdown. The war in Ukraine and the slowdown in economic activity in China as a result of rising infection and policy responses, exacerbated the disruptions in global supply chains, increased inflationary pressure, and accelerated the implementation by many central banks of a contractionary monetary policy. In view of these developments, growth forecasts in many countries were revised downward.

The global inflationary environment continued to rise; in many advanced economies inflation indices exceeded central bank targets. In the US, inflation continues to be high and at the end of the period was approximately 8.6 percent, a historical high. A rapid rise in inflation was also recorded in the eurozone, where inflation was 8.1 percent in May. In many countries, the core inflation rate also exceeded the target, yet to a smaller extent,

In view of this, many countries accelerated a retreat from the nonconventional accommodative policies adopted during the COVID-19 crisis, and embarked on a gradual rise in interest rates. In the US, the Fed increased the interest rate in June to 1.75%. In the eurozone, the ECB accelerated the pace of reduction of its purchase program, which is expected to end in the next few months. According to assessments, the ECB will begin raising interest rates later this year. Rising interest rates were also recorded in several additional countries in which inflation is above central bank targets.

The credit market: Despite the increase in the interest rate environment, credit to the business sector continues to expand. Especially prominent was the rapid expansion of credit to the construction and real estate sectors. Credit constraints for companies are low in all sectors. The increase in new mortgage volume, which was recorded in the early months of the year, halted toward the end of the reviewed half year. In this period, new mortgages were characterized by some rise in risk measures, including an increase in LTV (the loan to value ratio), PTI (the payment to income ratio), and value of purchased properties.

Developments in the financial markets: The reviewed half year opened with sharp drops in both the domestic and global financial markets, after a year of impressive increasing prices and large volumes of capital raised. Assessments from the Telbor market with respect to expectations of the future path of the

Bank of Israel interest rate increased during the course of the reviewed half year. At the end of this period one-year expectations reached 3.2 percent.

Fiscal policy: In the reviewed half year, domestic revenues increased and exceeded expectations based on various forecasts. The increase in direct tax collection is attributed mainly to collection of taxes from companies and self-employed individuals (including company shareholders) and from land taxes. Indirect taxes also recorded a considerable real increase. Health tax, which reflects total wage payments, continues to hover around the trend. Government expenditure also declined in this period, mainly in view of the steps to reduce expenses in order to cope with the COVID-19 crisis. As a result of all these factors, the deficit also declined.

The housing market: Rising housing prices continued to intensify in the reviewed half year. As of March, apartment prices rose by 15.4 percent in annual terms. Alongside this development, the housing component in the CPI continued to increase at a relatively moderate rate (3.7 percent, as of May).

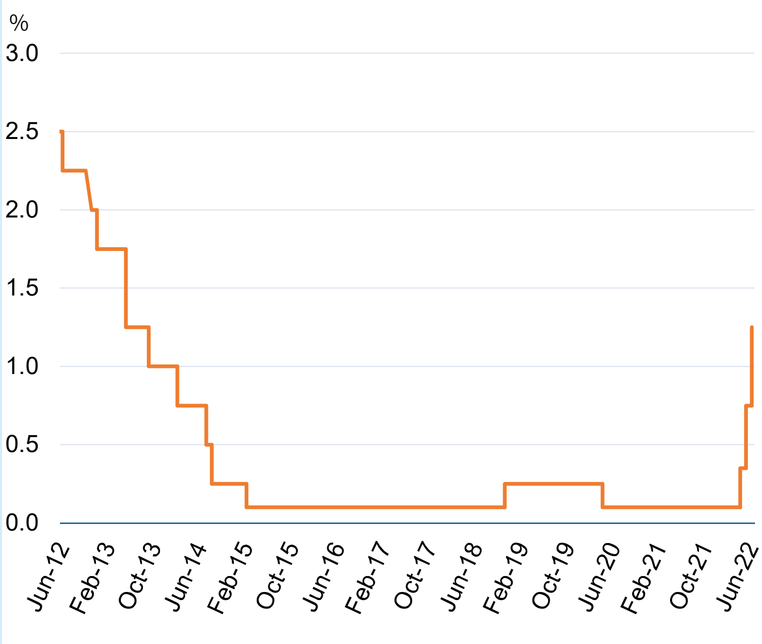
The Research Department forecast: The Research Department published three forecasts in the reviewed half year, simultaneously with interest rate announcements in January, April, and July 2022. According to the July forecast, GDP will grow by 5.0 percent in 2022, which is lower than the January and April forecasts (5.5 percent). According to the July forecast, the unemployment rate is expected to decline to a level of about 3.3 percent at the end of 2022 (3.5 percent according to the April forecast). In 2023, growth is expected to be 3.5 percent (4.0 percent according to the April forecast). The debt to GDP ratio is expected to be 66 percent in 2022 and 64 percent in 2023 (67 percent and 65 percent, respectively, according to the April forecast). Inflation during the next four quarters (which end in the second quarter of 2023) is expected to be 3.3 percent. Inflation rates expected for the years 2022 and 2023 were revised upward and are 4.5 percent and 2.4 percent, respectively. The Research Department expects that the average interest rate in the second quarter of 2023 will be 2.75 percent.

Policy steps

During the first half of 2022, the interest rate was increased in three decisions, by 1.15 percentage points, to 1.25 percent. These decisions continued the process that commenced in the previous year, which included a contractionary monetary policy and discontinuation of the use of the special tools that were announced at the height of the COVID-19 crisis in 2020. In December 2021, the Bank of Israel ended its government bond purchase program, and in the months of February to June no foreign exchange purchases were recorded.

For the first time since 2018, the interest rate was raised, by 0.25 percentage points, to 0.35 percent in April 2022. In May, the interest rate was raised by 0.4 percentage points to 0.75 percent, and in July the interest rate was raised by a further 0.5 percentage points. At the end of the reviewed half year, the interest rate was 1.25 percent, its highest since September 2013 (Figure 1).

Figure 1
The Bank of Israel Interest Rate
June 2012–June 2022



SOURCE: Bank of Israel.

In the first quarter of 2022, the inflation rate rose above the upper bound of the target range for the first time since 2011, and reached 4.1 percent. In the reviewed half year and against the backdrop of strong economic activity, inflation once again became the main consideration in determining monetary policy. Against the backdrop of these developments, the Monetary Committee discussed the causes of the rising inflation, and addressed the transitory and fixed components of inflation and the extent

of its persistence. Long-term inflation expectations remained anchored within the target range, but deviated from the target in the short and intermediate terms. As of the beginning of July, the one-year inflation expectation as derived from the capital market is 3.5 percent, while assessments of the Bank of Israel Research Department and other forecasters expect it to be at the more moderate level of 3.3 percent (based on the Research Department's July forecast).

At the time of the January 2022 decision, morbidity re-emerged against the backdrop of a wave of Omicron infection. Despite rising morbidity, economic activity continued at an adequate level and labor market data continued to indicate improvement: a decline in the broad unemployment rate alongside a high job vacancy rate and rise in the employment rate. Accordingly, members of the Monetary Committee noted that the recovery process should continue to be examined and accompanied, especially in view of the outbreak of the fifth wave of the pandemic. All Committee members believed that interest rates should remain unchanged at 0.1 percent and that the low interest rate supports the continued recovery of economic activity. The Committee noted that economic activity still faces challenges despite the recovery of Israel's economy from the crisis.

At the time of the February 2022 decision, Israel's inflation environment recorded an uptake, and inflation rose above the upper bound of the target range. Various indicators continued to point to high economic activity despite high morbidity and the large number of individuals in isolation. The labor market continued to tighten and the employment rate approached its pre-crisis level. Committee members estimated that there are currently several risk factors that will keep inflation around the upper bound of the target range for an extended period. Committee members also discussed the forces that weakened the shekel in the reviewed half year, which include negative interest rate spreads between Israel and the rest of the world, against the backdrop of more hawkish policies in the advanced economies and global geopolitical tensions. Committee members also discussed the connection between the declines in foreign financial markets and institutional investors' demand for dollars, which also contributed to a weakening of the shekel in the reviewed half year. All Monetary Committee members were of the view that the interest rate should be kept unchanged at 0.1 percent. At the time, Committee members assessed that the conditions for the start of a gradual intervention to increase the interest rate will ripen in the next few months, depending on the trajectory of inflation, growth rate, and employment rate.

At the time of the April 2022 decision, further acceleration in the domestic and global inflation environment was recorded against the backdrop of the outbreak of war in Ukraine in late February and rising morbidity in China. These developments exacerbated disruptions in global production chains, increased inflationary pressure, and led to some slowdown in the pace of global economic activity. Housing prices in Israel also accelerated and mortgage volumes continued to be high. Labor market data continued to point to increased tightening, and employment continued to rise, reaching its pre-crisis level. The Committee assessed that, with the exception of the technology and communication industries, the strong demand for workers was not yet reflected in the growth rate of average wages. Members of the Committee were of the view that the conditions had ripened for initiating a gradual process of increasing the interest rate. All Committee members accordingly believed that the interest rate should be raised by 0.25 percentage points, to 0.35 percent.

At the time of the May 2022 decision, the domestic and global inflationary environment continued to accelerate, against a backdrop of high energy prices and continued disruptions to supply chains. In this month, housing prices in Israel recorded yet another increase, and mortgage volumes remained high. Increased tightening of the labor market also continued, and wages in the business sector rose more than the trajectory that corresponds to its pre-crisis trend. The Committee discussed the sharp declines in equity markets around the world and the global risk factors that are liable to hamper domestic activity, especially in the high-tech industry. All Committee members believed that the gradual process of raising the interest rate should continue, and the interest rate should be raised by 0.4 percentage points to 0.75 percent.

At the time of the July 2022 decision, contractionary monetary steps intensified in many countries, concurrently with the downward revision of growth forecasts by various international organizations. The year over year inflation rate continued to increase, depreciation of the shekel also continued, but inflation expectations declined. Economic activity continued at a high level, the labor market continued to be tight, and business sector wages continued to move above the long-term trend. Political uncertainty increased when the Knesset was dissolved. The Committee discussed the depreciation of the shekel, the contractionary policy steps implemented in advanced economies, the high level of economic activity, and the tight labor market. All Committee members were of the view that a gradual process of increasing the interest rate should continue and that the interest rate should be increased in July by 0.5 percentage points, to 1.25 percent.

In the reviewed half year, the Bank of Israel purchased a total of approximately 0.4 billion dollars. In January approximately $0.4 billion were purchased, and no foreign exchange purchases were made from February to July, in contrast to approximately $15 billion purchased in the preceding half year, and approximately $25 billion in the corresponding period of the previous year, which were made as part of the Committee's January 2021 announcement that the Bank of Israel would purchase $30 billion that year.

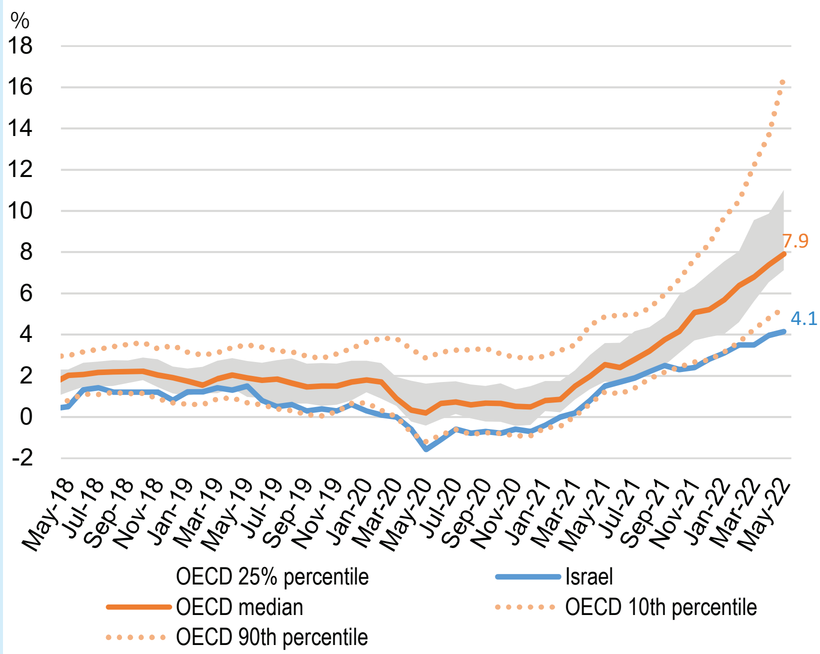
Alongside the accelerated pace of rising housing prices and in view of the continued trend of growth in the credit risk to the construction and real estate industry, the Bank of Israel's Banking Supervision Department continued its regulatory efforts in this half year and published revised guidelines on this issue. In March 2022, supervisory steps were announced to reinforce risk management, transparency, supervisory consistency, and capabilities to monitor the risk in the banking corporations' credit portfolios. These steps included guidelines for the banking corporations to allocate additional capital with respect to their high-leveraged land financing transactions, and to expand their reporting on the construction and real estate industry to the Banking Supervision Department, to facilitate closer monitoring of the development of risk in this sector.

Background Conditions from the Monetary Committee's Perspective

1. The inflation environment

The first half of 2022 was characterized by a higher inflation environment compared to preceding years. In the beginning of this period, the year over year inflation rate rose above the upper bound, and continued to rise over the period, reaching approximately 4.1 percent in May. In Israel, the inflation rate continues to be low compared to most advanced economies (Figure 2).

Figure 2
Annual Inflation in Israel and the OECD
May 2018–May 2022



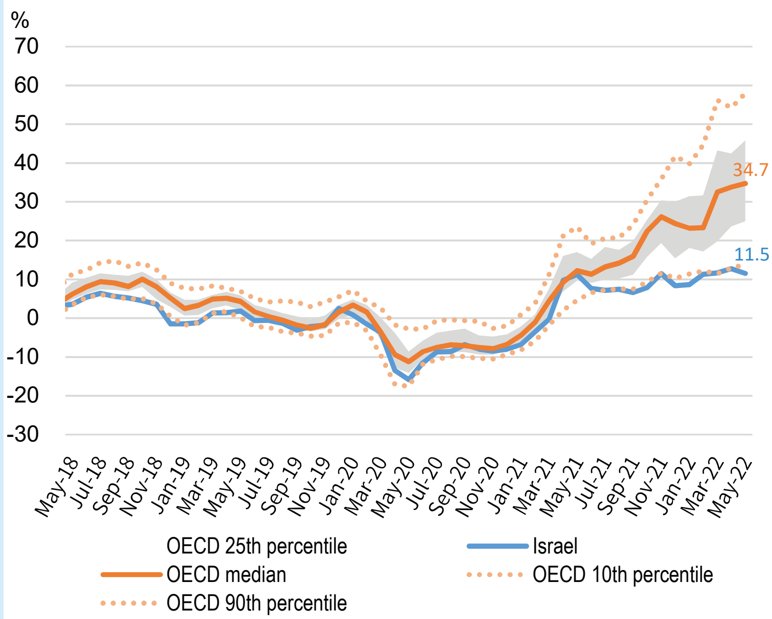
SOURCE: Based on OECD.

Year over year inflation net of the effect of energy and fruit and vegetables was lower, reaching 3.6 percent in May. The gap between these two indices widened due to the persistent rise in energy prices over the reviewed half year. In the reviewed half year, the energy-related components of the CPI rose by 7.6 percent. Beginning from the second quarter of 2021, and against the backdrop of rising global natural gas prices, the connection between energy prices in Israel and those in other advanced economies weakened. The energy component included in the CPI rose at a more moderate pace in Israel, due to several factors including the negligible weight of natural gas in the CPI and its stable price in Israel (Figure 3).

In the reviewed half year, global commodities and petroleum prices rose by 5.9 percent and 37.7 percent, respectively. The 7.6 percent rise in the energy component of the CPI contributed 0.38 percentage points to the inflation rate in the reviewed half year (Figure 4). Rising prices reflected global demand, continued chain supply disruptions, and the war in Ukraine. At the same time, the positive contribution of the vast majority of the components of the CPI attests to the existence of forces on the demand side that support an accelerated increase in inflation (Figure 5).

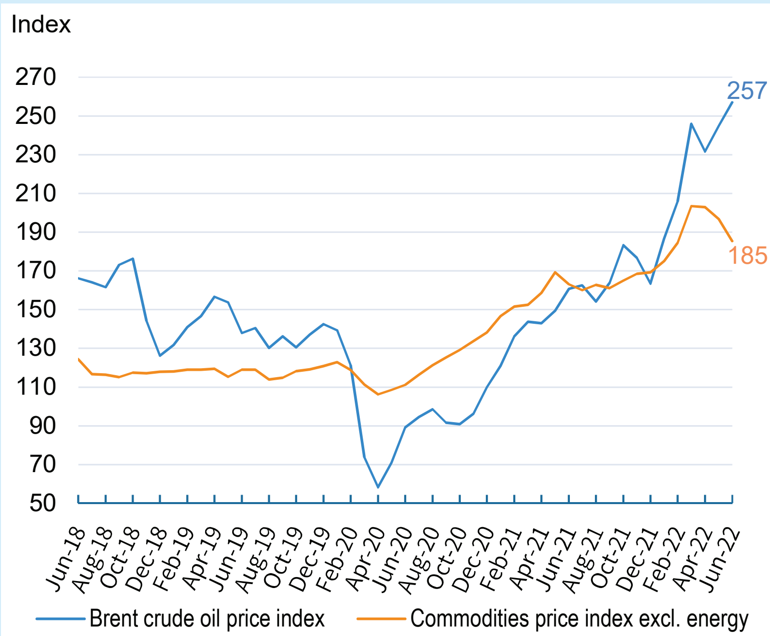
Inflation expectations from various sources rose during the reviewed half year. As of early July, inflation expectations derived from the capital market were 3.5 percent and those of other forecasters' for the coming year were 3.2 percent (Figure 6). Inflation expectations for longer terms continue to be anchored around the upper bound of the target range. In the reviewed half year uncertainty concerning future inflation rates increased and was expressed in an increase in the standard deviation of various forecasters' projections.

Figure 3
Year over Year Rate of Change in Energy Prices, Israel and OECD
May 2018 to May 2022



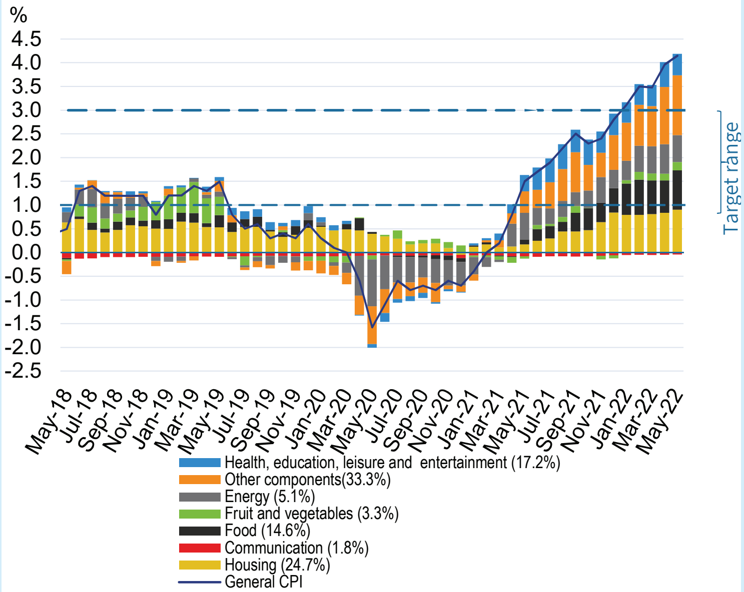
SOURCE: Based on OECD.

Figure 4
Indices of Commodity and Oil Prices
Monthly average, June 2018–June 2022, (Index: 2009=100)



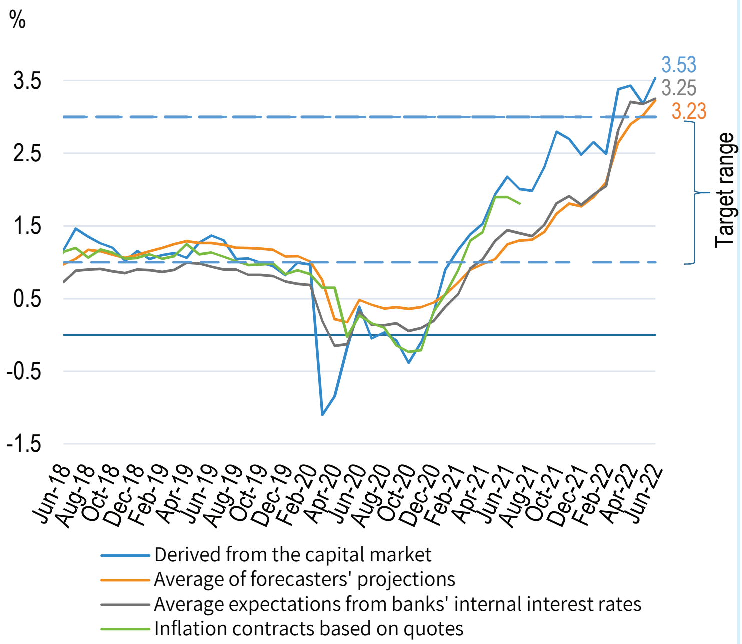
SOURCE: Based on Bloomberg.

Figure 5
Contributions of the Main CPI Components to Inflation[a,b]
May 2018–May 2022



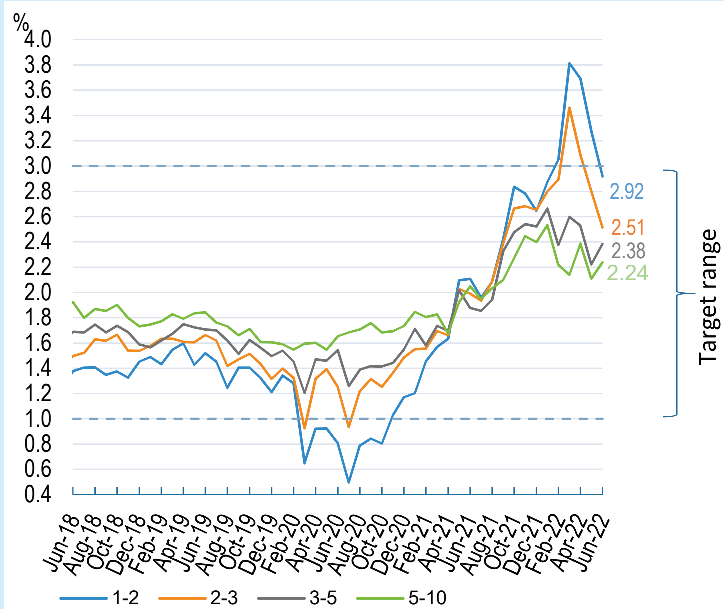
[a] The number in parentheses is the component's weight in the overall CPI (as of 2021).
[b] Other components includes furniture and household equipment, clothing and footwear, miscellaneous, and the household maintenance and transportation components minus the subcomponents relating to energy prices. SOURCE: Based on Central Bureau of Statistics.

Figure 6
One-Year Inflation Forecasts from the Various Sources[a]
June 2018–June 2022



[a] Monthly average SOURCE: Based on Bank of Israel.

Figure 7
Forward Inflation Expectations Derived from the Capital Market[a]
June 2018–June 2022



[a] Monthly averages (forward expectations for the coming years).
SOURCE: Bank of Israel.

2. Domestic real economic activity and the labor market in Israel

The data and indicators presented to the Committee during the reviewed half year indicated that economic activity levels remained at a consistently high level during the entire period. A significant wave of infection occurred at the beginning of the reviewed half year but was accompanied by relatively few restrictions on activity. Adjustment of most sectors to maintaining their activity alongside the pandemic contributed to dampening the pandemic's effect on economic activity, and with the exception of the tourism sector, no notable impacts were observed. Over the course of this half year, the risk of a decline in economic activity due to a resurgence of morbidity faded, and the tourism sector recorded considerable recovery. At the same time, concerns increased of a slowdown in economic activity due to global developments and security incidents in Israel.

In the reviewed half year, National Accounts data for the year 2021 were revised upward (Table 1). One result was an improvement in the estimates regarding the GDP's deviation from its pre-crisis trend. According to the Research Department's July forecast, GDP in 2022 is expected to be close (-0.6) to the pre-crisis trend, significantly higher than the estimates in the January forecast (-1.7).

After the exceptional growth in the final quarter of 2021, GDP contracted somewhat in the first quarter of 2022. The contraction in GDP in this period was recorded in most major uses and effectively constituted the mirror image of the surge in the previous quarter. The main components that weighed on GDP growth in this period were private consumption, public consumption, tourism exports, and from an accounting

Table 1
National Accounts - data available at the time of the interest rate decisions
(seasonally adjusted data, quantitative rates of change compared to previous period, in annual terms)

Decision made in		**3/1/22**	**21/2/22**	**11/4/22**	**23/5/22**	**4/7/22**
GDP	2021:Q3	2.4	2.7	7.0	6.5	6.5
	2021:Q4			17.6	15.6	15.6
	2022:Q1				-1.6	-1.9
Business sector product	2021:Q3	0.1	1.3	7.3	7.8	7.7
	2021:Q4			20.7	18.3	18.3
	2022:Q1				-1.6	-1.7
Private consumption	2021:Q3	0.7	0.9	4.4	4.5	4.5
	2021:Q4			20.2	18.2	18.1
	2022:Q1				-0.7	-1.5
Fixed capital formation	2021:Q3	14.8	13.8	19.8	19.5	19.5
	2021:Q4			15.3	14.7	14.9
	2022:Q1				3.3	2.1
Exports excluding diamonds and startups	2021:Q3	0.6	3.2	6.4	8.0	8.0
	2021:Q4			29.4	25.3	25.2
	2022:Q1				-6.1	-7.0
Civilian imports excluding ships, aircraft, and diamonds	2021:Q3	-4.2	-0.9	8.0	7.2	7.1
	2021:Q4			26.6	27.8	27.3
	2022:Q1				16.2	14.5

SOURCE: Based on Central Bureau of Statistics.

perspective—the strength of goods imports given the total uses. An increase in goods exports (excluding diamonds) and in residential construction contributed to GDP growth.

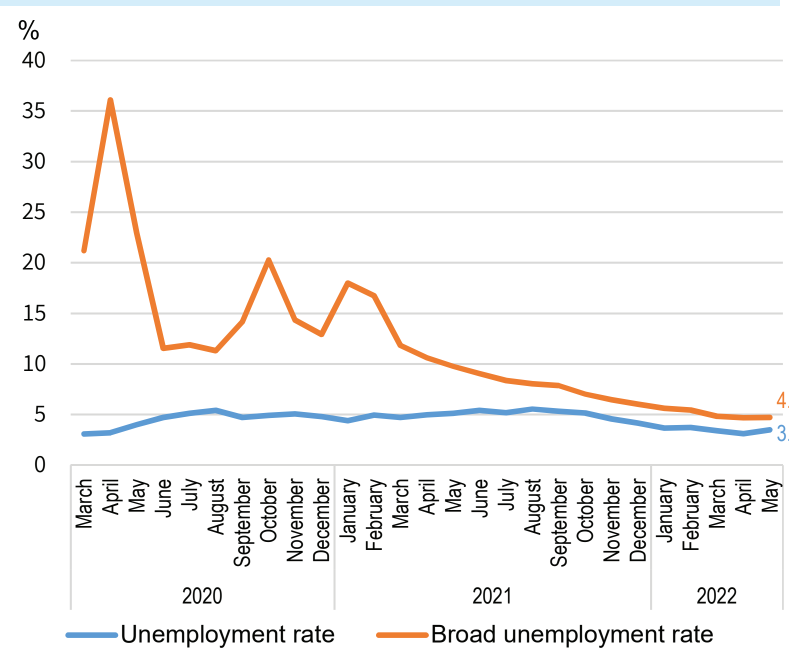
The high level of economic activity was also reflected in the labor market, which tightened during the reviewed half year. In this period, the employment rate hovered close to its pre-pandemic level and the narrow unemployment rate decreased in this period, reaching 3.5 percent in May (Figure 8). The broad unemployment rate, which includes people who became unemployed since March 2020 and people who were absent from their jobs due to reasons related to the COVID-19 pandemic, also dropped and is approaching the narrow unemployment rate. Job vacancies continued to rise and remained above the pre-crisis level. As a result, a continuous decline was recorded in the ratio between the number of unemployed people and the number of job vacancies. In the reviewed half year, wages in the business sector rose above their pre-crisis trend, while wages in the public sector increased at a more moderate rate, due to several factors including the deferral of wage agreements during the crisis.

Table 2
Development of GDP, imports and uses
(seasonally adjusted data, quantitative rates of change compared to previous period, in annual terms)

	2019	2020	2021	2020:Q4	2021:Q1	2021:Q2	2021:Q3	2021:Q4	2022:Q1
GDP	3.8	-2.2	8.2	8.9	-0.9	16.6	6.5	15.6	-1.9
Business sector product	4.3	-2.7	9.7	8.7	0.7	19.0	7.8	18.3	-1.7
Imports excluding defense, ships, aircraft, and diamonds	2.9	-7.3	18.3	80.1	13.2	18.4	7.2	27.8	14.5
Private consumption	3.9	-9.2	11.6	20.3	0.5	34.3	4.5	18.2	-1.5
of which : private consumption excluding durable goods	3.8	-9.8	10.8	15.7	10.2	22.4	9.6	19.5	3.7
Public consumption	2.7	2.5	2.8	9.6	-8.9	1.6	5.8	12.9	-7.6
of which : public consumption excluding defense imports	2.6	2.7	3.3	10.5	-10.2	4.5	3.6	10.9	-8.0
Gross domestic investment	3.8	1.0	11.5	57.5	-5.5	7.0	16.0	7.9	29.3
of which : in fixed assets	3.1	-4.0	10.9	50.4	-7.4	6.6	19.5	14.7	2.1
Exports excluding diamonds	5.8	-1.0	12.2	7.3	4.6	16.6	11.3	31.7	-12.5
of which : exports excluding diamonds and startups	5.4	1.1	10.8	3.7	5.8	14.9	8.0	25.3	-7.0

SOURCE: Based on Central Bureau of Statistics.

Figure 8
The Unemployment Rate
March 2020–May 2022



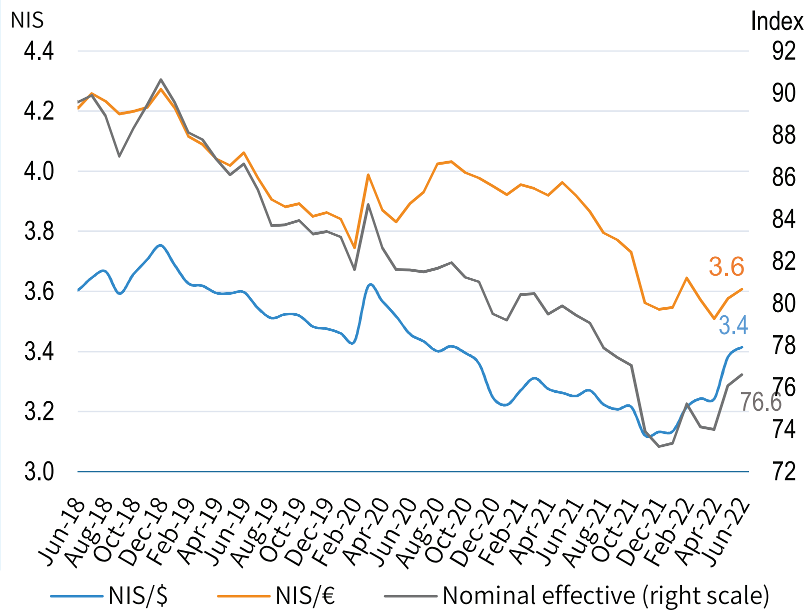
SOURCE: Based on Central Bureau of Statistics.

3. The exchange rate

In the reviewed half year, a depreciation of the shekel occurred. This trend was observed mainly against the dollar. While the shekel-dollar rate showed a mixed trend in the first quarter of the year, the shekel depreciated against the dollar in the second quarter, against the backdrop of the dollar's global appreciation. Depreciation of the shekel further increased toward the end of the reviewed half year. At the same time, the exchange rate against the euro showed a mixed trend. In this period, the shekel recorded a depreciation of 8.9 percent against the dollar and 1.7 percent against the euro (June 2022 average and December 2021 average, respectively). In terms of the nominal effective exchange rate, the shekel depreciated by 4.4 percent (Figure 9).

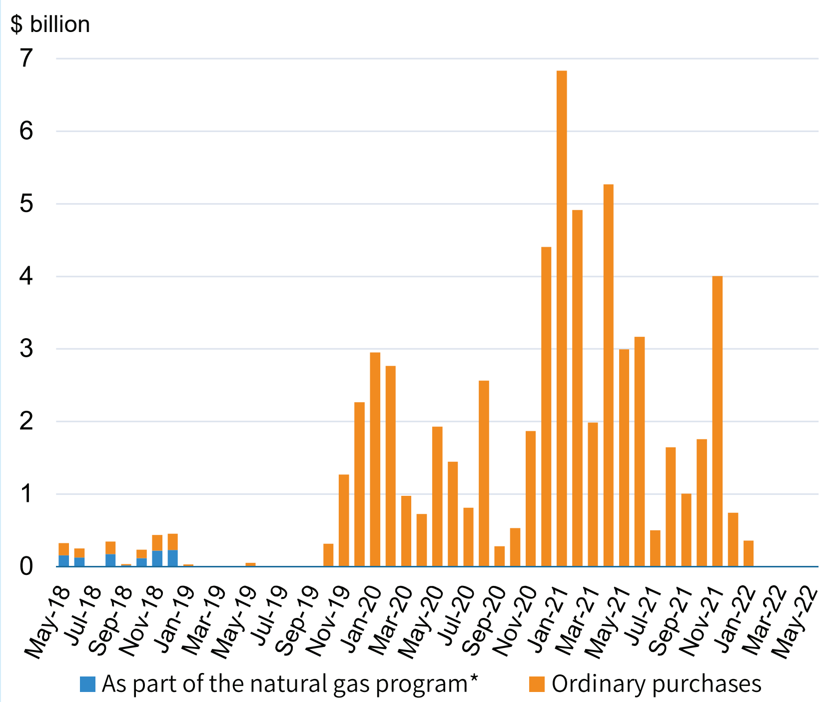
No foreign exchange purchases were recorded from February to June (Figure 10). The Monetary Committee assesses that the shekel's sharp depreciation against the dollar is attributed to several factors, including the large foreign exchange purchases by institutional investors and foreign investors in view of the declining equity prices worldwide. Committee members noted that no change occurred in the basic economic factors that affect the exchange rate, and that the shekel's sharp depreciation against the dollar is a significant contributor to the current rising inflation, especially with respect to tradable products.

Figure 9
Selected Exchange Rates
Monthly averages, June 2018–June 2022



SOURCE: Bank of Israel.

Figure 10
The Bank of Israel's Purchases in the Foreign Exchange Market
May 2018–May 2022



*The program to offset the effect of natural gas production on the exchange rate.
SOURCE: Bank of Israel.

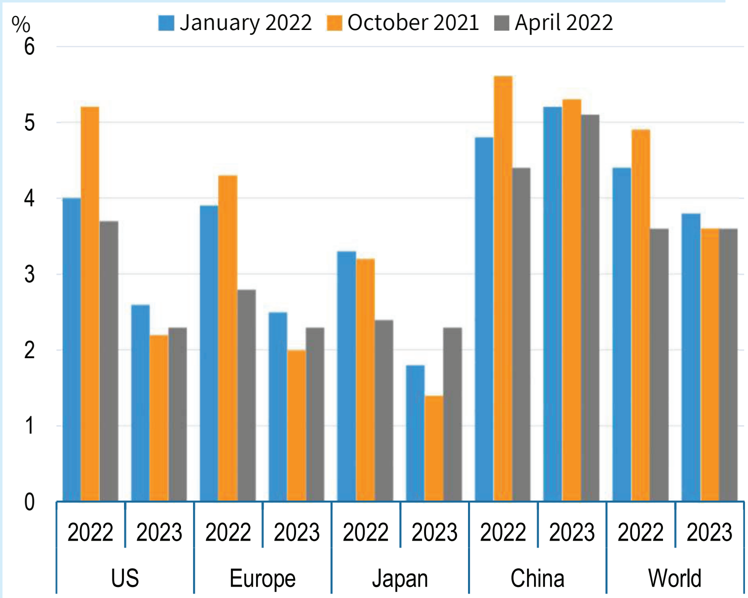
4. The global economy

After an accelerated recovery, the global economy reached a turning point in the reviewed half year and recorded some degree of a slowdown, against the backdrop of global contractionary monetary policies and the war in Ukraine. Rising energy and commodity prices triggered by the war in Ukraine, alongside rising morbidity in China and its policy responses, exacerbated supply chain disruptions and increased inflationary pressure, which contributed to the slowdown in global economic activity. In view of this, international organizations and investment banks revised their growth forecasts downward (Figure 11), together with an upward revision to inflation and interest rate forecasts.

In April, equity market declined sharply with high volatility. In the bond markets, government bond yields continued to rise, against the backdrop of the rising inflation environment and growing uncertainty about the future trajectory of inflation and interest rates. Corporate bond spreads continued to widen worldwide. In most countries, inflation indices were significantly above central bank targets.

Many central banks increased monetary tightening in view of the intensified pace of rising inflation rates. In the US, the Fed increased the interest rate by 150 basis points over three decisions, and announced it will implement measures for quantitative tightening (QT). In the eurozone, the ECB maintained the interest rate unchanged, re-affirmed its intention to end its program to purchase government bonds in the next few months, and signaled that it an interest hike would follow. Interest rates also rose in additional countries where the inflation rate was above central bank targets (Figure 12). As indicated by the rhombus in this figure, the interest hike in Israel occurred when inflation was only slightly above the upper bound of the target range, in contrast to the situation in many countries.

Figure 11
IMF Annual Growth Forecasts for 2022 and 2023

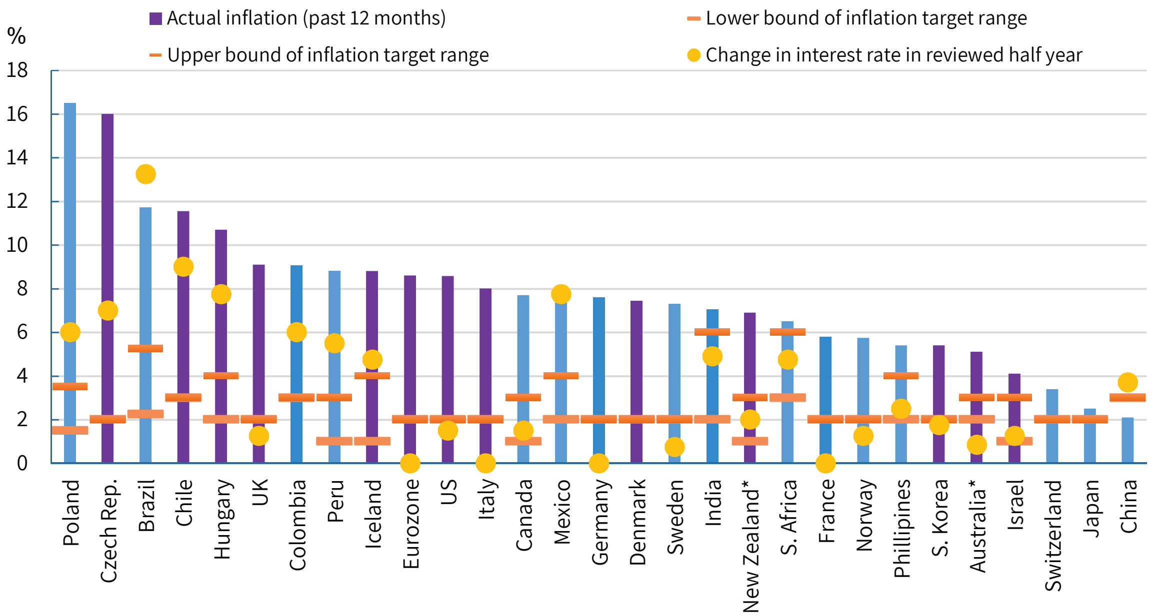


SOURCE: International Monetary Fund.

5. The credit market and developments in financial markets

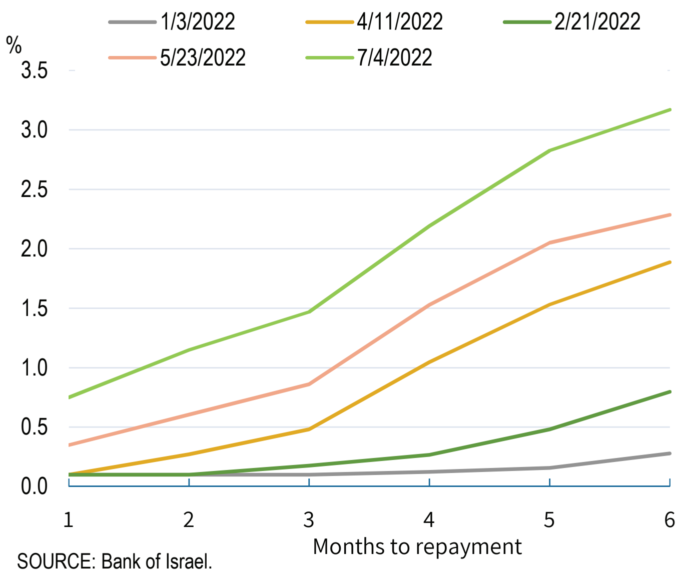
The trend of rapidly expanding business credit continued in the reviewed half year, and the rapid expansion of credit to the construction and real estate industries was especially prominent. Interest rates on business credit increased in all activity sectors. Beginning from mid-April, financial markets recorded a negative trend, with rising bond market yield spreads and falling stock indices, in line with the global trend. Increased volatility was evident in both equity and bond markets. Yield spreads increased in the corporate bond market, as they did across the world, and at end April showed an upward trend, albeit at relatively small yield spreads. Rising yield spreads reflect assessments of an economic slowdown, which increases business risks.

Figure 12
The Inflation Target, Actual Inflation, and the Change in Central Bank Interest Rates in Israel and Advanced Economies
Status as viewed by the Monetary Committee at the July decision



In blue: countries that have not announced tapering.
In purple: countries that have announced tapering.
*Upper and lower ranges appear where there is an inflation range. In other countries inflation is vs. the infatlion target.
SOURCE: Based on Central Bureau of Statistics, OECD, Bloomberg, and central bank websites.

Figure 13
Forward Yield Curve According to Telbor Data on Interest Rate Decision Dates
January–June, 2022



SOURCE: Bank of Israel.

Table 3
Developments in the Domestic Asset Markets

	01/22	02/22	03/22	04/22	05/22	06/22
Yield to maturity (monthly averages, percent)						
3-month *makam*	0.0	0.0	0.1	0.1	0.0	0.4
1-year *makam*	0.0	0.2	0.5	0.8	0.9	1.4
Unindexed 5-year notes	0.8	1.1	1.6	2.0	2.2	2.7
Unindexed 10-year notes	1.4	1.8	2.1	2.4	2.6	3.0
Unindexed 20-year bonds	2.4	2.7	3.0	3.0	3.3	3.6
CPI-indexed 1-year notes	-2.5	-2.2	-2.7	-2.5	-2.1	-2.0
CPI-indexed 5-year notes	-1.9	-1.5	-1.5	-1.0	-0.6	0.0
CPI-indexed 10-year notes	-1.2	-0.6	-0.5	-0.3	0.2	0.5
Yield spread between government bonds and corporate bonds rated AA (percentage points)[a]	1.3	1.3	1.4	1.4	1.8	1.6
Stock market (rate of change during the month)						
General shares index	-0.8	0.5	1.9	0.5	-8.0	-3.7
Tel Aviv 35 Index	-3.1	2.9	2.4	-0.2	-5.7	-3.9
Foreign exchange market (rate of change during the month)						
NIS/$	2.7	1.3	-1.9	4.4	0.6	4.9
NIS/€	1.3	1.8	-2.9	-0.3	1.8	1.7
Nominal effective exchange rate	2.0	0.9	-2.2	2.1	0.9	3.4

[a] The calculation is based on fixed-rate, CPI-indexed bonds, excluding convertible and structured bonds, with a yield of up to 100 percent and a term to maturity of more than 6 months.
SOURCE: Bank of Israel calculations.

6. Fiscal policy

The cumulative deficit continued to decline during the reviewed half year, and reached a mere 0.04 percent of the GDP in May. The declining deficit stemmed mainly from an increase in the revenue side, alongside some decline in expenditure.

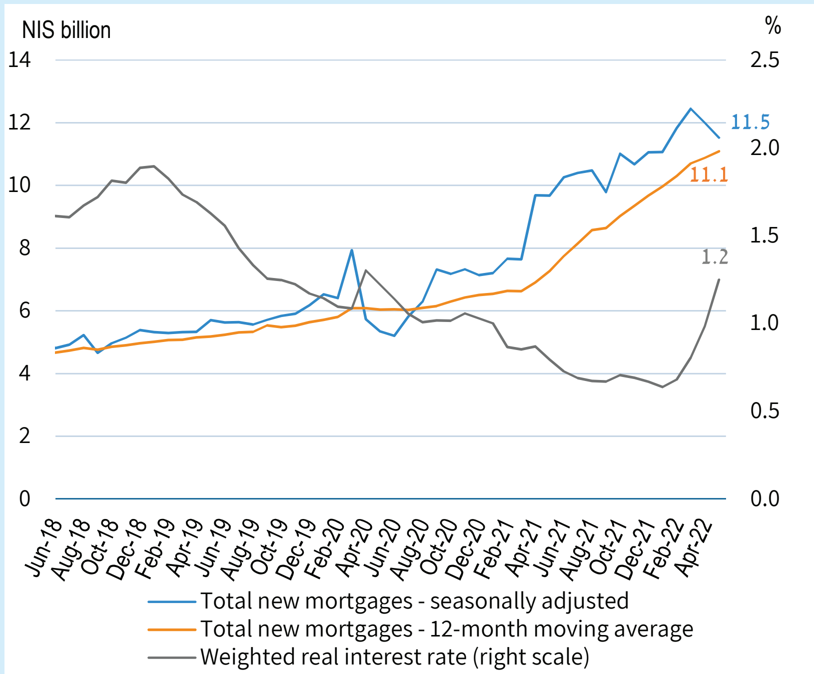
Cumulative tax collection in the reviewed half year increased sharply relatively to the trajectory of the pre-crisis trend. The increase in direct taxes stemmed mainly from collection from companies, self-employed individuals, and property taxes. Indirect taxes also recorded an increase, mainly from an increase in tax revenues on domestic output and specifically in the construction sector. Indirect tax revenues remained slightly above the trend in the reviewed half year. Health tax, which reflects total wage payments, hovered around the trend line in this period. In addition to the sharp rise in revenues, some degree of decline in government expenditure, and specifically a reduction in government expenditure on COVID-19-related programs, also contributed to the decline in the deficit.

7. The housing market

The accelerated increase in home prices, a trend that began in late 2020 and intensified in 2021, persisted in the reviewed half year. In the 12 past months, home prices rose by 15.4 percent (March data), with a concurrent increase in home purchases and new mortgage volume. Toward the end of the reviewed half year, the number of transactions showed some decline, yet remained at a high level (Figure 14). The high rate of new mortgage volume was accompanied by an increase in LTV, PTI, and value of purchased properties. The scope of new construction starts and building permits rose considerably in the reviewed half year and remained high compared to previous years. At the same time, the scope of building completions remained relatively low.

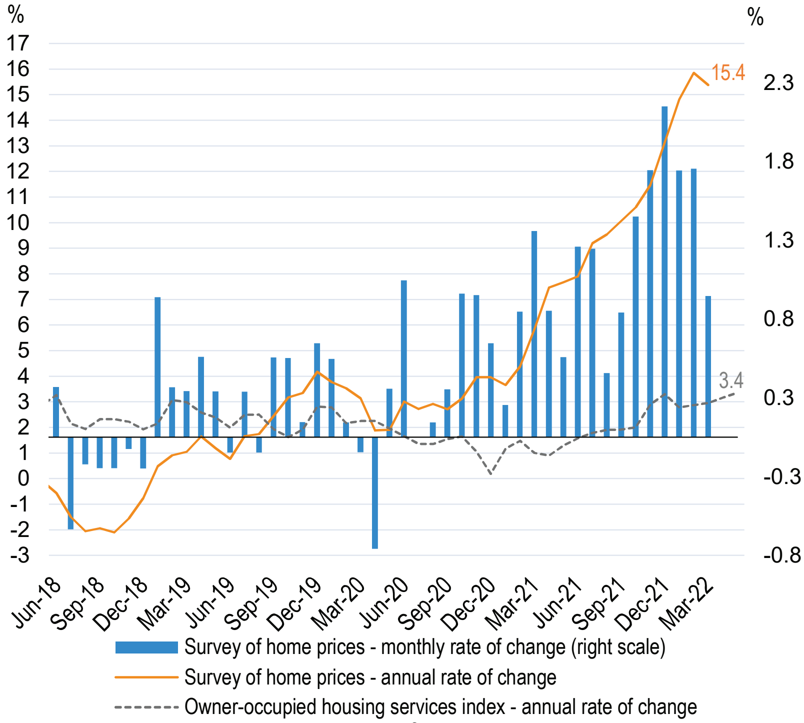
Alongside these developments, a relatively moderate increase was recorded in the weight of the housing component in the CPI. In May, owner occupied housing services, measured by renewed contracts, increased by 3.4 percent, and the rents component rose by1.6 percent, in annual terms, reflecting a growth rate that is slightly below the growth rate in price levels but above the growth rate recorded in the previous half year (Figure 15).

Figure 14
Total New Mortgages, and Real Weighted Interest Rate on Mortgages
June 2018–May 2022



SOURCE: Banking Supervision Department.

Figure 15
Survey of Home Prices and Index of Owner-Occupied Housing Services
June 2018–May 2022



SOURCE: Based on Central Bureau of Statistics.

Macroeconomic Forecast, Expected Trajectories, and Committee Discussions

1. The Research Department's macroeconomic forecast

The Research Department published three staff forecasts during the reviewed half year, concurrent with three interest rate announcements—in January, April, and July 2022.

The inflation forecast for 2022 increased sharply during the reviewed half year, from 1.6 percent in the January forecast to 3.3 percent in the July forecast (over the four quarters ending in the corresponding quarter of the following year). Expected inflation rates for 2022 and 2023 are 4.5 percent and 2.4 percent, respectively (average CPI in final quarter of the year over the average CPI in the final quarter of the preceding year). In view of the significant recent developments, especially with respect to inflation, interest rate forecasts in the reviewed period rose from the range of 0.1–0.25 percent in January (for end 2022 interest rate) to 2.75 percent in the July forecast (for the interest rate in the second quarter of 2023). According to the July forecast, GDP is expected to grow in 2022 by 5.0 percent, which is 0.5 percent less than the April forecast. Also according to the July forecast, unemployment is expected to reach 3.3 percent at end 2022, slightly below its pre-crisis level. The debt-to-GDP ratio was revised downward and is expected to be 66.0 percent in 2022 and 64 percent in 2023 (67 percent and 65 percent, respectively, according to the April forecast for those years).

Table 4

Research Department Forecasts

(rate of change in percent, unless otherwise noted)

Forecast for the years	2022			2023		
Date of forecast	**01/22**	**04/22**	**07/22**	**01/22**	**04/22**	**07/22**
GDP	5.5	5.5	5.0	5.0	4.0	3.5
Private consumption	8.0	8.0	7.5	5.0	5.0	4.5
Fixed capital formation (excluding ships and aircraft)	6.0	5.0	5.0	8.0	4.0	3.0
Public consumption (excluding defense imports)	2.5	4.0	4.0	3.0	3.0	3.0
Exports (excl. diamonds and startups)	3.0	3.0	3.0	5.5	3.0	2.5
Civilian imports (excl. diamonds, ships, and aircraft)	8.0	7.0	7.5	6.5	4.5	3.0
Broad unemployment rate (ages 15+, annual average)	5.4			4.5		
Broad unemployment rate (ages 15+, year-end)	4.8			4.4		
Unemployment rate (annual average, ages 25–64)	3.9	3.5	3.3	3.6	3.4	3.5
Government deficit (percent of GDP)	3.6	1.4	0.7	3.4	2.3	1.2
Debt to GDP ratio	69.0	67.0	66.0	69.0	65.0	63.9
Inflation[a]	1.6	3.6	4.5	2.0	2.0	2.4
Date of forecast	**01/22**	**04/22**	**07/22**			
Inflation in the coming year[b]	1.6	3.1	3.3			
Interest rate one year from now[c]	0.1/0.25	1.5	2.75			

[a] Average CPI inflation in the last quarter of the year compared with the average in the last quarter of the previous year.

[b] In the four quarters ending in the same quarter the following year.

[c] In the same quarter the following year.

SOURCE: Bank of Israel.

2. The expected inflation and growth trajectories

In the reviewed half year, economic activity was continuous, and eliminated the negative deviation from the pre-crisis trend. At the same time, the labor market became tighter and according to several assessments, wages in the business sectors were above the long-term pre-crisis trend. The war in Ukraine and slowdown in manufacturing activity in China, alongside economic recovery, increased inflation pressures, and inflation rose above the upper bound of the target range for the first time since 2011.

According to the staff forecast at the beginning of the reviewed half year, inflation was expected to return to within the target range during the current year and reach the mid-point of the target range (2 percent) at end 2023. According to this forecast, the interest rate is expected to be 0.1/0.25 percent at end 2022.

Over the course of the reviewed half year, the picture revealed to the Committee became increasingly clear, indicating economic activity at a high level together with inflation above the upper bound of the target range. Nonetheless, risks of economic slowdown increased in this half year in view of the sharp drops in equity markets around the world and the resulting risks for real economic activity, especially in the high tech sector.

In the April and July forecasts, inflation and interest forecasts were revised upward. According to the July forecast, in the current year inflation is expected to be 4.5 percent, and in 2023 will reach a point slightly above the mid-point of the target range (2.4 percent). The interest rate is expected to continue to increase gradually in the forthcoming 12 months, up to 2.75 percent at the end of the second quarter of 2023. The growth forecast was revised downward and is expected to be 5.0 percent this year and 3.5 percent next year.

According to this forecast and the Committee's assessments, economic activity is expected to continue at a level that corresponds to the economy's growth capacity. The Committee stressed that the pace of interest rate hikes will be determined according to the data on economic activity and inflation development, in order to continue to support the policy aims.

BOX
Analysis of the correlation between inflation in the Eurozone, the US, and Israel

- The inflation rate in Israel is strongly correlated with the inflation in the US and the eurozone, which are Israel's main trading partners. This strong correlation largely stems from the joint effect of energy prices on prices in various countries. This correlation has weakened in recent years, and inflation in Israel was lower than the inflation rates recorded in the eurozone and in the US.
- Despite the strong correlation observed for the general CPI, the correlation with core inflation* is weaker. Specifically, core inflation in Israel may deviate considerably from core inflation in the US or in the eurozone.
- It is reasonable that the current rapid growth in core inflation in the US and the eurozone, and the more moderate pace recorded in Israel, mainly reflect similar domestic developments and do not necessary indicate a causal route of influence between inflation rates.

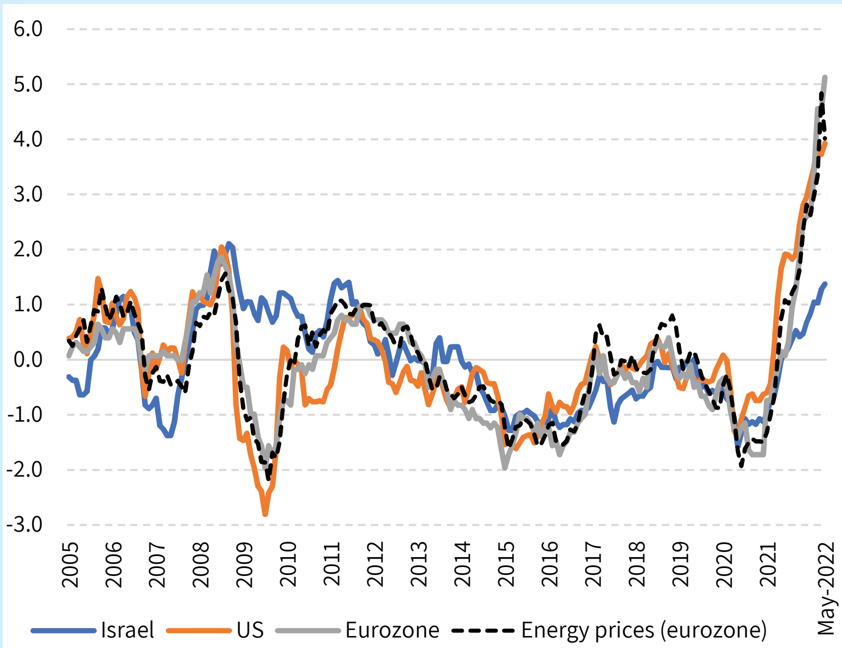
The inflation rate in Israel and in other advanced economies increased significantly concurrently with the recovery from the COVID-19 crisis. After a period of negative inflation rates, inflation in the advanced economies soared to levels that had not been observed for many years. In view of this development, the question arises as to the extent to which inflation in Israel tends to follow global developments in inflation.

* There is no official definition of core inflation in Israel. In this box, for convenience, and in regard to comparisons with the US and Eurozone, the term "core" was used for inflation net of energy, food, and fruit and vegetables.

To shed light on this issue, we examined the development of inflation in Israel, and compared it to the inflation in Israel's main trading partners — the eurozone and the US ("the comparison countries"). Such an examination also allows us to address the question of whether inflation in Israel is more strongly affected by inflation in the eurozone or by inflation in the US.

Figure 1 presents the development of annual inflation in Israel and in the comparison countries, where inflation is presented in standard-deviation terms. This comparison shows the close correlation of inflation rates. In effect, with excluding exceptional events such as the financial crisis of 2009, the trajectory of inflation in Israel up to 2020 clearly developed in line with inflation in the US and the eurozone. This figure also presents the annual rates of change in the energy component of the general CPI (in the eurozone). This comparison shows that inflation in Israel and in the comparison countries develops in line with fluctuations in energy prices, with the exception of recent months.

Figure 1
Annual Inflation in Israel, US, and Eurozone, and Energy Prices (in Eurozone)
2005–22



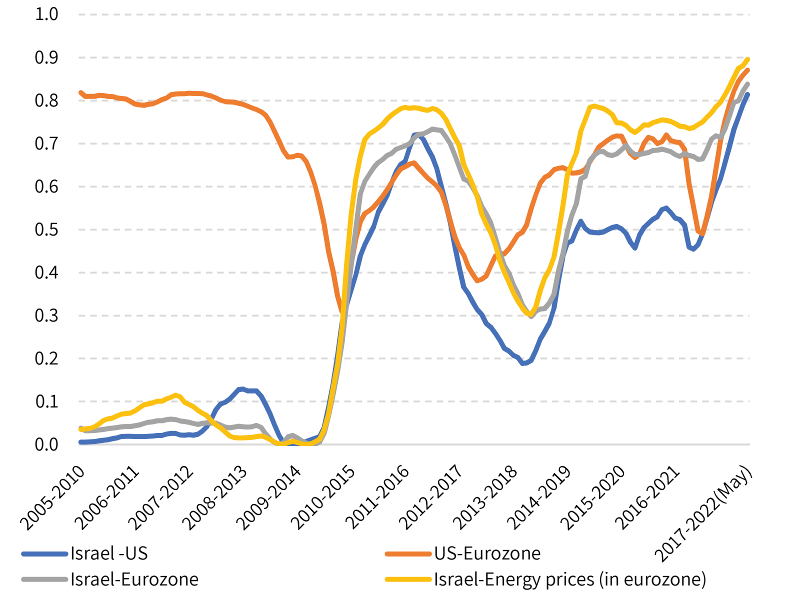
*Inflation is normalized (mean of zero, standard deviation of 1)
SOURCE: Based on OECD data.

Figure 2, using a moving window, shows the correlation between inflation rates alongside the correlation with the energy component. This figure illustrates the close correlation between inflation in the US and in the eurozone over the reviewed period, and the close correlation between inflation in these countries and in Israel in the past decade. For example, in the years preceding the COVID-19 crisis, about half the variance in inflation in Israel can be explained by the inflation rate

Figure 2

Correlation (R^2) between Annual Inflation in Israel, the Eurozone, and US, and Energy Prices (in the Eurozone)

2005–22



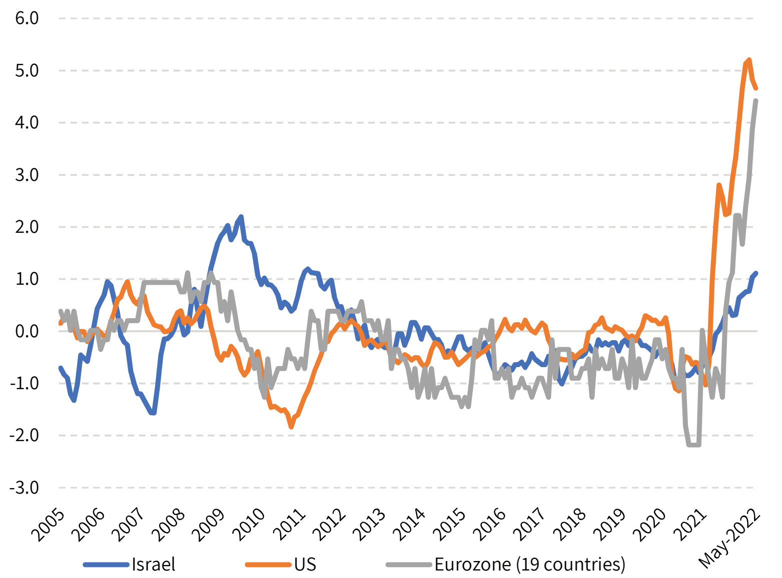
*(60-month moving window)

SOURCE: Based on OECD data.

Figure 3

Annual Core Inflation in Israel, US, and Eurozone

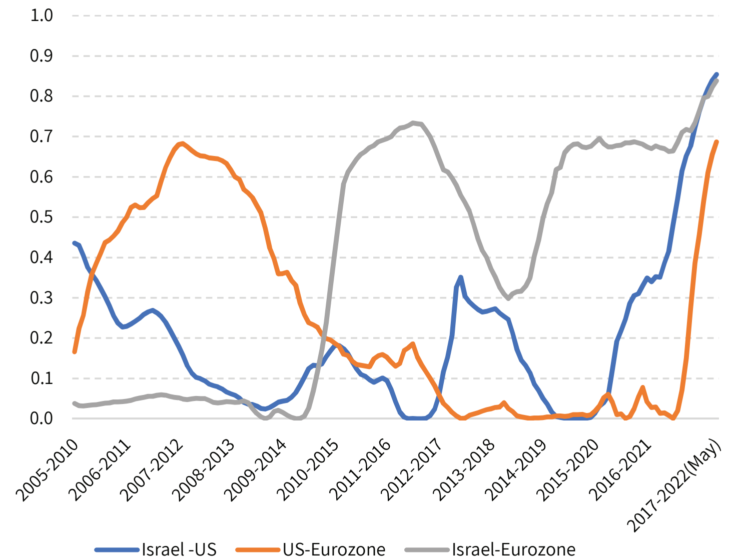
2005–22



*Inflation excluding food and energy, the rate is normalized (mean of zero, standard deviation of 1)

SOURCE: Based on OECD data.

Figure 4
Correlation (R^2) between Core Annual Inflation in Israel, the Eurozone, and the US
2005–22



*(60-month moving window)
SOURCE: Based on OECD data.

in the comparison countries. Alternatively, a similar percentage of the variance can be explained by fluctuations in energy prices. It therefore seems that energy prices are the common element that underlies the close correlation between these inflation rates. As such, it is reasonable that the more moderate increase in energy prices in Israel in the past year compared to the comparison countries provides some explanation for the weakening correlation between inflation rates in this period.[1]

Empirical studies in recent years documented a strong association between the inflation rates of advanced economies beginning from the early 1990s, and some strengthening of this association in the years following the financial crisis. Generally accepted explanations for this finding are the adoption of similar inflation targets and the increasing weight of the global inflation component as a result of increasing global integration of supply chains and manufacturing.[2]

Despite the close association observed for the general CPI, this association is weaker for core inflation, which is conventionally indicated by inflation excluding energy, food, and fruit and vegetables.[3] For example, less than 10 percent of the variance in core inflation in Israel in the year preceding the

1 Rising prices in the energy component last year stem from several factors including a hike in global natural gas prices. In contrast to other countries, the weight of natural gas in the CPI is negligible and its price in Israel is relatively stable.

2 See the discussion in Auer and Filardo (2017), and the box in the Bank of Israel Annual Report for the Year 2018. According to Cicarelli and Mojon (2010), in advanced economies inflation essentially acts as an error-correcting mechanism.

3 The weak correlation between core inflation in advanced economies is discussed in Forbes (2018, 2019).

COVID-19 crisis is explained by core inflation in the comparison countries (Figures 3 and 4). That is to say, when excluding energy (and food) prices, the association between inflation rates becomes relatively weak.

To shed light on this issue, we conducted a formal analysis and examined how fluctuations in inflation in Israel's trading partners are reflected in inflation rates in Israel. To address this question, we estimated the inflationary response in Israel to a 1 percent change in inflation in the comparison countries, controlling for economic activity levels and inflation expectations.

Formally, we estimated:

$$(1)\quad \ln(p_{t-1+h}) - \ln(p_{t-1}) = \alpha_1 + \beta_h \pi_t^{foreign} + \sum_{j=1}^{12} \omega_j \pi_{t-j}^{foreign} + \sum_{j=1}^{12} \tau_j \pi_{t-j}^{isr} + \sum_{j=1}^{12} \delta_j X_{t-j} + \varepsilon_t$$

for h = 1, ….H

where p is the level of prices in Israel, $\pi^{foreign}$ is inflation in one comparison country, X is the vector of control variables that includes inflation expectations, exchange rate, and monthly estimate of output gap[4] lagged by one period. [5]

The estimation was performed for monthly data in the period from 2003 to 2019, and calculated separately for the US and the eurozone.[6]

The results of this estimation show that a 1 percent increase in inflation in the comparison countries corresponds to a similar increase in price levels in Israel. The effect is fully expressed within a relatively short period of approximately three months (Figures 5 and 6), but the correlation dissipates when controlling for energy prices or when eq. (1) is estimated for core inflation (Figures 7 and 8). This result reinforces the conclusion that the correlation between foreign inflation and inflation in Israel stems mainly from fluctuations in energy prices, and that the association between these inflation rates is relatively weak when the energy component is excluded.

4 The output gap was calculating using the combined index data and the bHP filter developed by Phillips and Shi (2021).

5 Because foreign inflation is an exogenous factor of domestic inflation and because the control variables appear in the equation only with a lag, we omitted from the equation domestic factors that might indirectly mediate the effect of foreign inflation on domestic inflation. Consequently, the estimation results reflect the effect of foreign inflation, both as a result of its direct effect and the effects of other domestic variables that affect it (for example, through exchange rate, output gap, and inflation expectations).

6 The research period includes the years after expectations were anchored and preceding the COVID-19 crisis. Similar results are obtained when these estimations are calculated without the control variables in Vector X.

Figure 5
The Impact of Inflation in the US on Inflation in Israel
The cumulative response to a 1 percent change on annual inflation in Israel

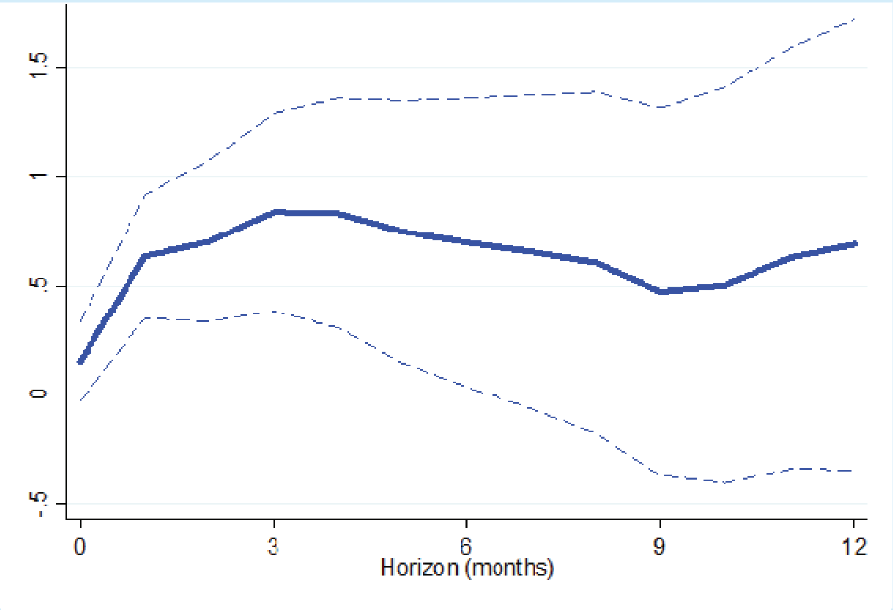


Figure 6
The Impact of Inflation in the Eurozone on Inflation in Israel
The cumulative response to a 1 percent change on annual inflation in Israel

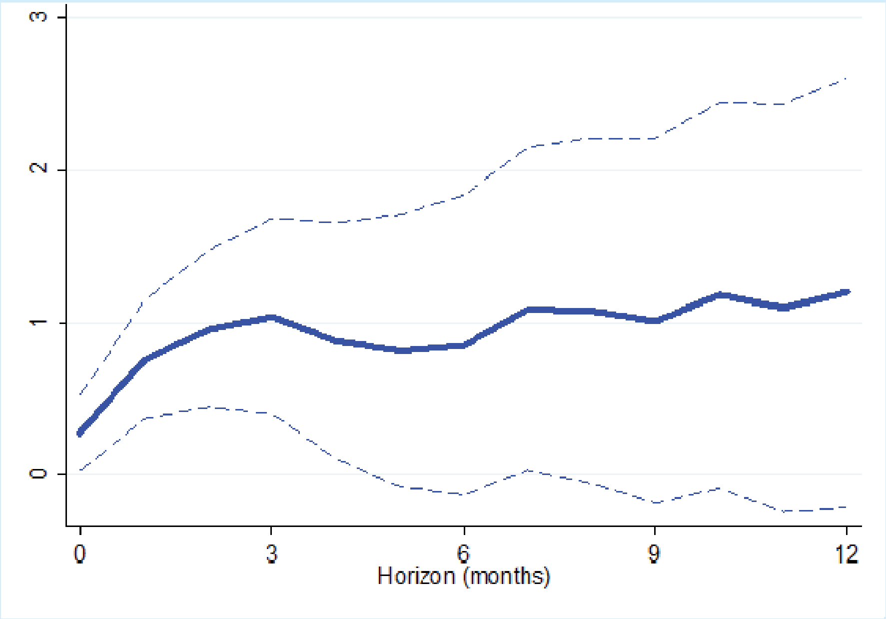


Figure 7
The Impact of Core Inflation in the US on Core Inflation in Israel
The cumulative response to a 1 percent change on annual inflation in Israel (excluding food and energy and fruit and vegetables)

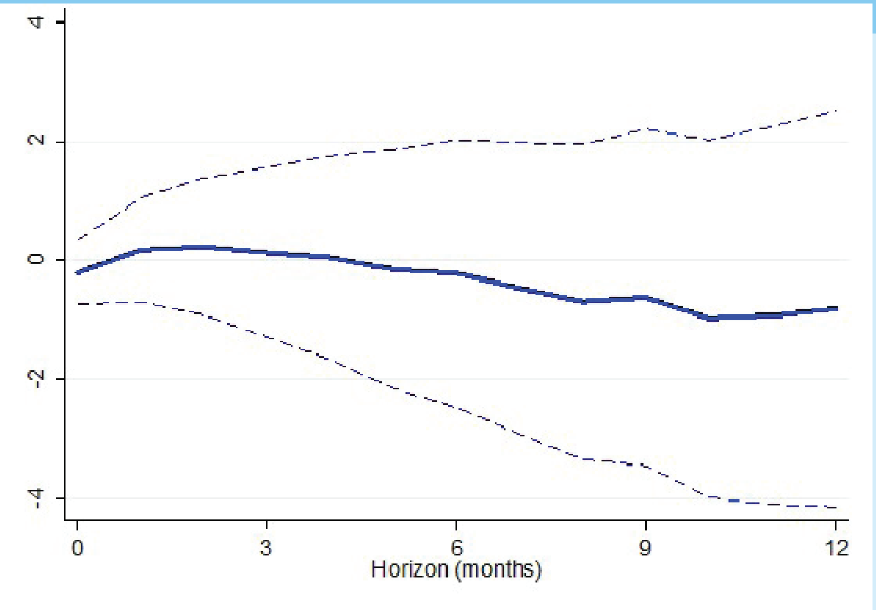


Figure 8
The Impact of Core Inflation in the Eurozone on Core Inflation in Israel
The cumulative response to a 1 percent change on annual inflation in Israel (excluding food and energy and fruit and vegetables)

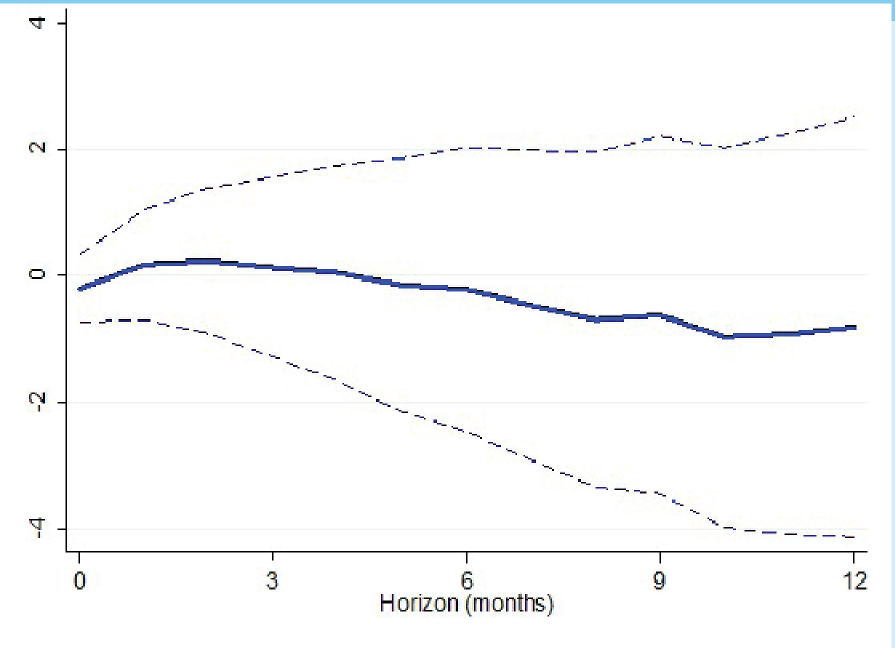
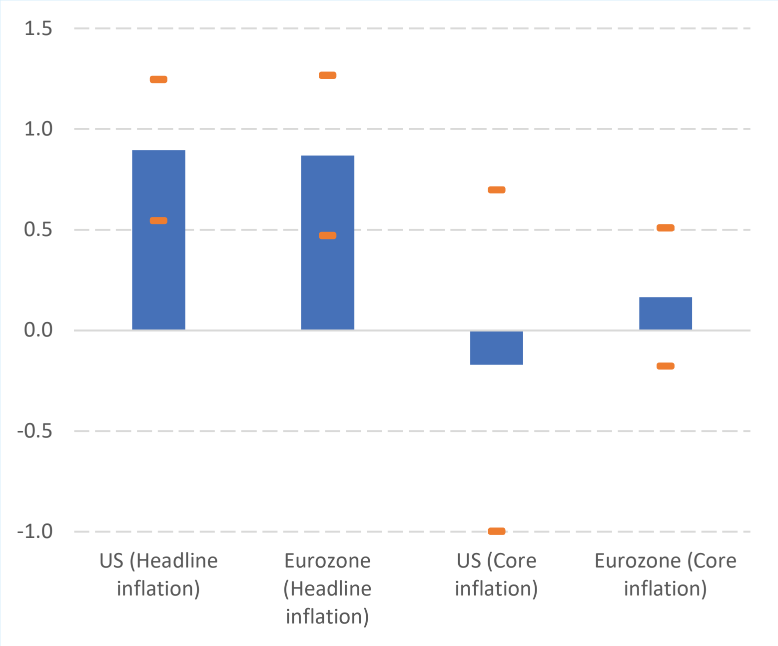


Figure 9
The impact of a change in inflation in the Eurozone and in the US on inflation expectations in Israel
The impact of a 1 percent change in inflation in the comparison countries on inflation expectations in Israel for the coming 12 months



A similar conclusion arises from an examination of the effect of foreign inflation on inflation expectations in Israel. A 1 percent increase in the general CPI in the comparison countries is expressed as a slightly lower than 1 percent increase in inflation expectations in Israel (one year forward). In contrast, an increase in core inflation in the comparison countries is not significantly reflected in inflation expectations in Israel (Figure 9).[7]

Taken together, these tests lead to the conclusion that the strong association between inflation in Israel and in the comparison countries stems from the shared influence of energy prices on inflation, and that the effects through other channels are apparently limited.[8] Furthermore, no significant

7 In this test we ran a regression in which inflation expectations in Israel in period t are explained by the inflation in a comparison country in the quarter preceding period t. Formally we ran the following:

where is forecasters' inflation expectations (12 months hence). The results are the sum of the coefficients. . Similar results are obtained after omitting the control variable vector.

8 According to the uniform pricing hypothesis (weak version), rising prices overseas relative to domestic prices will be expressed in a strengthening of the domestic currency and the real exchange rate will remain around a fixed mean over time. Accordingly, an increase in core prices overseas relative to Israel is expected to be reflected in a currency appreciation that will moderate the domestic price effect to some degree. This channel may also have some contribution to the weak association found between core inflation rates. In contrast, an increase in prices overseas that stems from an increase in the price of a component shared by all countries, such as an increase in energy prices, will not be reflected in a change in relative prices and therefore may have a different effect on exchange rates.

differences were found between the effect of inflation in the eurozone and the effect of inflation in the US on inflation in Israel.

In conclusion, the results of the tests presented in this box show that the trajectory of inflation in Israel develops in line with the trajectory of inflation in the US and in the eurozone, which are Israel's main trading partners. The close correlation mainly reflects the shared effect of energy prices on inflation. A different picture emerges for core inflation, where the association between core inflation in the eurozone, the US, and Israel is relatively weak. Specifically, Israel's core inflation may deviate from the trajectory of its trading partners' core inflation over time. Consequently, it is reasonable that the current intensification in inflation that was recorded in the US and the eurozone, and to a more moderate degree in Israel, mainly reflects similar domestic developments and does not necessarily indicate a causal connection between inflation rates.

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