*Chapter 2*

# *Aggregate Activity: GDP and Employment*

- The COVID-19 pandemic and the response to it led to a major economic crisis, which was reflected in a 2.5-percent drop in GDP and a 9.4-percent drop in the number of employees actually working.
- In order to deal with the pandemic, the government imposed lockdowns and restrictions, most of them in "close-proximity" industries (in which the industry's routine activity involves close and prolonged contact, the presence of a crowd in a closed space, or the crossing of borders). The effect of these restrictions produced a record 9.5-percent decline in private consumption and a drop of about 90 percent in incoming tourism beginning in March.
- The economic fallout was primarily concentrated in close-proximity industries, while activity in other industries recovered almost completely after the first lockdown.
- Businesses' response to the restrictions included the furloughing of many workers. The broad unemployment rate was 16 percent on average during 2020, and at its peak during the first lockdown, it reached 37 percent of the labor force.
- Most of the furloughed workers were employed in close-proximity industries, which are characterized by low average productivity. As a result, the drop in GDP was less than the decline in total work hours and less than the decline in the number of employees who continued to work. Dealing with the employment situation is one of the main short-term challenges awaiting a new government.
- Although the decline in private consumption in Israel was larger than the average decline in the OECD, the overall decline in Israel's GDP was less than in most of the OECD countries. This outcome can primarily be attributed to the continuing rapid growth in Israel's exports of high-tech services and its low level of dependency on incoming tourism.
- The government acted to mitigate the effects of the crisis by providing unprecedented support for the unemployed and for businesses, alongside additional assistance to households. It is estimated that the additional public expenditure due to the response to the crisis prevented the loss of between 1.9 and 2.6 percent of GDP in 2020. Thus, private disposable income, i.e. after taxes and transfer payments, increased by 3.9 percent in spite of the crisis.
- The drop in consumption and the rise in disposable income increased private savings. This apparently reflected forced saving as a result of the restrictions imposed on economic activity, together with a low rate of substitution between the services provide by restricted industries and other types of consumption. This is an indication of the ability to return to a high level of activity when the economy reopens completely.
- The increase in private savings was larger than the drop in public savings, such that national savings increased, thus supporting the expansion of the current account surplus to 5 percent of national income. The closing of the skies contributed $2.6 billion to the current account surplus, a result of the surplus of tourism imports over tourism exports prior the crisis.

- High-tech output grew by 6 percent in 2020, although the growth was not uniform across high-tech companies or industries, and which helped to mitigate the crisis's effect on the economy. The revenue and exports of the high-tech sector rose continuously during the crisis this year, while the sector's employment declined from the beginning of the crisis until August and then subsequently recovered to its precrisis level.
- Activity in the construction industry slowed from March onward. However, the fact that the industry was exempted from the lockdowns helped to mitigate the effect. In 2020, residential building starts declined by about 3.5 percent, and the number of building completions fell by about 8 percent, while nonresidential building starts fell by about 13 percent relative to 2019. The number of building approvals granted by the district councils also declined, as did the marketing of land by the Israel Land Authority.

## 1. MAIN DEVELOPMENTS

The COVID-19 crisis, which began in February, led to an unprecedented decline of 2.5 percent in GDP.

Aggregate economic activity in Israel was primarily influenced by the effects of the COVID-19 pandemic and the response to it, as was the case in the rest of the world. As a result of the pandemic, GDP fell this year by an unprecedented 2.5 percent (a 4.2 percent decline in per capita GDP), which implies a loss of output of about 5.5 percent relative to potential growth, i.e. about NIS 77 billion.

The government imposed three lockdowns and numerous restrictions that had a major impact on close-proximity industries.

This is a unique crisis, since it began with an exogenous shock, namely the appearance of the COVID-19 virus in China and its rapid spread to the rest of the world, including Israel, at the end of February. The onset of the pandemic led to an economic crisis, primarily due to the policy response, whose goal was to limit the spread of the pandemic. The policy response began with the closing of the skies to incoming tourism and a prohibition of activity involving the congregating of people, and peaked during three lockdowns of about six weeks duration each (March–April, September–October and December 2020–January 2021), during which many businesses were required to close or to curtail their activity. Israelis were called on to remain at home, there were restrictions on congregating, and the educational system discontinued activity involving physical proximity for all age groups and switched instead to distance learning. The closure of the education system, in addition to the direct effect on learning, forced many parents to be absent from work in order to care for their young children.

The economic impact of the first lockdown was substantial, while that of subsequent lockdowns was less so.

Most of the restrictions were focused on businesses in industries involving physical proximity and congregating or the crossing of borders (herein: "close-proximity industries", such as hotels and food services, entertainment and leisure, transportation, education, and nonessential commerce). These industries primarily involve private consumption, which dropped by 9.5 percent this year, and incoming tourism, which ceased almost entirely beginning with the onset of the pandemic. During the first lockdown, activity in the public sector was also cut back significantly, and during the first two lockdowns, the entry of Palestinian workers into Israel was restricted, which

created a difficult situation for the construction industry (see Box 2.3). Most of the adverse effect on the economy can therefore be attributed to the restrictions imposed on business activity in the close-proximity industries, which were aimed at mitigating the health effects of the pandemic. The various restrictions on activity in general, and the lockdowns in particular, lowered the income, consumption, and welfare of many individuals. It is not possible to determine what the scope of the economic cost—or the cost in terms of health—of the COVID-19 pandemic would have been if that policy had not been adopted. It is reasonable to assume that in such a situation the health outcome would have been much worse, but we do not know how the public would have adjusted its economic behavior to the health crisis, with respect to either the character of the response or its intensity.

The effect of the crisis and the restrictions varied across industries.

The lockdowns had a massive economic impact over the course of the year. The first lockdown went into effect without any preparations having been made, and as a result there was massive economic fallout. In contrast, the subsequent lockdowns were imposed after businesses and the government had made arrangements to operate remotely (where that was possible), so their economic effects were more limited. It is important to note that some of the activity that involves congregating was also restricted between the lockdowns and rules were imposed on the manner in which businesses could remain open (the "purple standard"), such that the macroeconomy was unable to operate at its normal pace.

Alongside the clear direct negative effects on businesses in the close-proximity industries, the effect on other businesses varied. Some industries experienced an increase in activity as a result of substitution, since consumers redirected their expenditure from activity that had been restricted (leisure and restaurants) to the purchase of goods whose sale was permitted (such as food and electrical appliances). Other industries experienced a drop in demand, whether because they supply intermediate goods and services to industries that were directly affected or because they were affected by changes in consumption habits as a result of the crisis. This was seen in particular in the consumption of gasoline.

The broad unemployment rate jumped to 16 percent, and at its peak reached 37 percent. Most of those who were furloughed were employed in relatively low-paying jobs.

The COVID-19 crisis created a high level of uncertainty with respect to health, which also led to high economic uncertainty.

The restrictions on routine business activity, alongside the drop in demand experienced by some businesses because individuals preferred to remain at home or because their income had fallen, led to a direct and significant drop in business income. As a result, when the first lockdown was imposed, many businesses cut their current expenses, particularly labor costs for workers whose employment was no longer possible or necessary. In order to prevent massive layoffs and to calm the markets, the government loosened the conditions of eligibility for unemployment benefits, including for furloughed workers. Indeed, the broad unemployment rate (which includes workers who were dismissed or furloughed as a result of the pandemic, as well as jobseekers who have despaired of finding a job) skyrocketed. The average annual broad unemployment rate was about 16 percent, and at its peak it reached more than 37 percent. The average wage of furloughed workers was lower than that of employees who continued to work, since the industries that were most affected by the crisis are characterized by relatively low wages. As a result, a gap formed between

The government and the Bank of Israel took unprecedented measures to mitigate the effect of the crisis.

the sharp drop in total work hours (of about 9 percent) and the more moderate drop in GDP. Although this was reflected in a technical increase in labor productivity and the average wage, in actuality the wage of workers who continued working rose by a negligible amount at most. (For further details, see Chapter 5 in this report.)

Israel's GDP declined less than that of other OECD countries, although Israel's consumption fell more.

The beginning of the COVID-19 pandemic was characterized by a high level of health uncertainty. This was reflected in the TA35 index, like other leading indices worldwide, which fell by 30 percent between mid-February and mid-March 2020. In March 2020, the VIX index rose to its highest level since the 2008–9 crisis, and its Israeli counterpart—the VTA35—also rose sharply.[1] Uncertainty moderated after the first wave, when the capital markets stabilized and began to rise. Nonetheless, the rest of 2020 was characterized by high uncertainty, due to fluctuations in infection rates, the lockdowns, and the uncertainty as to when a safe and effective vaccine or treatment would be found. This was accompanied by continuing government instability during the crisis. It is possible that, above and beyond the saving that was forced on the public as a result of the restrictions and the lockdowns, the fears regarding the situation, and the resulting precautionary saving also contributed to the drop in private consumption.

At the beginning of 2020, the economy was in a healthy situation, apart from the large structural deficit and low labor productivity.

In order to mitigate the effect of the crisis, the government and the Bank of Israel made unprecedented use of policy tools. The government increased support for the unemployed and businesses that were adversely affected, partly in order to prevent a spillover to the rest of the economy. It initiated numerous programs to support various industries in the economy, including the establishment of funds to provide partially guaranteed loans to businesses; the easing of conditions of eligibility for unemployment benefits, including for furloughed workers; grants to the self-employed; compensation to businesses; universal grants to all citizens; a worker retention grant; and additions to the healthcare budget.[2] The Bank of Israel lowered the interest rate, which was already near zero prior to the crisis, and employed a number of unconventional and broad policy tools. The commercial banks were given access to low-interest loans in order to provide credit to small businesses; the Bank of Israel purchased government and corporate bonds in order to maintain the interest rates in the market at a relatively low level; it purchased foreign currency in order to limit the appreciation of the shekel; it instituted a loan repayment deferral program; it adopted measures to increase credit in the economy; and more. (For a full survey of actions taken by the Bank of Israel to deal with the COVID-19 crisis, see Chapter 3 of this report.)

In response to the pandemic, the government restricted activity, particularly in the close-proximity industries.

Overall, the crisis's adverse effect on Israel's GDP was more moderate than in most of the OECD countries, while the drop in private consumption was steeper in Israel (Table 2.1; Figure 2.1). These differences indicate that the restrictions on economic activity in Israel, which mainly affected private consumption, were more stringent than in other countries. Moreover, the fact that the difference in the drop in consumption was substantially larger than the difference in the intensity of the restrictions indicates

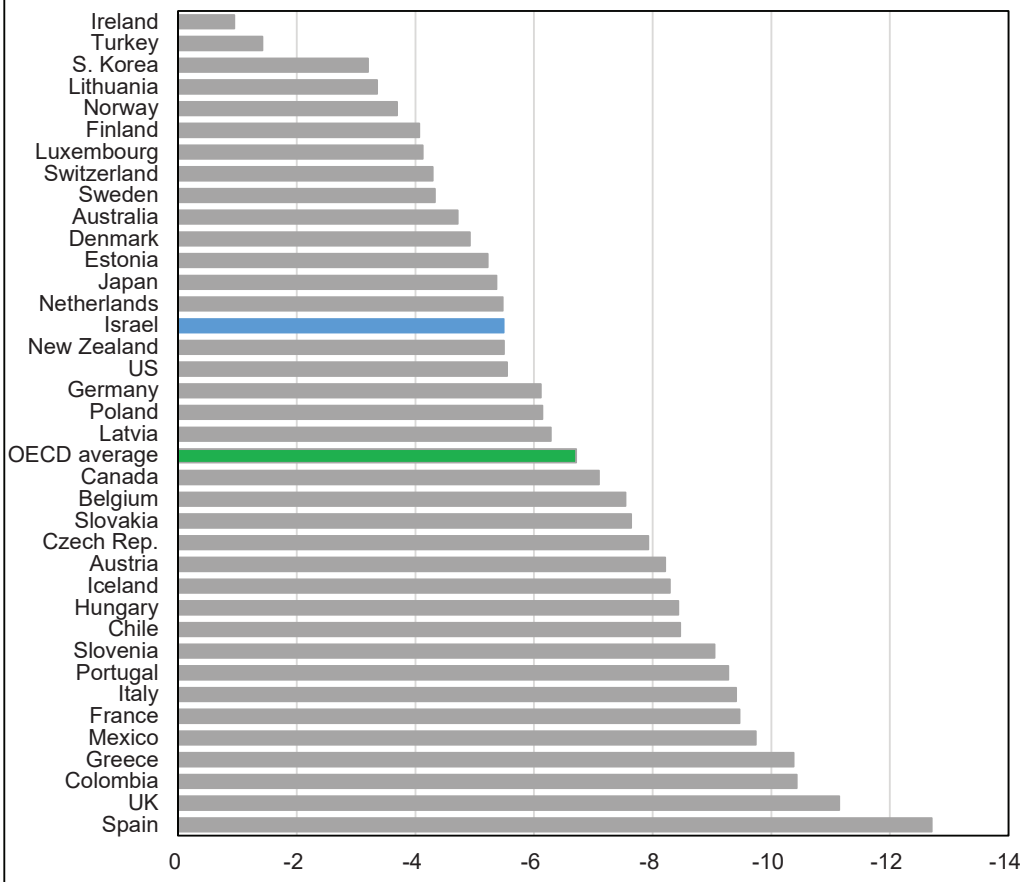
[1] The VIX Index measures the standard deviation implicit in options on the S&P 500 share index, and is used as a measure of volatility in the equity market. As a result, it is also called the "fear index". The VTA35 index plays the same role for the TA35 Index.

[2] For further details on the government measures, see Chapters 5, 6, and 7.

that the response of individuals to the crisis and to the restrictions was stronger in Israel than in other OECD countries, and the harm to their welfare was therefore greater.

In contrast, a number of developments worked this year to mitigate the intensity of the effect on Israel's GDP, although their contribution to consumption, and therefore to the welfare of individuals, in Israel in the short term was much more limited. The main development was the continued growth of the high-tech industry in Israel (Box 2.2). This industry, which is primarily based on the export of business services, has been leading Israel's growth during the past decade. This year again its exports grew,

**Figure 2.1**
**Reduction in Growth in OECD Countries in 2020: Difference Between Actual Growth and Precrisis Growth Forecast** (percentage points)*




* The precrisis forecasts are the average of the OECD Economic Outlook published in November 2019 and the IMF World Economic Outlook published in October 2019. Growth in 2020: Israel—Central Bureau of Statistics; OECD countries—based on quarterly data for all 4 quarters in 2020.

SOURCE: Based on OECD.

such that total services exports (excluding tourism) increased by 11.0 percent this year. This increase during the pandemic is explained by increased technological needs worldwide as a result of the pandemic, and the ability of high-tech workers to work from home to a large extent. Furthermore, the Israeli economy's relatively low exposure to incoming tourism reduced the effect of this industry's global freeze on Israel. These structural factors, together with the drop in the global price of oil, the fact that prior to the crisis outgoing tourism was greater than incoming tourism, and the drop in demand for vehicles, continued to improve Israel's current account surplus this year (Tables 2.1 and 2.2).

**Table 2.1**
**Selected indicators of economic activity, 1995–2020**

(annual change, percent)

| | 1995–2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|
| GDP | 3.7 | 3.8 | 3.6 | 3.5 | 3.4 | -2.5 |
| GDP of OECD countries[a] | 2.2 | 1.8 | 2.6 | 2.3 | 1.6 | -5.5 |
| Per capita GDP in Israel | 1.6 | 1.8 | 1.6 | 1.5 | 1.5 | -4.2 |
| Per capita GDP in OECD countries[a] | 1.5 | 1.2 | 2.0 | 1.7 | 1.1 | -6.1 |
| Per capita private consumption in Israel | | 4.2 | 1.4 | 1.7 | 1.7 | -11.1 |
| Per capita private consumption in OECD countries[a] | | 1.2 | 1.8 | 2.2 | 1.6 | -6.0 |
| Exports excluding diamonds and startups | 6.4 | -0.8 | 5.5 | 6.0 | 5.5 | 1.9 |
| Domestic uses | 3.3 | 6.6 | 4.2 | 3.3 | 3.5 | -4.7 |
| Unemployment rate (ages 15+, level) | 7.8 | 4.8 | 4.2 | 4.0 | 3.8 | 4.4 |
| Broad unemployment rate (ages 15+, level)[b] | | | | | | 15.7 |
| Real wage per employee post | 0.9 | 2.8 | 2.8 | 2.7 | 2.0 | 7.8 |
| Current account surplus (percent of GDP) | 0.9 | 3.7 | 2.9 | 2.7 | 3.4 | 5.0 |
| Real effective exchange rate[c] | 0.0[d] | -1.5 | -4.4 | 2.1 | -2.5 | -3.1 |

[a] Weighted average according to each country's GDP. Data for 2020 are based on estimates.
[b] Including the unemployed, those temporarily absent for reasons having to do with COVID-19 (including furloughs), nonparticipants who were dismissed from March 2020 onward, and nonparticipants who stopped working for other reasons or did not work in the past and are interested in working now, but have not looked for work in the past month due to reasons having to do with COVID-19. This figure was defined in 2020 due to the COVID-19 crisis, and is therefore not reported for previous years.
[c] An increase means depreciation.
[d] The figure relates to the years 1999–2014.
SOURCE: Based on Central Bureau of Statistics, OECD, and IMF.

**Table 2.2**

**Global economic developments, 1995–2020[a]**

(annual change, percent)

| | 1995–2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020[b] |
|---|---|---|---|---|---|---|---|
| **Advanced economies** | | | | | | | |
| GDP | 2.4 | 2.3 | 1.8 | 2.6 | 2.3 | 1.6 | -5.5 |
| Trade[c] | 5.6 | 4.3 | 2.2 | 4.7 | 3.0 | 1.4 | -10.1 |
| **US** | | | | | | | |
| GDP | 2.8 | 2.9 | 1.6 | 2.4 | 2.9 | 2.4 | -3.4 |
| **Eurozone** | | | | | | | |
| GDP | 1.6 | 2.1 | 1.9 | 2.5 | 1.9 | 1.2 | -7.2 |
| **Developing economies** | | | | | | | |
| GDP | 6.1 | 4.3 | 4.6 | 4.8 | 4.5 | 3.9 | -2.4 |
| Trade[c] | 8.4 | 0.3 | 2.4 | 7.4 | 4.5 | 1.3 | -8.9 |
| **World trade** | 6.4 | 2.8 | 2.4 | 5.8 | 4.0 | 1.0 | -9.6 |

[a] The averages of the various aggregates are weighted averages. Data for 2020 are based on estimates.

[b] Data for 2020 are based on estimates.

[c] Simple average of the rates of change of exports and imports of goods and services.
SOURCE: Based on OECD and IMF.

### a. Background conditions

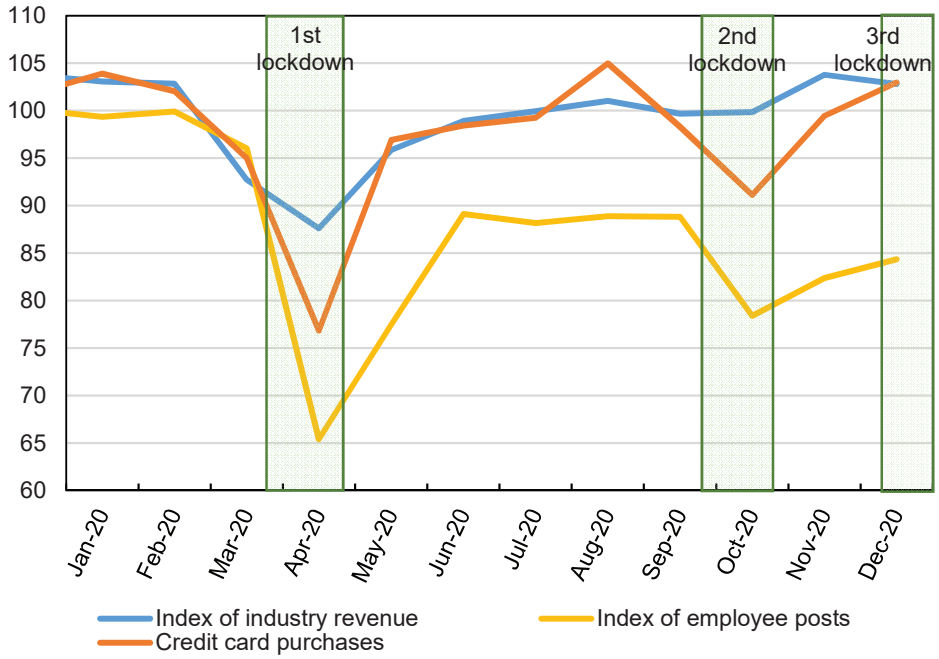
During January–February 2020, the Israeli economy was strong and the positive trends in most of the economic variables continued. The unemployment rate was low, the economy was growing at a stable rate, there was a surplus in the current account, there was a high level of foreign exchange reserves, and the public debt to GDP ratio was low. This situation was accompanied by two long-term structural problems: The structural deficit had been growing for several years and had reached a relatively high level; and labor productivity was at a low level and was growing at a slow rate. At the beginning of March 2020, there was uncertainty in the political situation, due to the fact that Israel was going through its third election within a year and the government had been operating without an approved budget since the beginning of 2020.

### b. Economic trends during the COVID-19 crisis in 2020

At the end of February 2020, the COVID-19 pandemic reached Israel. From that point onward, economic activity was conducted under the shadow of the virus, and it mainly reacted to and coped with that situation (Figure 2.2). In an effort to prevent the spread of the virus in Israel, the government imposed increasingly stringent restrictions on

activity in the economy, particularly activity that involves congregating. The main industries in which most of the activity requires physical proximity between people or a crossing of borders are defined here as "close-proximity" industries. These include transportation, restaurants, hotels, art and leisure, travel agencies, and parts of the trade industry that were defined as nonessential. These industries were restricted to a large extent, or even closed, for most of 2020, as part of the government's response to COVID-19, and were therefore the most adversely affected (Table 2.3). Box 2.1 in this Chapter surveys the impact on these industries and their main characteristics.

**Figure 2.2**
**Indices of Economic Development in 2020** (index, 2019 average=100)




SOURCE: Based on Central Bureau of Statistics and Shva.

The first lockdown led to a broad contraction in economic activity, which fell to 80 percent of its normal level.

In mid-March, the government imposed a full lockdown, which required a complete closure of close-proximity industries and was applied in other industries according to how essential they are to the economy and their ability to maintain social distancing. As a result of the suddenness of the pandemic's outbreak, together with the lack of preparation for and the inability of most businesses in the economy to work remotely, many businesses curtailed their activities.

In March, there were also sharp declines in the capital markets. In March and April, the government sent most public sector workers on forced vacation at the expense

**Table 2.3**
**Change in output of principal industries at factor prices, 1995–2020**

(annual change, percent)[a]

| | Share of total output (2020)[b] | 1995–2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|
| Total | | 3.7 | 3.0 | 3.9 | 3.4 | 3.3 | -2.1 |
| Public services | 16.4 | 2.1 | 3.5 | 2.7 | 2.6 | 1.4 | -3.3 |
| Business sector | 70.2 | 4.1 | 2.9 | 4.3 | 3.6 | 3.8 | -2.7 |
| Manufacturing, mining and quarrying | 11.8 | 2.7 | -4.4 | 5.1 | 2.6 | 2.5 | 2.5 |
| Trade and hospitality and food services | 11.7 | 5.4 | 3.9 | 5.1 | 2.8 | 2.8 | -5.1 |
| Business services | 17.4 | 4.0 | 3.9 | 4.2 | 3.1 | 5.9 | -3.2 |
| Construction | 6.3 | 1.5 | 7.2 | 6.5 | 5.8 | 3.8 | -4.2 |
| Transport and Storage | 3.1 | 4.4 | 4.2 | 6.3 | 4.7 | 1.1 | -20.5 |
| Information and communications | 11.2 | 8.4 | 7.0 | 2.0 | 6.2 | 6.0 | 6.1 |
| Agriculture | 1.2 | 2.3 | 5.2 | 1.9 | -3.7 | 1.9 | -2.0 |
| Water and Electricity | 1.7 | 3.9 | 7.0 | -1.5 | 5.2 | 1.8 | -4.6 |
| Education, Health and Art | 5.7 | 2.9 | 3.1 | 3.1 | 3.3 | 2.1 | -9.1 |

[a] The data on change in the total GDP differ from the data in Tables 2.1, 2.4, and 2.7 because they are taken from industry data and not uses data.

[b] In addition to output of public services and business sector product that appear in the table, total output also includes housing services output. The weight is calculated based on current price data.

SOURCE: Based on Central Bureau of Statistics.

of their vacation days, and thus significantly reduced the number of public sector employees actually working.[3] At the beginning of that lockdown, the first economic support program was announced as part of the response to the crisis. The conditions of eligibility for unemployment benefits were also relaxed for furloughed workers. During this lockdown, about one million workers were furloughed, and the broad unemployment rate[4] shot up to 36.4 percent. Since the close-proximity industries that were closed or severely restricted employed a large number of workers with relatively low productivity, the effect on employment was greater than the effect on economic activity. For all of these reasons, the level of activity in the economy (in terms of output) in April (as a monthly average) declined to 80 percent of its normal level,

[3] For further details, see Chapter 6, Section 2e in this Report.

[4] The broad unemployment rate includes the unemployed (the "narrow" unemployment rate); employees who are temporarily absent as a result of COVID-19 (including furloughed employees); nonparticipants in the workforce since being laid off in March 2020; and nonparticipants in the workforce who stopped working for other reasons or have not worked in the past and are interested in working now, but have not searched for a job during the past month because of COVID-19. The rate is calculated as a percentage of participants in the labor market plus the two nonparticipating groups that are counted as unemployed according to this definition.

primarily due to the sharp drop in private consumption. However, the first lockdown achieved its goal of lowering the rate of infection.[5]

The second lockdown had less of an effect than the first, although it too was significant.

During the second lockdown (mid-September to mid-October), the formal restrictions were more stringent, but the adverse effect on economic activity was smaller than during the first lockdown. In October, on average, economic activity (in terms of output) declined to 93.5 percent of its normal level, and the broad rate of unemployment increased to 20.3 percent. There are several possible explanations for the more moderate consequences of the second lockdown than of the first, most of which are related to the learning curve during the first wave and the internalization of the effects of COVID-19. The main factor is the adaptation of businesses to operating during the COVID-19 period. According to Round 7 (July 2020) of the Central Bureau of Statistics flash business surveys, which started from the onset of COVID-19, many businesses in all industries made significant changes to the methods of production and supply of their goods and services. These changes included a transition to delivery services (in the trade and food and beverage industries), increased ability to work from home (in high-tech and financial services), a transition to working in shifts (in manufacturing, wholesale trade, and in the food and beverages industry), and a shift to online sales (in high-tech and retail trade).[6] According to Round 9 of the survey, which was carried out in October, about 10 percent of companies had launched a site or app or had expanded their activity on the Internet. This proportion reached 24 percent in trade and 13 percent in food services.[7] Other possible reasons for the less adverse effect of the second lockdown include that it coincided with the High Holidays (which are longer than the Passover holiday that occurred during the first lockdown); individuals had adjusted to working and consuming during the COVID-19 period; and weaker compliance and enforcement. Alongside the smaller economic effect, the second lockdown did still lower the rate of infection, although less so than the first lockdown.[8]

Between the lockdowns, economic activity strengthened and unemployment declined.

Between the lockdowns, there was an upturn in economic activity and unemployment declined. Between the first and second lockdowns (May to September) economic activity grew as restrictions were relaxed, and the expansion continued until the imposition of the second lockdown. On April 19th, there was an easing of restrictions imposed in the first lockdown, and during April and May the government expanded its economic support programs. The process of exiting the lockdown continued until mid-June, when the scope of the restrictions reached a minimum (i.e. the opening of businesses according to the "purple standard" and restrictions on large events and on tourism). During the summer months (June–August) the level of economic

[5] From mid-May to the end of June, there were 17 days on which no one died of COVID-19.

[6] Central Bureau of Statistics, Results of the Survey of Businesses During the Spread of the COVID-19 Virus (Round 7), July 14, 2020.

[7] Central Bureau of Statistics, Results of the Survey of Businesses During the Spread of the COVID-19 Virus (Round 9), October 10, 2020.

[8] For further details on the trend in the rate of infection over the course of the year, see Chapter 1 and Box 7.1 in this Report.

activity rose to 95.5 percent of its normal level, and the broad rate of unemployment dropped to 11.7 percent after about 85 percent of furloughed workers returned to work. Economic activity remained relatively strong even when morbidity started to rise in July and only a few of the restrictions were reimposed, implying that the fear of infection was not the factor that was responsible for most of the contraction in private consumption. In addition, following the exit from the second lockdown, which began in mid-October, the level of economic activity gradually rose (to an average of 97 percent in November–December) and the broad unemployment rate again dropped (to 13.2 percent). The restrictions were not completely lifted and infection again began to rise in mid-November. In mid-December it was decided to impose a third lockdown.

Government support and the drop in uncertainty revived a significant portion of the economy between the lockdowns.

The recovery in economic activity to relatively high levels between the lockdowns (although not as high as during normal times) was made possible by a number of factors. First, the lifting of restrictions made it possible for businesses to open and for the public to return to their normal consumption habits, in view of the fact that only a few households and businesses had collapsed, partly thanks to the government support and the financial exemptions. Second, some of the uncertainty that had existed at the beginning of the pandemic had dissipated, and it appears that the public's fear of infection had lessened, such that they hardly refrained from activities that were now permitted. At the same time, it should be recalled that these data reflect the average activity of the public, and it is important to note the variance within the data: Some businesses and households experienced economic distress during the summer months as well.

## Box 2.1

## INDUSTRIES THAT WERE SEVERELY AFFECTED BY THE COVID-19 PANDEMIC

The COVID-19 pandemic affected all industries in the economy to a varying degree. This Box identifies the industries that were most seriously severely impacted and compares their featurescharacteristics to those of the remaining industries in the economy.

**a. Differential Varying effects**

The negative impact on economic activity was concentrated in a small group of "proximity industries"—industries whose ordinary activity involves a high potential of infection during the pandemic, due, for example, to border crossings, prolonged proximity between people, or the presence of many people in an enclosed space. Another feature of these industries is that only few of their employees are able to work from home.[1] The impact of the crisis was concentrated in this group of industries in other developed economies

[1] The exception is the education industry, although the definition of its employees (mainly teachers) as employees capable of working from home, is contested. This estimate is based on the occupational profiles classification in Dingel and Neiman (2020), and the transition to the Israeli classification is based on Bank of Israel (2021a). The transition to industry-based classifications is based on the distribution of occupations listed in each industry in the Labor Force Survey.

as well, despite differences in industry composition, epidemiological policies, labor markets, and the timing and intensity of the pandemic's effects in each economy.[2] Table 1 presents the distribution of negative effects on the various industries in Israel compared to the corresponding period of the previous year.

Proximity industries absorbed the vast majority of the economic disruption, which did not spill over to other industries due to the economy's limited dependency on them.[3] A notable exception is the education industry. While this industry does not maintain input-output ties with other industries, a suspension of its operations adversely affects the work capabilitieslabor inputs of employees in other industries.[4] Prior to the pandemic, the proximity industries accounted for approximately 30 percent of the labor market and approximately 19 percent of GDP, similar to their average weights in the OCED countries. The adverse impact on this group of industries was more strongly reflected in industry revenues than in employment levels, in contrast to the other principal industries where the pandemic's main observed impact was on employment rates.

**Table 1: Collection of Industry Data**

| Industry | Name | Proximity industry | Rate of workers who can work from home | Employment in the rest of the economy that depends on this industry[a] | Industry weight - 2019 | | Rate of change, March–December 2020 compared with the same period last year | |
|---|---|---|---|---|---|---|---|---|
| | | | | | in GDP | in Employment | Revenue | Employment |
| A | Agriculture, forestry and fishing | | 10.9 | 0.67 | 1.2 | 1.7 | -0.6 | -4.1 |
| B_C | Manufacturing, mining and quarrying | | 27.0 | 0.49 | 12.0 | 9.7 | 3.7 | -6.5 |
| D_E | Electricity and water | | 37.4 | 0.66 | 1.9 | 0.7 | 3.2 | -0.2 |
| F | Construction | | 14.9 | 0.74 | 6.5 | 7.4 | 5.7 | -13.7 |
| G | Wholesale and retail trade, repair of motor vehicles and motorcycles | | 26.0 | 0.30 | 9.9 | 10.7 | 1.9 | -15.2 |
| H | Transportation and storage, postal and courier services | ü | 20.1 | 0.29 | 3.7 | 4.2 | -19.4 | -14.9 |
| I | Accommodation and food services | ü | 5.7 | 0.31 | 2.6 | 4.7 | -43.2 | -49.1 |
| J | Information and communications | | 87.9 | 0.29 | 9.9 | 5.4 | 4.1 | -3.6 |
| K | Financial and insurance services | | 83.0 | 0.39 | 4.3 | 3.1 | 1.8 | -7.6 |
| L | Real estate activities | | 85.2 | 0.94 | 2.5 | 0.8 | -7.8 | -12.9 |
| M | Professional, scientific and technical services | | 79.7 | 0.16 | 7.4 | 7.3 | 2.4 | -10.0 |
| N | Administrative and support services | ü | 33.1 | 0.13 | 3.8 | 4.5 | -22.9 | -16.0 |
| P | Education | ü | 74.9 | 0.09 | 6.4 | 11.9 | -23.2 | -6.0 |
| Q | Human health and social work services | | 14.4 | 0.17 | 6.0 | 10.7 | -1.4 | -1.1 |
| R | Arts, entertainment and recreation[b] | ü | 36.4 | 0.34 | 1.3 | 2.0 | -35.6 | -43.0 |
| S | Other services[b] | ü | 30.7 | 0.43 | 1.3 | 2.6 | -35.6 | -20.5 |
| | All industries that were harmed | | 43.6 | 0.20 | 19.1 | 29.9 | -27.4 | -19.6 |
| | The entire economy, excluding the industries that were harmed | | 38.7 | 0.38 | 61.7 | 57.5 | 2.6 | -7.7 |
| | All industries in the analysis[c] | | 40.7 | 0.32 | 80.8 | 87.4 | -1.7 | -12.3 |

[a] Bank of Israel calculations based on the methodology of Brand and Wallach (2020). The results reported for the industry groups are the average weighted by the number of employees in the industries in each group.

[b] It is not possible to separate the revenue data of these industries. In addition, the GDP figure for them is grouped together with the "households as employers" industry. The weight in GDP that appears was obtained by dividing the figure for 2019 by the ratio between them, as appears in the 2017 Survey of Economic Industries.

[c] The following industries were omitted from the analysis: Local administration, public administration and defense; compulsory social secruity; households as employers; undifferentiated goods- and services-producing activities of households for own use; and activities of extra-territorial organizations and bodies. Revenue data relate to the business sector only, and salaried positions relate to public and private sector workers in each industry.

SOURCE: Based on Central Bureau of Statstics and Ministry of Finance.

2 For additional information on an international comparison of Israel's labor market policy, see Chapter 5.

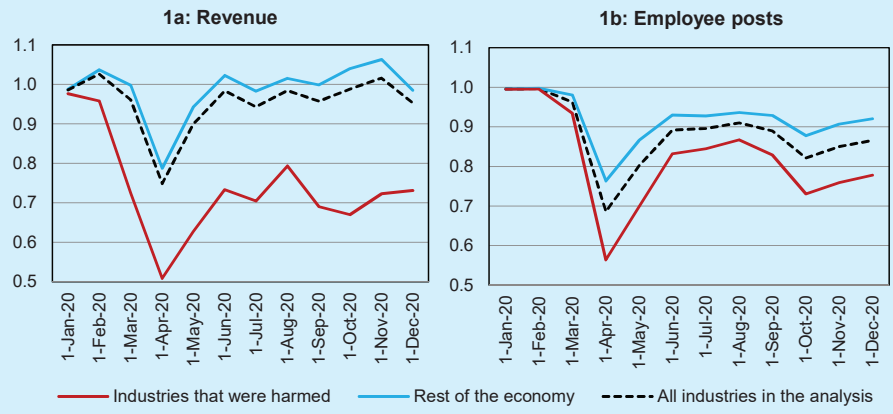
3 The calculation of the number of jobs in the rest of the economy that depend on employment in this each industry is based on the methodology used by Brand and Weller (2020), and the production chains in the economy as reflected in the input-output tables. The most recent tables represent 2006 data, and similar calculations based on more recent data might have had different outcomes for several industries.

4 For additional information see Chapter 7.

The path of activity over the year also reveals differences in the patterns of economic activity in the proximity and nonproximity other industries. Figure 1 presents the level of economic activity in the proximity industries group and in the other principal industries in terms of employment and revenue. The figure shows the ratio between actual and expected economic activity for each month of 2020, such that a value of "1" in a given month represents economic activity thatreachedsimilar to expected levels.[5] Excluding the adverse impact of the two lockdown periods, the pandemic had a stable and relatively limited impact on the nonproximity industries: close to zero effect in terms of revenue and a decline of approximately 7 percent in terms of employment. The adverse impact on activity in the proximity industries on the eve of the second lockdown was about 21 percent in terms of revenue and about 14 percent in terms of employment. The impact during the first lockdown was more severe than the impact during the second lockdown (49 percent in terms of revenue and 44 percent in terms of employment at the height of the first lockdown; 33 percent in terms of revenue and 27 percent in terms of employment during the second lockdown). Apparently the small proportion of proximity industry employees able to work from home undermines a full recovery in these industries as long as there is a significant risk of infection.

There are only a few sources that offer data at a resolution that allows us to identify the variance between impacts within the principal industries. The most comprehensive source of such data is labor inputs (total number of labor hours) by industry based on the Labor Force Survey.[6] Table 2 shows a decline in labor inputs in the proximity industries during the pandemic, at the highest possible degree of detail. These figures show that even within the proximity industries, the main impact is concentrated in subindustries whose activity involves an significant epidemiological risk.

**Figure 1**
**Activity in the Major Industries, 2020**




SOURCE: Based on Central Bureau of Statistics.

[5] The expected level of a figure in a given month is defined as the activity level in the corresponding month in 2019 multiplied by the mean growth rate between 2015 and 2019.

[6] Additional indications, such as credit card expenditures and revenue in subindustries, are not available for all industries. They are not presented but they show a similar picture to the picture based on labor inputs. Subindustry revenue reveals a relatively uniform level of adverse impacts in the education industry. It was not possible to decompose the data regarding the arts, entertainment, and leisure industries.

A different pattern is observed in the manufacturing industry. Economic activity in this industry[7] was not severely affected compared with the rest of the economy, but a significant negative impact was observed in several subindustries. Adverse effects increased as technological intensity diminished, and was not necessarily correlated with epidemiological risk (Table 3).

**Table 2: Variance of the impact within the proximity industries: Rate of change in labor input by industry, March–December 2020 compared with the same period last year**

| Main industry | Code | Industry name | Rate of change |
|---|---|---|---|
| **H** | **49-53** | **Total industry: Transportation and storage, postal and courier services** | **-19.7** |
| H | 49-51 | Land transport and transport via pipelines, water transport, and air transport | -26.5 |
| H | 52-53 | Warehousing and support services for transportation; postal and courier services | -5.4 |
| **I** | **55-56** | **Total industry: Accommodation and food services** | **-50.9** |
| I | 55 | Accommodation services | -52.9 |
| I | 56 | Food and beverage services | -48.3 |
| **N** | **77-82** | **Total industry: Administrative and support services** | **-21.5** |
| N | 77-79 | Rental and leasing services, employment services, and travel agency and tour operator services | -59.2 |
| N | 80-82 | Security and investigation services, services to buildings and landscape activities, and office administrative and support and other business support services | -9.1 |
| **P** | **85** | **Education** | **-11.4** |
| **R** | **90-93** | **Arts, entertainment and recreation** | **-36.8** |
| **S** | **94-96** | **Other services** | **-22.8** |
| | | **Proximity industries** | **-23.1** |
| | | **Rest of the economy** | **-6.8** |
| | | **All industries in the analysis** | **-12.2** |

SOURCE: Based on the Central Bureau of Statistics Labor Force Survey.

**Table 3: Industrial Production Index and selected components by technological intensity, rate of change, March–December 2020 compared with the same period last year**

| | High technology | Mixed-high technology | Mixed-low technology | Low technology |
|---|---|---|---|---|
| Industrial Production Index | 6.3 | 0.8 | -2.5 | -3.2 |
| Employee posts | -2.6 | -5.4 | -8.0 | -13.0 |
| Actual work hours | -0.3 | -5.3 | -9.2 | -13.5 |
| Total wage | -1.9 | -3.2 | -5.6 | -9.1 |

SOURCE: Central Bureau of Statistics.

[7] Similar figures exist for the mining and quarrying industry, which does not reflect a significant adverse impact. Activity in this industry is volatile, and is mainly affected by progress in the natural gas projects. An examination of the annual rate of change in this industry is therefore unreliable.

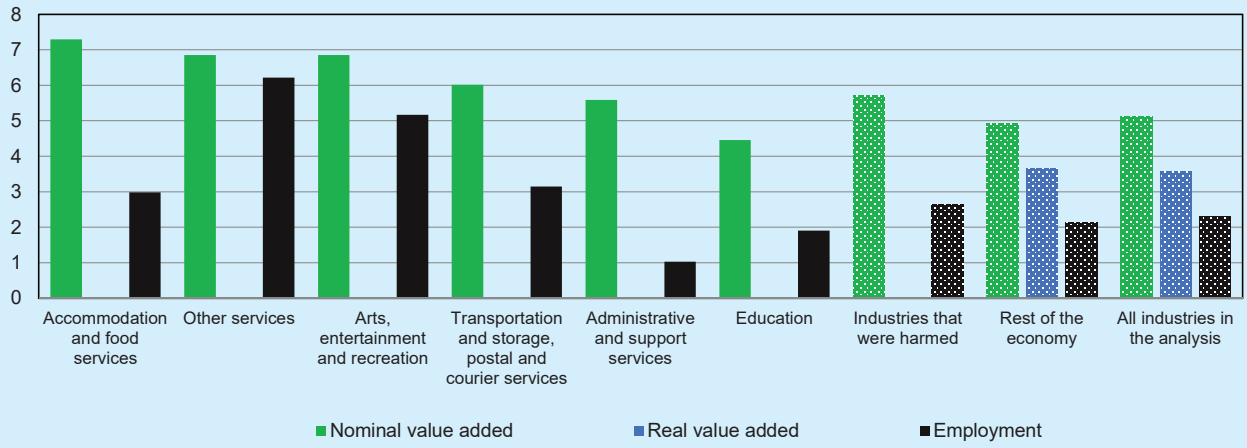
**b. Features Characteristics of the affected industries**

As noted above, the common feature shared by all affected industries is the epidemiological factor, although the severely affected industries also share several other commonalities: Most of these industries are nontradable industries in which productivity, as defined byand wages, areis low (Table 4), and their share of the labor market exceeds their share of GDP (Table 1). In these industries, the number of work hours per employee is also low compared with the rest of the economy, which indicates that employees have relatively loose connections to their workplace in these industries.[8]

Another shared feature of the group of severely affected industries is low liquidity ratios.[9] Prior to the crisis, companies in these industries had a relatively limited ability to absorb a temporary economic impact. Moreover, evidence shows that in each industry, the most severely affected were small and medium-sized companies and companies with low liquidity.[10] This highlights the importance of the safety net that was quickly made available to these firms during the crisis and was designed to support their survivability.

Another feature of the most hard-hit industries is a high rate of growth in the years preceding the crisis. Figure 2 illustrates that both the added value in current prices and the employment rates in these industries grew more rapidly than in the rest of the economy, and the added value in fixed prices grew at pace with the rest of the economy. This means that in recent years, the proximity industries accounted for a greater

**Figure 2**
**Employment and Value Added by Industry, Average Annual Rate of Change, 2015–19**




SOURCE: Based on Central Bureau of Statistics.

[8] For elaboration on the features of employees in affected industries, see Chapter 5.

[9] Liquidity ratios are defined as the ratio between a firm's total assets and its total liabilities. The current ratio refers to total current assets and liabilities (up to 12 months). The quick ratio was also examined, although not presented. The quick ratio is defined similarly to the current ratio, with the difference that the asset side does not include inventory. There was no difference in the findings.

[10] For additional information on the variance in adverse effects across firms as a function of their financial position, and the effect of the disruption on credit risks, see Bank of Israel (2021b).

share of GDP and employment, but productivity in these industries grew more slowly than the rest of the economy. It therefore appears that the industries that were most severely affected by the COVID-19 crisis were not those that were otherwise experiencing a decline: On the contrary, despite the low growth rate in productivity, the demand for their products, and especially demand for employees, increased and contributed to economic growth. This picture highlights the importance of maintaining the survivability of these industries during a crisis through governmental aid, rather than a passive policy grounded in thea "creative destruction" argument.[11]

**Table 4: Characteristics of the impacted industries**

| | | Return on labor as a percent of value added - 2017 | Average wage per employee post (NIS thousand) - 2019 | Work hours per employer - 2019 | Current ratio[a] - 2017 |
|---|---|---|---|---|---|
| H | Transportation and storage, postal and courier services | 0.63 | 11.75 | 39.7 | 1.00 |
| I | Accommodation and food services | 0.74 | 5.17 | 33.5 | 0.64 |
| N | Administrative and support services | 0.69 | 6.19 | 35.5 | 0.86 |
| P | Education | 0.81 | 8.31 | 27.0 | 0.98 |
| R | Arts, entertainment and recreation | 0.56 | 6.48 | 30.3 | 0.97 |
| S | Other services | 0.89 | 5.84 | 30.8 | 0.92 |
| | All industries that were harmed | 0.69 | 7.36 | 33.3 | 0.89 |
| | The entire economy, excluding the industries that were harmed | 0.58 | 12.74 | 38.0 | 1.29 |
| | All industries in the analysis | 0.60 | 10.59 | 36.5 | 1.15 |

[a] The figure that appears for industry groups is the simple average of the industries in the group.
SOURCE: Based on Central Bureau of Statistics.

**References**

Bank of Israel (2021a). "The COVID-19 Crisis and the Labor Market in Israel," *Selected Research and Policy Analysis Notes.*

Bank of Israel (2021b). "Review of Credit Exposure in Selected Industries in View of the Coronavirus".

Brand, G. and E. Weller (2020). "Inter-Industry Ties as an Indication of the Indirect Effects of COVID-19 Restrictions," Ministry of Finance (in Hebrew).

Dingel, J. I. and B. Neiman (2020). "How Many Jobs Can be Done at Home?" *Journal of Public Economics*, 189, no. 104235

[11] Nonetheless, in specific cases economic growth trends in several subindustries may change as a result of changes in taste that occurred during the pandemic.

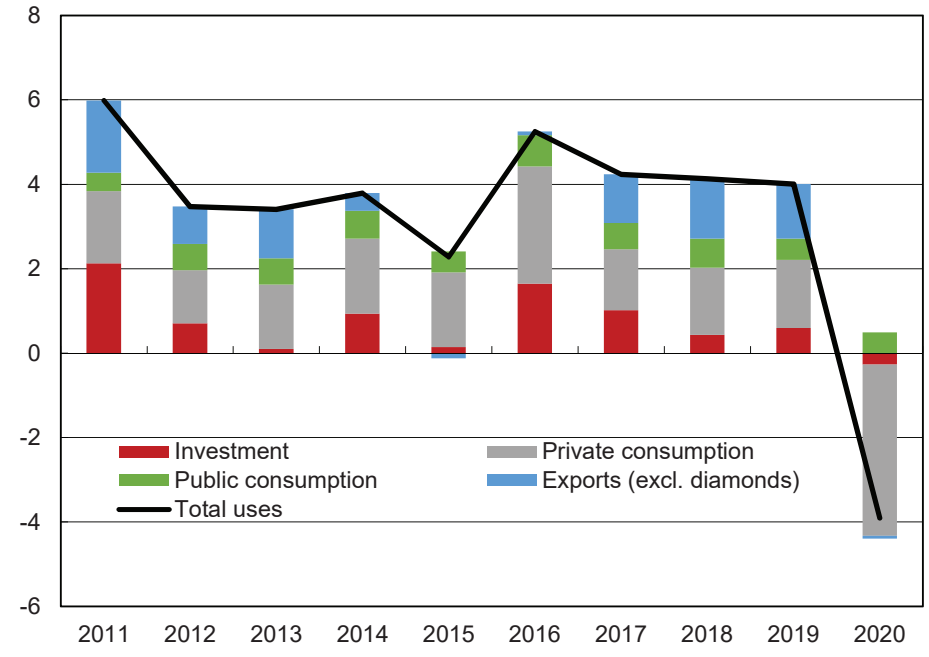
## 2. AGGREGATE ACTIVITY

### a. The composition of uses

The crisis led to an unprecedented drop in uses, particularly private consumption.

The COVID-19 crisis led to an unprecedented 3.6-percent drop in uses in 2020.[9] The main component of the decline was private consumption, while investment also declined to some extent (Figure 2.3). In contrast, exports remained almost unchanged, and public consumption increased as a result of the increase in public purchasing. The differences between the various uses in this respect reflect the crisis's various channels of influence: the severe restrictions on close-proximity industries, which are primarily involved in private consumption, versus the more moderate restrictions on industries in other areas, such as investment (for example, residential construction) and exports (primarily of the high-tech industries, which were only slightly constrained by the crisis), while demand for their products had risen.

**Figure 2.3**
**Total Increase in Uses and Components' Contribution, 2011–2020**
(percentage points)




SOURCE: Based on Central Bureau of Statistics.

[9] Since the measurement of data began in 1950. The second largest drop was 3.2 percent in 2009.

The rate of decline in private consumption (9.5 percent) was the largest since 1950.

*1. Private consumption*

Private consumption declined this year by 9.5 percent, or NIS 71 billon, the largest annual decline since the recording of data began in 1950. This is the use that was most affected by the crisis, since the main restrictions on activity, and in particular the lockdowns, were imposed on activities that are part of private consumption (Table 2.4).

**Table 2.4**
**Sources and uses, 1995–2020**

(annual change, percent)

| | 1995–2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|
| GDP | 3.7 | 3.8 | 3.6 | 3.5 | 3.4 | -2.5 |
| Imports (excluding ships, aircraft, diamonds, and defense imports) | 4.5 | 9.2 | 6.8 | 5.1 | 5.0 | -8.0 |
| Domestic uses | 3.3 | 6.6 | 4.2 | 3.3 | 3.5 | -4.7 |
| *of which* : Private consumption | 4.1 | 6.4 | 3.3 | 3.6 | 3.8 | -9.5 |
| Fixed capital formation (excluding ships and aircraft) | 2.4 | 12.0 | 4.9 | 3.9 | 2.7 | -3.6 |
| Investment in inventory (excluding diamonds and startups, percent of GDP) | 0.3 | 0.1 | 0.4 | 0.0 | 0.0 | 0.1 |
| Output of startup companies | 13.3 | 20.3 | -3.6 | 13.9 | 29.1 | 12.2 |
| Public consumption (excluding defense imports) | 2.2 | 4.2 | 4.4 | 4.3 | 2.7 | 2.9 |
| Exports (excluding diamonds and startups) | 6.4 | -0.8 | 5.5 | 6.0 | 5.5 | 1.9 |

SOURCE: Based on Central Bureau of Statistics.

Most of the components of private consumption declined, but this was particularly the case in the consumption of services (nonhousing), which fell by 26.7 percent or NIS 69.7 billion (about 5 percent of GDP). The fall in the consumption of services was concentrated in the close-proximity industries that were most adversely affected by the restrictions (Figure 2.4). Thus, for example, the consumption of transportation services fell by about 52 percent, which contributed 1.8 percentage points to the drop in uses in 2020 (out of a decline of 3.6 percent). A significant component of the drop in the consumption of transportation services was the decline in the purchase of airline tickets by Israelis due to the closing of the skies.[10] The consumption of durable and semidurable goods also fell in 2020, and within that decline the main components were vehicle purchases (which fell by 15 percent) and the consumption of goods such as furniture, clothing and footwear, which for the most part are purchased physically in stores.

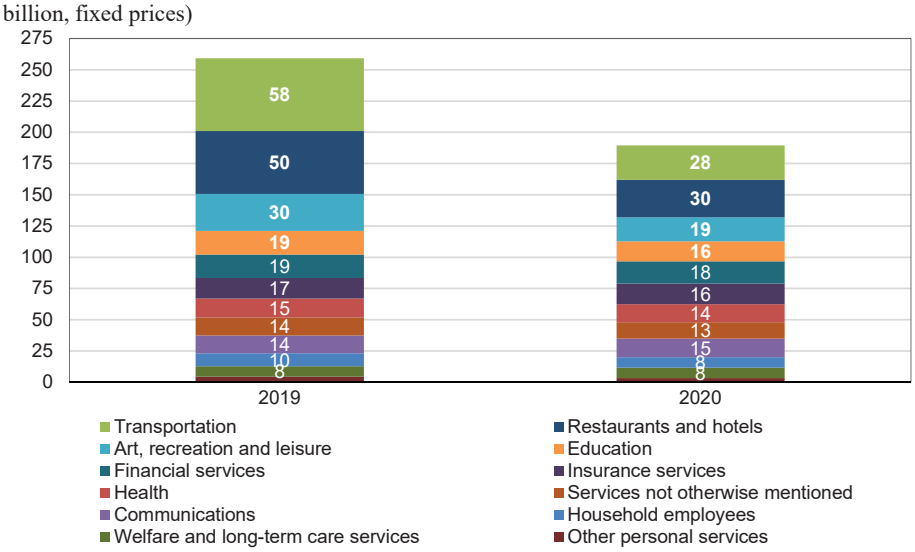
The main decline in private consumption was in the consumption of services excluding housing—NIS 70 billion.

The crisis led to a closing of the skies and a halt in tourism. The restrictions reduced private consumption.

The crisis led to restrictions on international movement and the closing of the skies by many countries. Thus, travel abroad by Israelis dropped drastically, as did incoming tourism. The drop in travel abroad reduced private consumption directly by way of the decrease in the consumption of tourism services abroad and in the purchase of airline tickets. Most of these declines were in imported services, such that the crisis had less of an effect on domestic demand than it did on private consumption. The data on overnight stays in tourist hotels in Israel show that in August—when

[10] About NIS 9 billion of the NIS 31 billion decline in the consumption of transportation services was the result of the decline in the purchase of airline tickets due to the cessation of outgoing tourism. Of this amount, about NIS 6.5 billion was imports of airline tickets, i.e. the purchase of tickets by Israelis from companies abroad, and about NIS 2.5 billion represented the decline in the purchase of airline tickets by Israelis from Israeli companies.

**Figure 2.4**
**Distribution of Private Consumption of Services (excl. Housing), 2019–2020** (NIS billion, fixed prices)




SOURCE: Based on Central Bureau of Statistics.

the restrictions on activity were minimal—the number of overnight stays by Israelis at tourist hotels in Israel was 3.0 percent lower than in August the previous year. This decline is evidence that there was almost no substitution between tourism consumption abroad and domestic tourism in Israel, even though at the national level the rate of hotel occupancy was particularly low due to the absence of tourists. Israelis therefore did not fill the vacuum left by foreign tourists, apparently because most of the unoccupied rooms were not located in the main domestic tourism locations, but rather in the large cities (Tel Aviv, Jerusalem, and Haifa), which are not viewed by Israelis as a substitute for travel abroad.[11] In contrast, the occupancy rates of hotels in Eilat, which is the main domestic tourism center in the summer, were similar to their peak rates of demand during August in previous years, and it is therefore reasonable to assume that the supply constraint is what affected the level of substitution of Israeli tourism to Eilat. The finding of only a small decline in total overnight stays by Israelis during a month in which morbidity rates had already risen above previous peaks makes clear that at that stage in the year it was not the fear of infection, but rather the restrictions on activity in the various industries, that was the main factor behind the drop in consumption.

It appears that a small proportion of the savings from the reduced consumption of services provided by businesses that were restricted or closed was channeled to the consumption of goods that are at least partial substitutes for consumption outside the home. The consumption of electrical and other appliances increased by 11.8 percent,

[11] It may be that there were some unoccupied rooms in tourism centers such as the Dead Sea and Tiberias.

and consumption of manufactured products for current consumption[12] rose 11 percent in 2020 (NIS 2.3 billion and NIS 3.4 billion, respectively). The only service where consumption increased was communications, which increased by 3.0 percent. This was unsurprising in view of the social distancing and remote consumption that resulted of the crisis.[13]

It was the restrictions that led to a reduction in private consumption. Total disposable income increased but many individuals who were adversely affected by the crisis had to reduce their consumption.

The finding that the drop in the private consumption of durables did not lead to a decline in consumption (unlike in a normal economic crisis) implies that the drop in private consumption during the COVID-19 crisis was primarily the result of the response—whether voluntary or coerced—to the government restrictions on the consumption of services produced by the close-proximity industries, rather than income and wealth effects on consumption. When saving is precautionary or due a drop in income, it usually begins with individuals refraining from large purchases of durable goods, which in general are easy to defer. Essentially, gross private income rose this year by 3.9 percent, while the value of the public's asset portfolio was not adversely affected (Table 2.5). About 40 percent of the increase in income was the result of a major expansion of transfer payments to households, and this apparently helped most low-income earners to maintain their consumption of basic goods and services, such as food and beverages, the consumption of which actually grew this year by more than the rate of population growth. It is important to mention that these data reflect averages, and that the income and consumption of many individuals were adversely affected by the crisis and there are those who suffered severe economic distress. (For a comprehensive description of the effect of the crisis on households, see Chapter 7 in this Report.)

In-person credit card purchases declined while remote purchases returned to their trend, evidence of the restrictions' effect.

Purchases abroad increased, but by much less than the decline in in-person purchases.

Additional support for the argument that the restrictions had a decisive effect can be seen in Figure 2.5, which presents credit card transactions in Israel, according to physical presence when the transaction was carried out. In-person transactions dropped at the start of the crisis, then recovered partially and then dropped again, in step with the lockdowns and the restrictions that constrained economic activity. In contrast, remote transactions declined during the first lockdown, when uncertainty was at a particularly high level, and then returned to the precrisis trend. Remote transactions during the crisis were influenced by the restrictions on activity (a drop in transactions that were carried out remotely in close-proximity industries, such as hotel reservations) as well as by substitution (a shift from in-person transactions to remote transactions in the same industry and/or a partial shift of consumption between industries). However, overall they were similar to their precrisis trends.

Public consumption increased in 2020, primarily due to government purchasing.

An examination of the data on Israelis' purchases abroad paints a similar picture. Figure 2.6 presents annual online purchases abroad by Israelis in transactions of up to

[12] These goods include pharmaceuticals, household maintenance products, beauty products, gardening products, and pet products, among others.

[13] The data for communication services consumption do not reflect an increase in usage by existing consumers. Rather, they primarily reflect the number of subscribers to the various services. Therefore, it can be concluded that growth in communication services consumption in terms of usage was even greater this year.

**Table 2.5**
**Domestic demand: Background conditions and main indicators of its development, 1995–2020**
(annual change, percent)

| | 1995–2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|
| **Private consumption** | 4.1 | 6.4 | 3.3 | 3.6 | 3.8 | -9.5 |
| ***of which* : Current consumption** | 3.9 | 5.2 | 4.4 | 3.5 | 3.7 | -9.7 |
| **Durable goods consumption** | 5.6 | 19.5 | -7.9 | 5.6 | 4.9 | -5.9 |
| Gross private disposable income from all sources | 3.7 | 5.6 | 2.6 | 6.6 | 5.1 | 3.9 |
| Current transfer payments to the public | 4.2 | 4.6 | 9.0 | 3.2 | 5.5 | 16.1 |
| Credit to households | 7.1[b] | 6.7 | 5.5 | 5.1 | 5.2 | 4.4 |
| *of which* : Nonhousing credit | 3.5[b] | 6.1 | 4.8 | 3.0 | 2.3 | -1.9 |
| Real 1-year interest rate (government bonds, level) | 2.8 | -0.1 | -0.1 | -0.8 | -0.8 | 0.1 |
| Value of the public's financial assets portfolio | 10.5 | 1.8 | 4.4 | 4.6 | 6.4 | 5.1 |
| Consumer Confidence Index | 3.8[c] | 1.9 | 3.7 | 2.9 | -0.4 | -14.0 |
| **Fixed capital formation (excluding ships and aircraft)** | 2.4 | 12.0 | 4.9 | 3.9 | 2.7 | -3.6 |
| Credit to the business sector | 4.2[b] | 3.5 | 4.1 | 5.5 | 4.0 | 2.5 |
| Real 10-year interest rate (government bonds, level) | 3.5 | 0.4 | 0.6 | 0.5 | 0.0 | -0.5 |
| Purchasing Managers Index (level) | 50.5[c] | 52.3 | 55.2 | 53.3 | 51.3 | 48.5 |
| Change in capital utilization in manufacturing (net balance from the Bank of Israel Companies' Survey) | -3.0 | -0.1 | 5.7 | 5.1 | -7.0 | -14.0 |
| **Public consumption excluding defense imports** | 2.2 | 4.2 | 4.4 | 4.3 | 2.7 | 2.9 |
| Total taxes[a] | 32.7 | 31.0 | 32.4 | 30.9 | 30.3 | 30.0 |
| General government budget deficit[a] | 4.9 | 2.0 | 2.1 | 4.3 | 4.5 | 11.9 |

[a] Percent of GDP.

[b] The figure relates to the years 2005–2015.

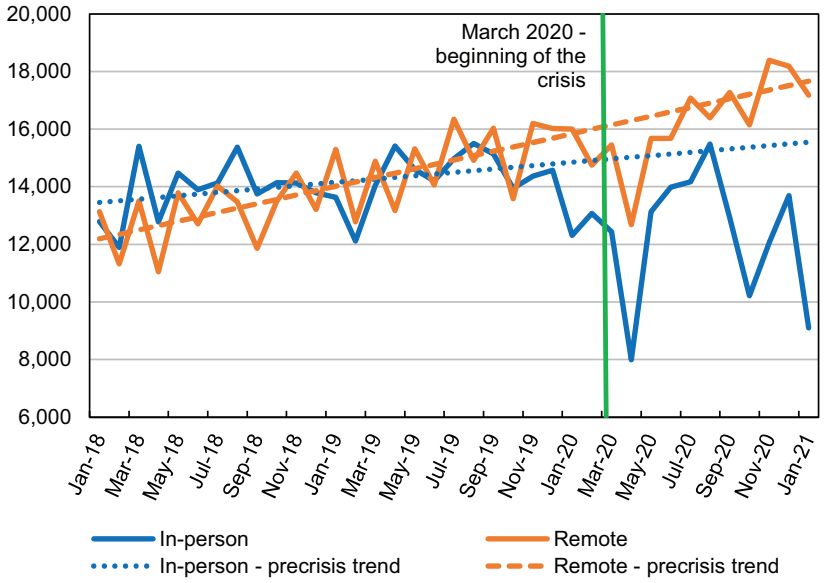
[c] The figure relates to the years 2002–2015.

SOURCE: Based on Central Bureau of Statistics, the Kantar and Bank Hapoalim Consumer Confidence Surveys, the Bank of Israel Companies Survey, and the Purchasing Managers Indices compiled by Bank Hapoalim and the Purchasing Managers Association.

$500, which were also made remotely (in contrast with in-person transactions during a trip abroad). The total annual transactions are characterized by an uninterrupted upward trend, and the increase in 2020 even deviated upward from the trend. These transactions were not influenced by the restrictions in Israel[14] and it is reasonable to assume that some of the increase in 2020 was a shift toward purchases abroad as a substitute for in-person purchases in Israel. Nonetheless, the annual growth in the value of these purchases between 2019 and 2020 was only about NIS 1.8 billion, as opposed to an annual decline of NIS 21 billion in the value of in-person purchases in Israel during that same period and a total decline of NIS 70 billion in consumption in the service industries (nonhousing). Thus, even if all of the increase in purchases abroad was the result of the substitution effect, which is unlikely, that would still be a very low rate of substitution. These data indicate the high likelihood that once the COVID-19 crisis is over and the restrictions on activity in the close-proximity industries are lifted, private consumption will rapidly recover.

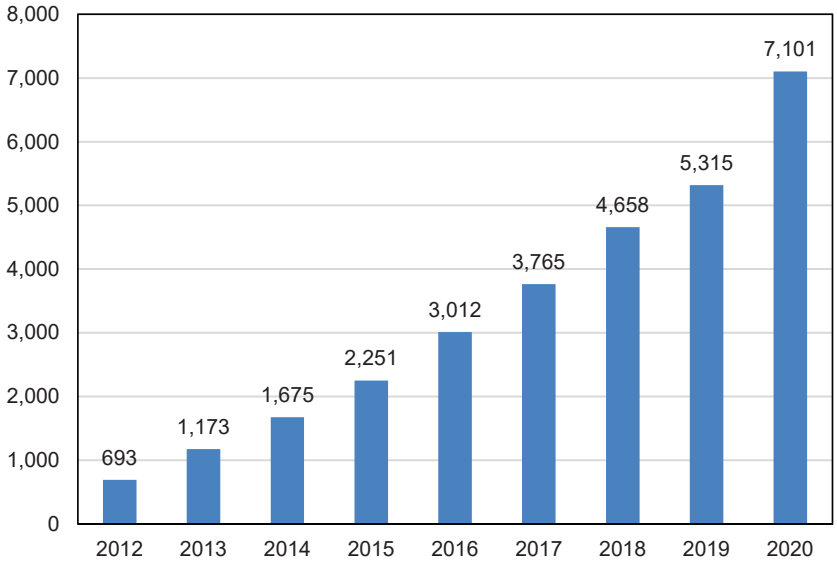
[14] In January–February 2020, as a result of the onset of the pandemic in China, there were delays in the delivery of packages from China to the rest of the world, including Israel. These delays disappeared in March, with the cancelation of lockdowns in China, which occurred during the first lockdown in Israel.

**Figure 2.5**
**Credit Card Purchases by Presence at the Place of Transaction, January 2018–January 2021** (NIS million, monthly total, original data)




SOURCE: Based on Shva.

**Figure 2.6**
**Israelis' Purchases on Foreign Websites, Products up to $500, 2012–2020** (NIS million, 2015 private consumption prices)




SOURCE: Based on Central Bureau of Statistics.

*2. Public consumption*

The government increased transfer payments and support by NIS 66 billion in response to the crisis.

Public consumption, apart from defense imports, grew by 2.9 percent (NIS 8.4 billion) in 2020. This was primarily the result of an increase in civilian government procurement, partly in order to meet the needs of the healthcare system as part of the response to the COVID-19 crisis. This increase was moderated by the drop in total work hours in the public sector, which was apparently due to the lack of a budget and the placing of many public sector employees on forced vacation during the first lockdown.[15]

The government's measures mitigated the effect of the crisis.

The vast majority of economic programs in response to the COVID-19 crisis were focused on support for businesses, transfer payments to households, and programs to encourage and preserve employment (which are not part of public consumption).[16] In 2020, the government spent about NIS 66 billion on these programs. In addition, funds were established that provide various parts of the business sector with state-guaranteed credit. (For further details on the government's steps to deal with the crisis, see Chapters 3 and 6 in this Report.)

The government's measures apparently prevented an additional drop of NIS 26–35 billion in GDP, although they will create a challenge once the crisis is over.

By means of these measures, the government moderated the shock caused by the pandemic. The transfer payments and grants to individuals, and in particular unemployment benefits, went to finance private savings and prevented the collapse of weak households, which would have harmed not only them but also the businesses from which they make their purchases. As seen above (Table 2.5), private disposable income rose in 2020 despite the crisis, as a result of the sharp increase in transfer payments. The grants, support, and loans to businesses financed the continuation of business activity and allowed those businesses to continue employing workers and acquiring goods and services, and thus prevented an even wider spillover of the economic crisis to include tenants, suppliers, and the banks.[17] This support also helped finance the expenses and obligations of businesses that were temporarily closed because of the lockdowns or restrictions, with the goal of allowing them to rapidly return to normal operations upon removal of the restrictions.

It is not simple to assess the overall contribution of the expansion in government expenditure to GDP during the year of the crisis versus what would have occurred without it. The conventional estimate of the fiscal multiplier (how much does a one-

[15] During the first lockdown, public sector workers were sent on paid leave. In the National Accounts, this is not reflected in the wage expenditure component of public consumption in current prices, since wages continued to be paid. In contrast, a decline is seen when using fixed prices, which reflects the drop in the actual number of work hours in the public sector.

[16] Public consumption includes government expenditure on ministries' consumption, including wage payments, purchasing, and depreciation. Public expenditure includes public consumption as well as any other government expenditure, i.e. government investment, interest payments on the public debt, and transfer payments to individuals and support for businesses. The transfer payments and support are not part of public consumption, but are rather part of the consumption by the individuals and businesses who received them.

[17] In Round 9 of the Central Bureau of Statistics Real-Time Survey in October (towards the end of the second lockdown), 48 percent of businesses reported that they had requested grants from the government (not including state-guaranteed loans). About 8 percent of the companies reported that the government grants for worker preservation had a large or very large impact on them.

shekel addition to public consumption contribute in the end to increasing GDP) ranges from 0.6 to 0.8.[18] However, since most of the expansion in government activity was not direct from public consumption to GDP, but rather indirect by way of transfer payments, it is incorrect to use those estimates. The literature on multipliers for transfer payments is sparse and not unambiguous.[19] Moreover, during the COVID-19 crisis and unlike in previous crises, the government did not try to encourage demand in order to support economic activity (Keynesian policy), but rather acted primarily to prevent the collapse of businesses and households.

The literature on the COVID-19 crisis sheds light on this issue and indicates that when part of the economy is shut down, the multiplier for regular fiscal policy, i.e. an increase in public consumption, is smaller than usual.[20] The literature also reports that during the COVID-19 crisis, general transfer payments (such as universal payments to every citizen) will have a multiplier of about 0.15 while goal-specific transfer payments (such as unemployment benefits) will have a multiplier of about 0.6.[21] Since the government programs to deal with the COVID-19 crisis were based on transfer payments and support for individuals and businesses, the use of the aforementioned multipliers for transfer payments during this period makes it possible to estimate that the additional public expenditure to deal with the crisis directly prevented a drop of 1.9–2.6 percent of GDP in 2020. In other words, the additional transfer payments combined with the growth in public consumption apparently prevented an additional decline of NIS 26–35 billion in GDP. This is in addition to the potential effect of preventing the collapse of businesses and the bankruptcy of households in coming years. However, the fact that economic activity during the crisis was supported to a large degree by public expenditure will pose a challenge once the crisis ends and the support programs end with it, which will involveain that the economy will need to transitionof the economy back to normal activity that relies on private consumption.

[18] Valerie A. Ramey (2019). "Ten Years After the Financial Crisis: What Have We Learned from the Renaissance in Fiscal Research?" Journal of Economic Perspectives 33(2): 89–114.

[19] Romer and Romer found that temporarily increasing transfer payments does not affect private consumption or GDP: Christina D. Romer and David H. Romer (2016). "Transfer Payments and the Macroeconomy: The Effects of Social Security Benefit Increases, 1952–1991", *American Economic Journal: Macroeconomics* 8(4): 1–42. In contrast, Coenen et al. found that an increase in transfer payments during a crisis has a multiplier of 0.2–0.6 in the case of general transfers and 1–1.5 in the case of goal-specific transfers to affected households: Gunter Coenen et al. (2012). "Effects of Fiscal Stimulus in Structural Models", *American Economic Journal: Macroeconomics*, 4(1): 22–68.

[20] Raj Chetty et al. (2020). "How Did COVID-19 and Stabilization Policies Affect Spending and Employment? A New Real-Time Economic Tracker Based on Private Sector Data", Working Paper No. w27431. National Bureau of Economic Research; Veronica Guerrieri et al. (2020). "Macroeconomic Implications of COVID-19: Can Negative Supply Shocks Cause Demand Shortages?", Working Paper NO. w26918. National Bureau of Economic Research.

[21] Christian Bayer et al. (2020). "The Coronavirus Stimulus Package: How Large is the Transfer Multiplier?" CEPR Discussion Paper 14600, Center for Economic Policy Research.

*3. Investment*

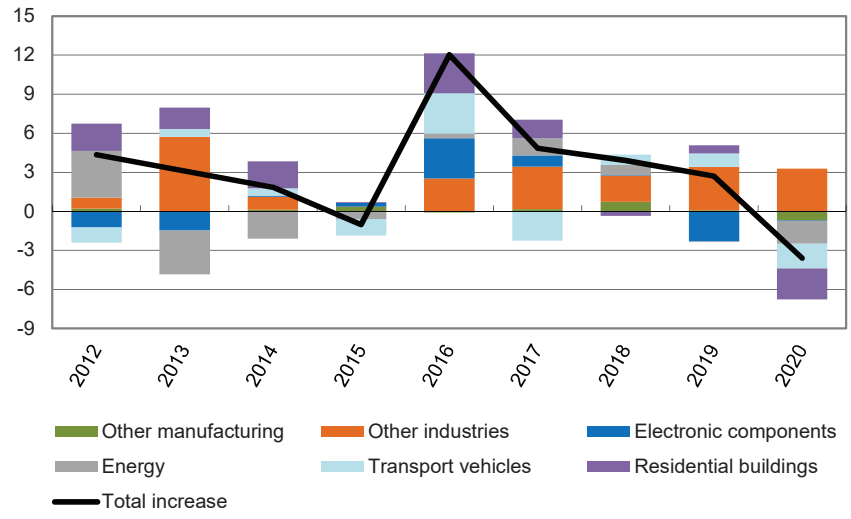
Fixed capital formation excluding ships and aircraft declined by 3.6 percent.

Investment in fixed assets (excluding ships and planes) declined by 3.6 percent this year. There were three main sources for this decline: residential construction, investment in energy, and the acquisition of vehicles by businesses (Figure 2.7). The adverse effect on investment was somewhat offset by the growth in investment in intellectual property and in transportation infrastructure.

Total investment in construction fell by 4.0 percent due the significant drop in nonresidential building starts and the slowdown in residential construction which began with the onset of the pandemic (Table 2.3). A detailed analysis of the developments in the construction industry and the housing market this year is presented in Box 2.3 at the end of this chapter. The reason for the drop in investment in energy is apparently the completion of work on the Leviathan natural gas field, which made it possible to begin production in December 2019. However, about 97 percent of these investments are imported and therefore have only a small effect on GDP. Investment in vehicles declined by about 28 percent, apparently as a result of leasing companies' response to lower demand for leased vehicles due to reduced travel.

In contrast, investment grew in the rest of economy (excluding manufacturing). This included investment in rail and road infrastructure, which was facilitated by the lockdowns and the restriction of railway activity that allowed projects to move forward more rapidly. There was increased investment (by 2.1 percent) in intellectual property, which reflected the high demand for products of the high-tech industries during the crisis.

**Figure 2.7**
**Increase in Fixed Capital Formation: Total and Contribution of Components, 2012–2020** (percentage points)




SOURCE: Based on Central Bureau of Statistics.

*4. Exports*

Investment in construction and energy and the purchase of vehicles declined.

Israel's exports continued to grow in 2020, despite the drop in global trade and in the imports to the OECD countries (Figure 2.8). The crisis's effect on exports was reflected primarily in the closing of the skies, which reduced the export of tourism services to almost zero. In contrast, other components of goods and services exports (excluding tourism, diamonds, and startups) grew at a rapid rate of 6.7 percent, the highest level since 2011. Following a number of years in which the growth of Israel's goods exports (excluding diamonds) was in line with the global rate, the growth rate in 2020 (3.3 percent) was higher than in the US and higher than the OECD average (Figure 2.9a). This was even more so in the case of services exports (excluding tourism and startups)[22], which grew by 11.0 percent this year. These exports from Israel grew even prior to the crisis at much faster rates than in the US and the OECD. In 2020, the gap widened: Services exports (excluding tourism) of the US and the OECD fell while the growth in Israel's services exports accelerated (Figure 2.9b).

Exports excluding tourism increased, in contrast to the contraction in global trade.

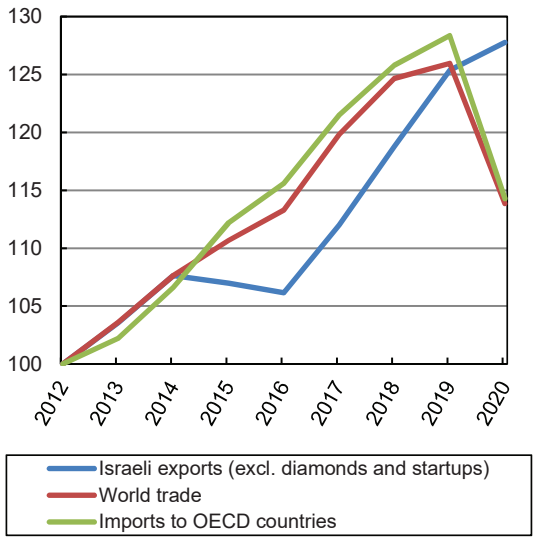
The striking differences in the crisis's effect on exports between Israel and other countries, particularly the OECD countries, underscore the unique characteristics of Israel's exports:

Israel's tourism exports were low relative to the OECD, and the closing of the skies therefore had less of an effect on Israel's GDP.

The proportion of Israel's tourism exports as a share of GDP was small relative to most of the OECD countries prior to the crisis (1.7 percent vs. an average of 3.3 percent). Therefore, the effect of the global decline in tourism on exports, and therefore on GDP, was smaller in Israel than in other countries.

Services account for a high share of Israel's exports relative to the OECD countries, and most of it is comprised of high-tech services. The global demand for services, and in

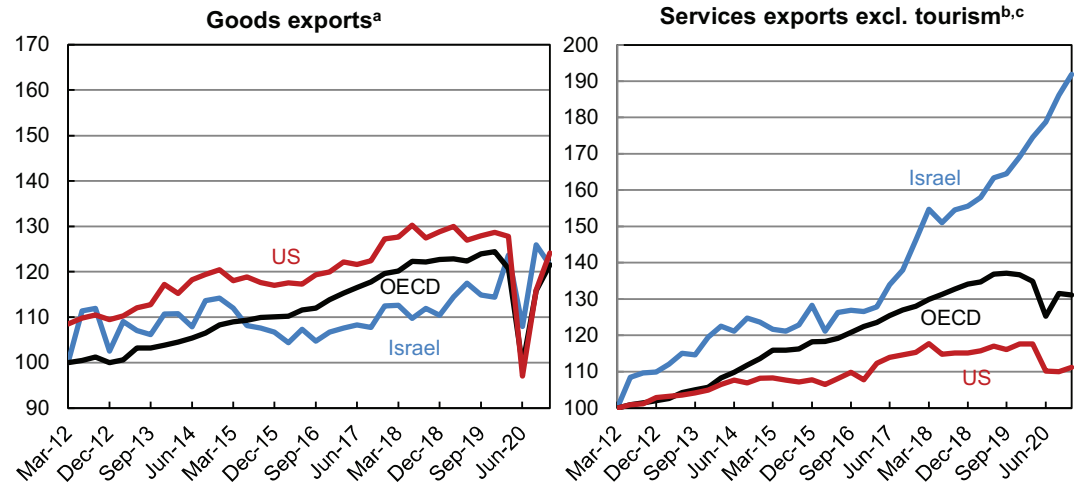
**Figure 2.8**
**World Trade, Imports to OECD Countries, and Israeli Exports, 2012–20**
(quantitative index: 2012=100)




SOURCE: Based on Central Bureau of Statistics and OECD.

[22] This aggregate is defined as "other business services", which accounted for an average of about 81 percent of services exports between 2016 and 19. (The remaining services exports were comprised of tourism services, the use of foreign workers, and the export of startup companies.) Most of the exports originated from the high-tech industries, but they also include the export of selected financial, professional, scientific and technical services, and services exports by other industries.

**Figure 2.9**
**Goods and Services Exports (excl. tourism) from Israel, US, and OECD Countries, 2012–2020** (quantitative indices, 2012:Q1=100)




[a] Israel—excl. diamonds.
[b] Israel—excl. the sale of startup companies.
[c] OECD and US—assuming that tourism declined by 25% in 2020:Q1 and by 90 percent during the rest of 2020 (relative to the 2019 average).
SOURCE: Based on OECD and Central Bureau of Statistics.

particular high-tech services, has grown together with global prosperity and with the growing possibilities for remotely delivering them, which facilitate the export of services in ways and at distances that were not possible until recently, particularly during a period of limited international mobility. One of the clearest expressions of this is the strong and persistent growth of startup companies in Israel. The output of these companies (which is not included in exports) grew by 12.2 percent in 2020, which is a continuation of the double-digit average growth since 2014. Global technological needs created as a result of COVID-19 apparently contributed to the growth in demand for high-tech services exports. Box 2.2 presents a more in-depth view of the developments in high-tech in 2020.

Israel's high-tech exports are a significant portion of its total exports, and the global demand for high-tech services continued to grow, particularly during the crisis.

**Box 2.2**

## The High-Tech Sector under the Shadow of the COVID-19 Crisis[1]

The high-tech sector, characterized by high productivity and high wages (see Table 1 for the main features of this sector) continued to grow in 2020 despite the economic crisis triggered by the spread of the COVID-19 virus. The overall annual growth rate in the high-tech sector was approximately 5.8 percent, exceeding the average annual growth rate of the past decade (Figure 1). The growth rate of the software segment, which accounts for the largest share of the sector (57 percent) was especially high, at 8.6 percent. Although output declined in specific high-tech segments (pharmaceuticals, aviation manufacturing, engineering R&D, and natural sciences), these segments jointly account for a small portion of the high-tech sector's output.[2] High-tech output, exports, and revenues increased steadily over the year, in contrast with many other industries, which experienced negative shocks resulting from the crisis and recovered only later in the year (Figure 2). High-tech capital raising soared in 2020, with a growth rate of 27 percent and a volume of US$ 9.9 billion (IVC, 2020). Most investments were in firms in the advanced growth stage, which were consequently able to continue to expand their business operations.

The high-tech sector's considerable share of the economy is apparently one of the factors underlying the more moderate adverse economic effects of the pandemic in Israel than in other developed countries. Figure 3 presents the association between the high-tech sector's share of GDP and the decline in GDP in the first

**Table 1**

**Characteristics of the high-tech sector[a], 2010–2019**

| | 2010 | 2019 | | 2010 | 2019 |
|---|---|---|---|---|---|
| High-tech output: | | | Number of employees (thousand) | 212 | 321 |
| Share of overall GDP | 11.2% | 12.6% | Share of all employed persons in the economy | 7.6% | 9.2% |
| Share of business sector output | 15.1% | 17.0% | Share with secondary education | 80% | 85% |
| Average annual growth rate (2010–2019) | 4.0% | | | 2011 | 2018 |
| High-tech exports (in US dollars) | 27,449 | 45,765 | Average wage per high-tech employee (NIS, 2018 prices) | 16,493 | 21,289 |
| Percentage of total exports | 34% | 40% | | | |

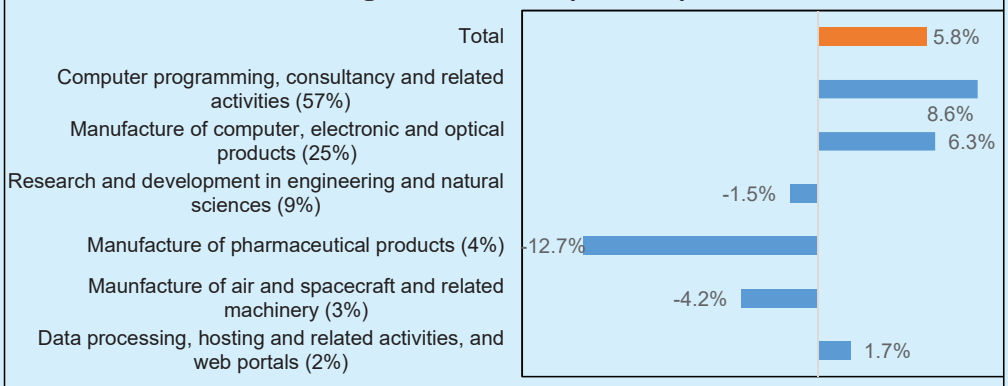
[a] For a precise definition of the high-tech industries, see footnote 1 of this Box.

SOURCE: Based on Central Bureau of Statistics, Israel Tax Authority, and Israel Innovation Authority.

[1] The high-tech sector is defined as the group of the following economic industries, based on the Central Bureau of Statistics classification (2011): Manufacture of pharmaceutical products, including homeopathic preparations(21); Manufacture of computer, electronic and optic products (26); Manufacture of air and spacecraft and related machinery (303); Computer programming, consultancy, and related activities (62); data processing, hosting and related activities, web portals (631); and Research and development centers in engineering and natural sciences (720 and 721). This definition is identical to the definition used by the Innovation Authority and is similar to the CBS definition of the high-tech industry excluding the communications industry. Nonetheless, several analyses include the communications industry where it was not possible to separate the data.

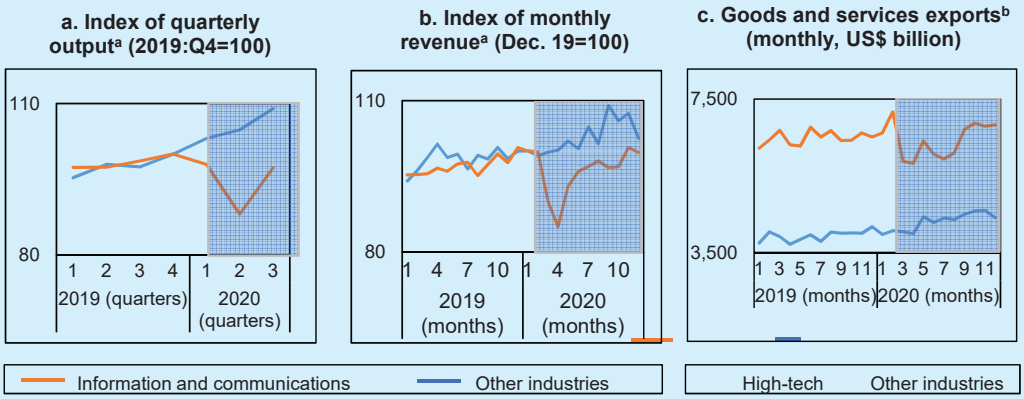
[2] The output of these industries accounts for a mere 16 percent of the total high-tech industry output. The pharmaceutical manufacturing industry contracted by 12.7 percent, further to the trend observed in recent years. This was unrelated to COVID-19, and resulted mainly from the declining position of Teva.

**Figure 1**
**Economic Growth in the High-Tech Sector, by Industry[a], 2019–2020**




[a] The number in parentheses represents the industry's share of high-tech sector output in 2019.
SOURCE:Based on Central Bureau of Statistics and Israel Innovation Authority.

**Figure 2**
**Development of the High-Tech Sector's Output, Revenue, and Exports During 2020**

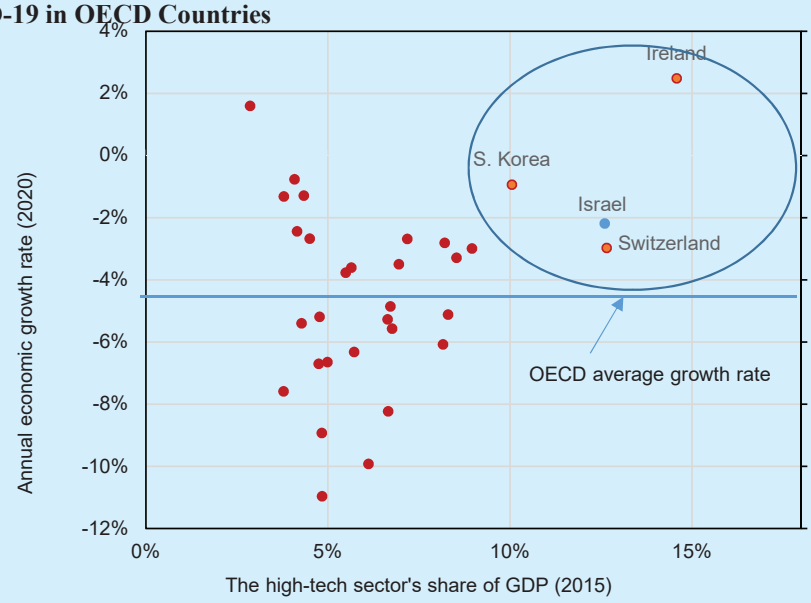



[a] The information and communications industries account for a considerable part (59%) of the high-tech sector's output, mainly in the field of software. A small part (15%) of the information and communications industries' output is not attached to high-tech.
[b] Seasonally adjusted. The exports of all high-tech industries plus the communications industry, excluding startup companies. For a precise definition of the high-tech industries, see footnote 1 in this Box. The exports of the other industries excludes diamonds.
The blue rectangles indicate the COVID-19 crisis period.
SOURCE: Based on Central Bureau of Statistics.

three quarters of 2020. Israel is in the group of four "high-tech superpowers" whose high-tech sectors make an especially high contribution to their GDP.[3] In these countries, GDP was only moderately affected—less than the pandemic's average impact in the OECD. In other countries, in which the high-tech sector does not constitute an exceptionally large share of the economy, no correlation was found between the high-tech sector's weight in the economy and the pandemic's adverse impact on GDP.

During the lockdowns and under stringent movement restrictions, the number of employees in the high-tech sector declined less than in other industries, mainly because most high-tech companies quickly adapted to work-from-home arrangements. According to a business survey conducted by the Central Bureau of Statistics during the spread of the COVID-19 virus ("the Real-Time Survey"), 58 percent of employees in this sector were able to transition to work-from-home in March, immediately after the outbreak of the crisis, compared with 26 percent in other industries.[4] The Real-Time Survey of January 2021 indicates that approximately 80 percent of high-tech employees work in companies that reported a desire to expand work-from-home options for their employees after the end of the crisis as well.[5]

**Figure 3**
**The Link Between High-Tech's Share of GDP[a] and the Economic Impact of COVID-19 in OECD Countries**




[a] Including the communications industry. For a precise definition of the high-tech industries, see footnote 1 in this Box.
SOURCE: Based on OECD STAT and STAN Industrial Analysis.

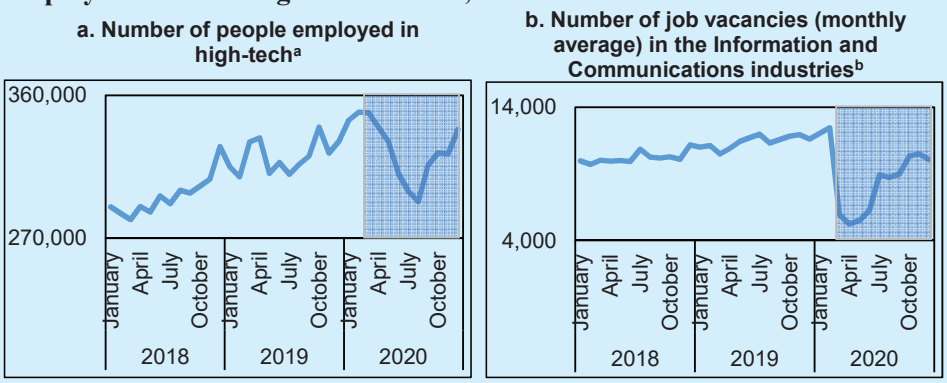
[3] A high-tech super-power is defined as a country in which the high-tech sector's share of the economy is greater by at least one standard deviation than the average share of the high-tech sector in OECD countries.

[4] It was conventional practice in many companies in the sector to permit partial work from home even before the COVID-19 crisis. According to a 2014 survey by Ethosia, an HR placement agency, 58 percent of high-tech companies permitted their employees to work part time from home, especially employees in the software, communications, and biotech sectors.

[5] Responded "to a great extent" or "to a very great extent" to the question: "In your opinion, how much will your firm seek to increase the scope of work from home at the end of the crisis, compared with the situation before the crisis?"

Despite the high work-from-home capabilities, and in contrast with the positive picture that emerges from output, revenue, and export figures, annual employment in the high-tech sector is complex, due to trends that changed sharply over the year (Figure 4A). Beginning in March, the number of employees in the high-tech sector declined, and in August employment reached its low point for the year, with approximately 293,000 employees—7 percent fewer than in August 2019. In the final third of the year, a quick recovery was recorded, and in December 2020 the number of employees had risen to approximately 339,000, exceeding December 2019 levels by 2 percent, yet still 3 percent lower than employment levels in the period immediately preceding the crisis (February 2020).

**Figure 4**
**Employment in the High-Tech Sector, 2020**




[a] For a precise definition of the high-tech industries, see footnote 1 in this Box.
[b] The information and communications industries account for a considerable part (59%) of the high-tech sector's output, mainly in the field of software. A small part (15%) of the information and communications industries' output is not attached to high-tech.
The blue rectangles indicate the COVID-19 crisis period.
SOURCE: Based on Central Bureau of Statistics Labor Force Survey.

The temporary decline in employment levels in the high-tech sector was the result of a wave of layoffs and furloughs. According to the Real-Time Survey, approximately 14 percent of individuals who were employed in the high-tech sector on the eve of the crisis were dismissed or furloughed in March-April, and this figure dropped to 9 percent in July. The decline in employment in this sector resulted not only from employee dismissals but also from a sharp drop in new recruits. For example, the number of job vacancies in the information and communications industries showed a steep decline in March–June (based on monthly averages) and was 48 percent lower than in the corresponding period in 2019 (Figure 4B). Recovery was rapid toward the end of the year, although even in October, 5 percent of precrisis high-tech employees remained unemployed (according to the Real-Time Survey). Moreover, the monthly number of job vacancies in October–December was still approximately 13 percent lower than in the corresponding period of 2019. Another finding of the Real-Time Survey that is indicative of the stress in the high-tech sector during the COVID-19 crisis is that a significant proportion of employers in this sector (whose companies jointly

employee 28 percent of the sector's employees) reported having made pay cuts to some of their employees at an early stage of the crisis (in May), more than in any other industry surveyed.[6]

These figures raise the question of how to reconcile the considerable annual growth in output, revenue, and exports in the high-tech sector over the entire year with the considerable decline in the number of employees in this sector in the first nine months of the year. One possible explanation is that despite the significant decline in the number of employees, labor inputs (effective number of hours) did not decline compared to the previous year, which prevented a potential drop in the sector's output (Figures 5A and 5B). The increased scope of work among existing employees can be explained by several possible factors: greater flexibility in work hours and savings in travel time due to working from home; pressure by employers and employees' increased motivation to invest efforts in view of layoff threats; and less incentive to take vacation time due to travel restrictions and restrictions on leisure activities.[7]

In addition, the employees who were dismissed may have been employees with relatively low productivity, which prevented some of the adverse effects. A study of CBS Labor Force Surveys found that the decline in employment of low-wage earners in the high-tech sector was slightly greater than the decline in employment of other earners, but the difference was not significant. In July–August 2020, the lowest point of employment in the high-tech sector in 2020, the sector recorded a 12 percent decline (compared to the monthly average in 2019) in the employment of employees whose salary in 2018 was in the bottom third in this sector, compared to a decline of approximately 8 percent in the employment of other employees. Moreover, the decline (7 percent) in employment of core employees was smaller than the corresponding decline in employment of noncore employees (10 percent), although the difference was not large.[8] Therefore the change in the composition of employees is not sufficient to explain the differences between the changes in high-tech sector output and employment this year.

Another potential explanation for the gap between high-tech sector output growth and the temporary decline in high-tech employment is related to the heterogeneous effects of the COVID-19 crisis on this sector. On the one hand, many technological applications such as video calls, interactive learning, video games, live streams, e-commerce, fintech, and food deliveries prospered as a result of COVID-19-related social distancing requirements. (For in-depth information, see CB Insights, 2020.) The transition to remote learning and work triggered a rise in the demand for computers and hardware, as well as the demand for technology-related jobs (in cloud service development, cybersecurity, IT maintenance, data science, and other fields; see Dice, 2020).

The high-tech sector does, however, include firms that suffered significant negative impacts as a result of the crisis. Specific technology sectors were directly affected, mainly transportation and tourism technologies.[9] Furthermore, the firms whose revenues significantly declined were typically small firms with few employees

[6] This figure is consistent with the study by Friedman (2017), who found that high salaries in the high-tech sector give firms a certain degree of flexibility in imposing salary cuts during a crisis, and therefore such salaries effectively serve as a safety cushion that enables them to avoid employee layoffs.

[7] For example, during the Jewish New Year holiday period in 2020, the number of work hours did not decline, in stark contrast to the corresponding period in 2019.

[8] Core employees are managers, programmers, engineers, practical engineers, technicians, and R&D workers. Noncore employees are the remainder of employees.

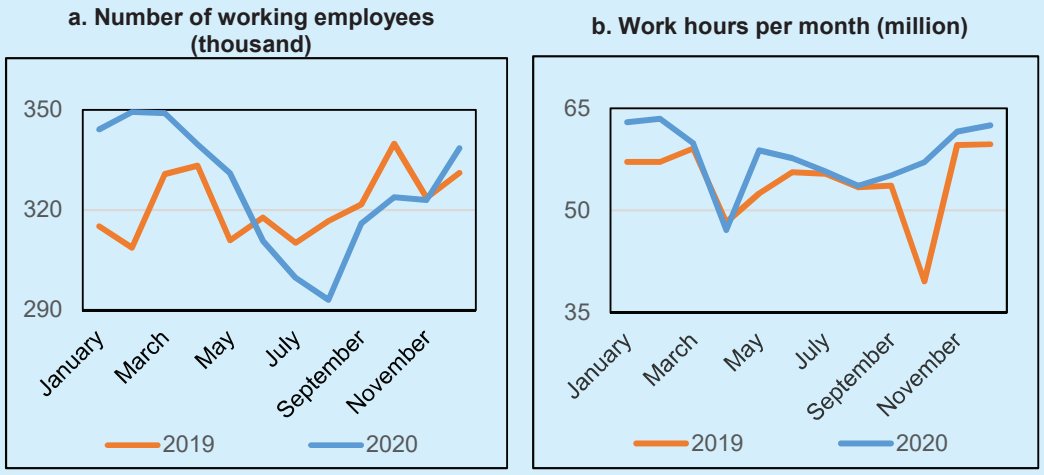
[9] In the United States, for example, ride-sharing application (e.g., Lyft, Uber) or tourism application (e.g., Tripadvisor) companies, or firms that tried to promote shared work spaces (e.g., WeWork), as well as businesses in other areas experienced a serious decline in activity and were forced to dismiss employees. See McBride and Cannon (2020).

and a limited ability to absorb economic shocks while maintaining employment.[10] Most of the firms that were adversely affected were early-stage start-up companies that suffered from operational difficulties at the outset of the crisis due to a lack of financing from potential investors who preferred to "sit on the fence" due to extreme uncertainty. This finding is supported by the sharp (35 percent) decline in capital raising by seed-stage start-up companies in 2020. (For additional information see Chapter 4 of this Report.)

COVID-19's heterogeneous impact on the high-tech sector may help us to understand why employment levels in this sector dropped despite the overall rise in output (although this is difficult to prove with certainty in the absence of specific firm-level data). It is reasonable to assume that firms that experienced economic difficulties and uncertainty were forced to dismiss or furlough employees as a means of coping urgently with liquidity difficulties. In contrast, firms that devised services to satisfy COVID-19-related demands enjoyed considerable increases in revenue, but they were unable to immediately increase the number of their employees at the same rate.

In summary, in 2020 the Israeli high-tech sector expanded, and demonstrated strong resilience, on average, in the face of the COVID-19 economic crisis, in contrast to other economic sectors that experienced more significant shocks. The crisis had a heterogeneous impact across firms and industries within the sector, and total employment in the sector declined until September, but thereafter recovered and soared.

**Figure 5**
**Change in the Amount of Work in High-Tech[a]: 2020 vs. 2019**




[a] For a precise definition of the high-tech industries, see footnote 1 in this Box.
SOURCE: Based on Central Bureau of Statistics Labor Force Survey.

[10] The Real-Time Survey indicates that the rate of high-tech companies that sustained a severe decline in revenue (more than 50 percent) was 2–4 times greater (with monthly differences) than the weighted impact on employees. This implies that the impact on revenue was experienced mainly by firms with few employees.

### b. The composition of sources—GDP, imports, and inventory

Imports dropped by 8 percent, which was much larger than the decline in GDP. This was because most of the decline in demand was in the demand for imports.

In addition to the decline in GDP, imports (excluding taxes) declined by 8.0 percent, or NIS 29 billion. This means that imports, which accounted for about one-quarter of sources in 2019, explain about 53 percent of the decline in sources in 2020. Imports therefore absorbed a significant share of the decline in demand.

The sharp decline in imports this year reflects two factors: a decline in travel abroad (NIS 23 billion), and a decline in mobility, which brought with it a decline in fuel consumption (NIS 5 billion) due to the lower travel in the country throughout the year. The total import of other (nontourism) services and other (nonfuel) goods was unchanged compared with 2019 (Table 2.6).

**Table 2.6**
**Quantitative imports and exports of goods and services, and changes in 2020[a]**

| | Weight in imports/exports | NIS billion - 2019 prices | | Change in 2020 | |
|---|---|---|---|---|---|
| | 2019 | 2019 | 2020 | % | NIS billion |
| **Imports excl. defense, ships, aircraft, and diamonds** | **100%** | **357.4** | **329.0** | **-7.9%** | **-28.4** |
| Services imports - Tourism | 8% | 29.0 | 6.0 | -79.1% | -22.9 |
| Services imports - Total excl. tourism | 24% | 85.8 | 84.5 | -1.4% | -1.2 |
| Goods imports - Fuel | 10% | 34.5 | 28.3 | -17.9% | -6.2 |
| Goods imports - Other | 62% | 222.4 | 223.8 | 0.7% | 1.5 |
| Conversion from CIF to FOB | -4% | -12.8 | -12.5 | -2.5% | 0.3 |
| **Exports excl. diamonds** | **100%** | **395.1** | **394.0** | **-0.3%** | **-1.1** |
| Services exports - Sales of startup companies | 3% | 10.9 | 2.4 | -78.1% | -8.5 |
| **Exports excl. diamonds and startups** | **97%** | **384.2** | **391.6** | **1.9%** | **7.4** |
| Goods exports - Manufacturing and agriculture | 50% | 197.3 | 203.7 | 3.3% | 6.4 |
| Services exports - Tourism and nonresidents' consumption | 7% | 27.1 | 9.4 | -65.2% | -17.7 |
| Services exports - Other | 40% | 159.9 | 178.5 | 11.6% | 18.6 |

[a] Technical note: The numbers of the import components do not precisely add up to the headline number. This is due to a variety of reasons, mainly the handling of the conversion from CIF to FOB, which does include diamonds, ships, aircraft.
SOURCE: Based on Central Bureau of Statistics.

## 3. MACROECONOMIC DEVELOPMENTS IN THE LABOR MARKET

The crisis affected employment more than GDP. Broad unemployment was high, and varied with the timing of the lockdowns.

The COVID-19 crisis constituted a shock to the labor market in Israel, accompanied by volatility that was exacerbated as a result of the lockdowns. The crisis's effect on employment was much stronger than its effect on GDP, as evident from the fact that the drop in total work hours was 3.5 times the drop in GDP (Table 2.7). The first lockdown led to more than a million workers being laid off (mostly furloughed), which raised the broad unemployment rate to 37.1 percent of labor force participants aged 15and above (Figure 2.10).[23] Most of them returned to work between the first and second lockdowns, and the broad unemployment rate fell to 11.7 percent, although during the

[23] For the definition, see footnote 4 in this Chapter.

**Table 2.7**
**The supply of gross domestic and business sector product, 1995–2019**

(annual change, percent)

| | 1995–2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|
| Gross Domestic Product | 3.7 | 3.8 | 3.6 | 3.5 | 3.4 | -2.5 |
| *of which* : Business sector product | 4.1 | 4.0 | 3.8 | 3.7 | 4.0 | -3.1 |
| Output of public services | 2.1 | 3.5 | 2.7 | 2.6 | 1.4 | -3.3 |
| Stock of physical capital | 4.4 | 3.4 | 3.9 | 3.9 | 3.9 | 4.0 |
| Labor force | 2.5 | 2.1 | 1.7 | 1.9 | 1.4 | -0.8 |
| Total hours worked | 2.7 | 3.8 | 2.2 | 1.3 | 0.9 | -8.0 |
| Total hours worked in the business sector | 2.6 | 4.2 | 2.0 | 0.8 | 1.1 | -9.7 |
| Total factor productivity | 0.5 | -0.6 | 1.1 | 1.2 | 1.4 | 2.3 |
| Output per work hour (nominal) | 4.5 | 1.1 | 2.2 | 3.5 | 5.2 | 7.3 |
| Labor compensation per hour worked (nominal) | 3.9 | 2.0 | 3.3 | 4.4 | 3.8 | 5.8 |
| GDP labor share | -0.6 | 0.8 | 1.1 | 0.8 | -1.4 | -1.4 |
| GDP labor share (level) | 58.6 | 55.4 | 56.0 | 56.5 | 55.7 | 55.1 |
| Potential output[a] | | 3.4 | 3.2 | 3.5 | 3.5 | 3.0 |
| Output gap[a,b] | 0.0 | 0.1 | 0.3 | 0.6 | 0.3 | -5.3 |

[a] Estimate. Potential output is equal to the output in a hypothetical equilibrium in which capacity utilization of all factors of production is similar to the long-term average. At this stage, it is difficult to assess whether the COVID-19 crisis led to a long-term change in the path of potential output. The output gap reflects the extent to which actual GDP deviates from potential output. The change from year to year in the output gap is not the same as the difference between actual growth and potential growth as there are gaps between the quarterly and annual National Accounts data.

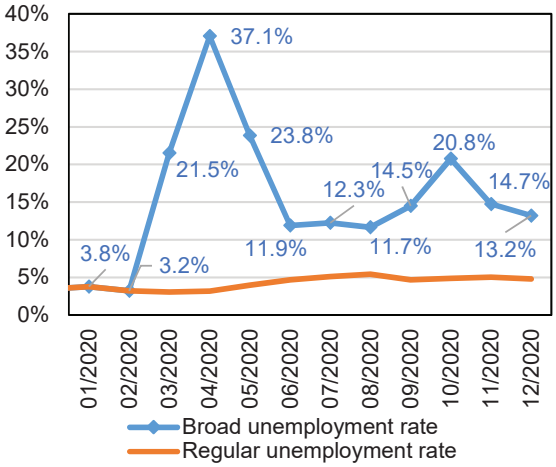
[b] A negative output gap is obtained when actual GDP is lower than potential GDP.

SOURCE: Based on Central Bureau of Statistics.

second lockdown it again jumped to 20.8 percent. Many of the furloughed workers returned to work after the second lockdown, such that the broad unemployment rate fell back to 13.2 percent by the end of the year, before rising again in early 2021 with the tightening of the third lockdown, and then falling again with the opening of the economy in February. The number of employee posts (excluding furloughed workers) declined by an average of 10 percent in 2020.

Some of the unemployed were furloughed for most of 2020, and some were even unemployed continuously starting from the first lockdown. Thus, their return to the place of work from which they were furloughed is not guaranteed. The unpaid leave model is meant to ease the return of workers to employment at the end of the lockdown. However, due to the prolonged duration of some furloughs, and in order to prevent prolonged damage to the economy (known as scarring) as a result of furloughs or temporary unemployment turning into long-term unemployment, the government took various steps to encourage workers to return to work. This primarily involved steps

**Figure 2.10**
**The Unemployment and Broad Unemployment Rates* (Age 15+), Jan.–Dec. 2020**




* Includes the unemployed, temporarily absent due to reasons having to do with COVID-19 (including furloughs), labor force nonparticipants who were dismissed from March 2020 onward, and nonparticipants who stopped working for other reasons or did not work in the past and are interested in working now, but did not look for work in the past month due to COVID-19.

SOURCE: Central Bureau of Statistics.

to incentivize businesses to hire them (see Chapter 5, Section 2 on the policy adopted in the labor market in Israel). This is in view of indications that a significant part of the prolonged impact on employment (between the lockdowns) was a reflection of low demand for workers among employers, as shown by the drop in the job vacancy rate in the economy and by the ratio between the number of unemployed and the job vacancy rate.

Work hours declined, but somewhat less than the number of workers.

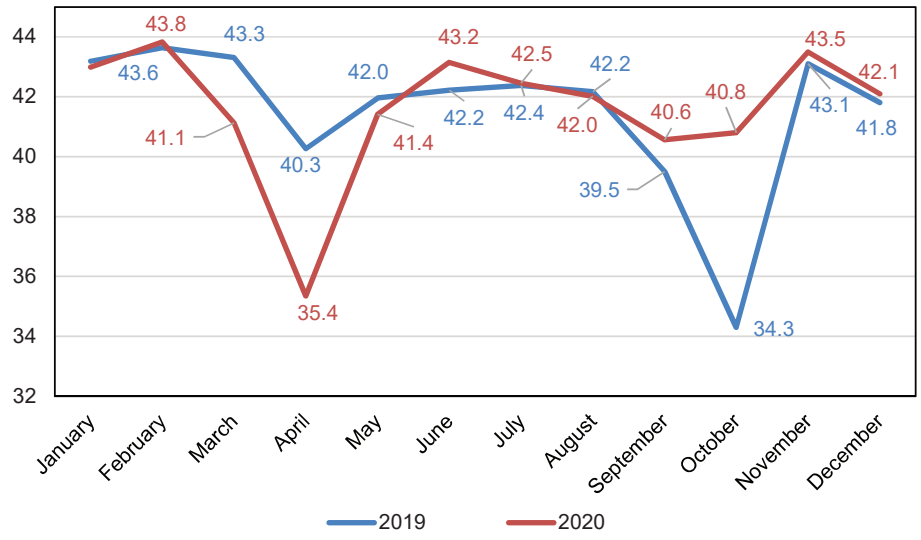
The large decline in the number of workers was also reflected in fewer work hours (Table 2.8). However, the drop in work hours was more moderate, since the proportion of furloughed employees who worked in part-time jobs prior to the crisis was higher than that of other employees, and also because the number of work hours increased for some of the employees who remained at work. This was particularly noticeable during the second lockdown, which began during the High Holiday period, such that workers who were not furloughed worked more than during a normal year due to the inability to take holiday time and the ability to work from home. In contrast, during the first lockdown, for which the economy was unprepared, there was a noticeable drop in work hours even among workers who were not furloughed (Table 2.11).

The restrictions and the lockdowns were the main reason for the increase in private savings.

As mentioned, the effect on employment this year was worse than the effect on GDP. An examination of productivity-weighted labor input[24] shows that it declined less than regular labor input (total work hours), since the wages (productivity) of furloughed workers was lower on average than that of employees who continued to work. In order to understand the source of this phenomenon, it is important to determine whether it is the result only of the fact that close-proximity industries,

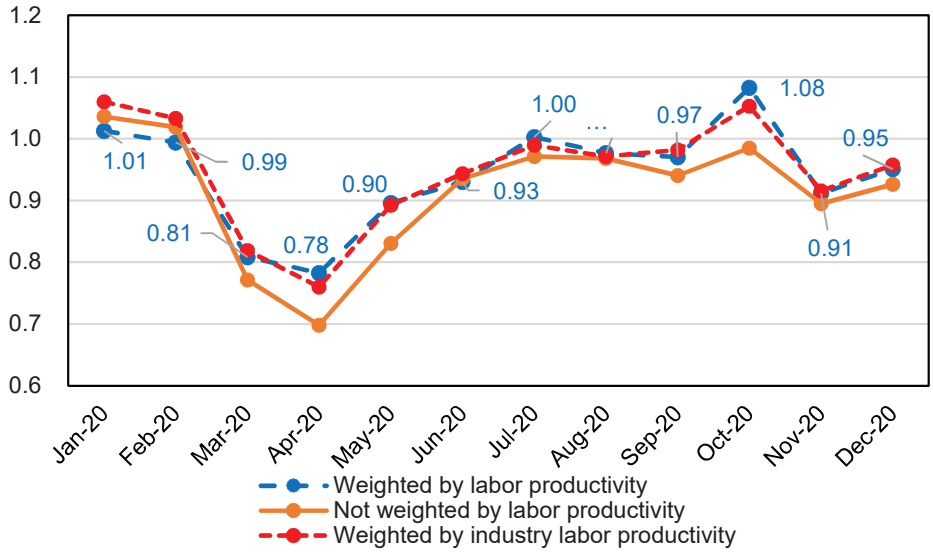
[24] The weighting is according to 2018 wages since that is the most recent year, at the time of writing, for which there is available wage data.

**Figure 2.11**
**Average Weekly Work Hours of Persisent Workers* (by Month), 2019 and 2020**




* Persistent worker: A person who was not unemployed or temporarily absent due to COVID-19 in the past two years.
SOURCE: Based on Central Bureau of Statistics.

**Figure 2.12**
**Labor Input in 2020 Relative to the Same Month in 2019** (monthly ratio)




SOURCE: Based on Central Bureau of Statistics.

which were the main targets of the restrictions, are characterized by low productivity, or perhaps within each industry the workers with the lowest productivity relative to their colleagues were furloughed. This can be determined using the labor input weighted by the industry's average wage. In this analysis, the work hours of each worker are weighted by the average wage in the industry in which he works rather than by his own wage. Figure 2.12 shows that this curve is almost identical to the productivity-weighted curve. This implies that the difference between the moderate drop in GDP and the large increase in the broad unemployment rate is primarily a result of the restrictions on the specific industries in which wages are low. In other words, it is due to the large number of furloughed workers in close-proximity industries. It can therefore be concluded that there was no general phenomenon in which workers with low productivity (wages) relative to the industry in which they are employed were furloughed. (For more discussion of the wages by industry in the close-proximity industries relative to other industries, see Box 2.1 and Table 5.3.)

**Table 2.8**

**Principal labor market data, 1995–2020[a]**

(annual change, percent)

| | 1995–2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|
| Population aged 15+ | 2.1 | 2.0 | 1.9 | 2.0 | 2.1 | 1.9 |
| Labor force participation rate aged 15+ (level) | 56.7 | 64.1 | 64.0 | 63.9 | 63.5 | 61.8 |
| Employment rate aged 15+ (level) | 55.6 | 61.1 | 61.3 | 61.4 | 61.1 | 59.1 |
| Unemployment rate aged 15+ (level) | 7.8 | 4.8 | 4.2 | 4.0 | 3.8 | 4.4 |
| Broad unemployment rate aged 15+ (level)[b] | | | | | | 15.7 |
| Employed persons (Including non-Israelis)[c] | 2.7 | 2.3 | 2.4 | 1.7 | 1.7 | -1.9 |
| *of which*: Employed in the business sector[c] | 2.6 | 2.8 | 2.2 | 0.8 | 1.5 | -3.9 |
| Employed in the public services[c] | 3.0 | 1.4 | 2.8 | 3.5 | 2.0 | 1.9 |
| Employed Israelis aged 15+ who actually worked (were not temporarily absent) | 2.7 | 2.6 | 3.0 | 1.6 | 1.3 | -9.4 |
| Total work hours (including non-Israelis) | 2.7 | 3.8 | 2.2 | 1.3 | 0.9 | -8.0 |
| *of which*: Total work hours in the business sector | 2.6 | 4.2 | 2.0 | 0.8 | 1.1 | -9.7 |
| Total work hours in the public services | 3.2 | 2.5 | 2.8 | 2.9 | 0.4 | -2.2 |
| Hours per employed person (including non-Israelis) (level) | 36.7 | 37.0 | 36.9 | 36.7 | 36.4 | 34.2 |
| *of which*: Hours per employed person in the business sector (level) | 42.1 | 42.5 | 42.4 | 42.4 | 42.2 | 39.6 |
| Hours per employed person in the public services (level) | 25.0 | 25.7 | 25.7 | 25.6 | 25.2 | 24.2 |
| Employee posts (including non-Israelis) | 2.7 | 3.5 | 3.3 | 2.5 | 2.0 | -10.0 |
| *of which*: Employee posts in the business sector | 2.6 | 3.6 | 3.0 | 2.1 | 1.4 | -13.5 |
| Employee posts in the public services | 3.1 | 3.3 | 3.8 | 3.4 | 3.2 | -3.2 |
| Job vacancy rate (level) | | 3.7 | 3.8 | 3.7 | 3.5 | 2.5 |
| Nominal wage per employee post[d] | 3.9[e] | 2.2 | 3.0 | 3.5 | 2.9 | 6.8 |
| Real wage per employee post[d] | 0.9 | 2.8 | 2.8 | 2.7 | 2.0 | 7.8 |

[a] Unemployment data in this table are presented for those aged 15+ in accordance with the Central Bureau of Statistics defintion.

[b] Including the unemployed, those temporarily absent for reasons having to do with COVID-19 (including furloughs), nonparticipants who were dismissed from March 2020 onward, and nonparticipants who stopped working for other reasons or did not work in the past and are interested in working now, but have not looked for work in the past month due to reasons having to do with COVID-19. This figure was defined in 2020 due to the COVID-19 crisis, and is therefore not reported for previous years.

[c] The number of employed persons in 2020 includes those temporarily absent from their jobs for reasons having to do with COVID-19.

[d] These wage data misrepresent the situation in 2020. The rise in wages in 2020 is mechanical, an effect of furloughing many workers who earned below-average wages. Therefore the average wage in 2020 includes significantly fewer workers than in prior years and their average wage is higher.

[e] Between 1995 and 1999, the nominal wage was affected by high inflation, and from 2000, the nominal wage has increased at an average annual rate of 2.5 percent.

SOURCE: Based on Central Bureau of Statistics.

## 4. SAVINGS, INVESTMENT, AND THE CURRENT ACCOUNT

Private saving also increased due to precautionary motives.

As mentioned in previous sections, private disposable income rose significantly this year (Table 2.5), and as a result gross private savings increased by 8.6 percent of national income (Table 2.9). There are two possible reasons for the increase in savings. The first is forced saving due to the restrictions imposed as a result of the crisis, as discussed in Section 1 and in the subsection on private consumption in Section 2. Since it was generally believed that the crisis would not continue for an overly long period, it appears that the public waited rather than shifting consumption to the goods and services that were available.

The second reason is precautionary saving. The COVID-19 pandemic and the various attempts to deal with it created uncertainty on a number of levels: how long the crisis would last and how it would develop; what the economic fallout would be until the crisis is over; and whether there would be additional lockdowns and when. It is also not known when and how the high level of government expenditure to deal with crisis will be financed. Such a situation can also motivate individuals to save because they know that the repayment of the debt that was increased in order to finance those expenditures may lead to an increase in taxes in the future and/or a reduction in the growth of government services or transfer payments to households (the Ricardian effect). The decline in public savings during the years 2018–19 was accompanied by an increase in private savings. This correlation may signal that there was some Ricardian response to the growing deficit in recent years, and it is therefore probable that part of the increase in private savings in 2020 was due to the same reason.

National savings rose while national investment rose only slightly. As a result, the current account surplus increased.

The high level of government expenditure to deal with the COVID-19 pandemic was reflected in a decline in public savings of 6.4 percent of national income. Total gross national savings rose to its highest rate since 1965: 26.8 percent of national income. Gross investment rose only slightly in 2020, which was due to growth in investment in the inventory of startup companies, which was only the result of a decline in the sales of such companies.[25] Since the growth in national savings was greater than the growth in national investment, most of the growth in savings was channeled to investment abroad, which increased the current account surplus from 3.3 percent of national income in 2019 to 5.0 percent in 2020.[26]

[25] Startup companies generally require years of initial development until they produce goods or services, during which they consume inputs. Their yearly output during that time is therefore recorded as an increase in the inventory of work-in-progress in the economy. When such companies are sold (exit), the sales are recorded as a part of exports and are subtracted from the inventory of work-in-progress of startup companies in the economy. In other words, sales of startup companies appear as a disinvestment in the economy's inventory of such companies. If the sales of startup companies do not keep pace with the growth of their output (which is particularly rapid during the companies' development stage), then total investment in the inventory of work-in-progress of startup companies in the economy will increase.

[26] This surplus has varied in the vicinity of 3 percent of national income in recent years.

### a. The current account

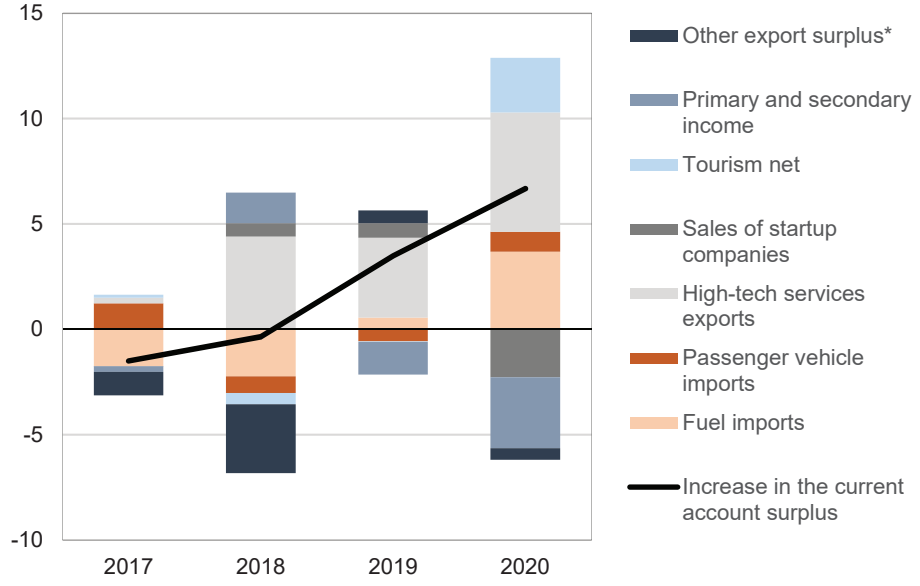
The current account surplus was larger than in 2019.

The current account surplus was about $20 billion in 2020, which is about $6.7 billion more than in 2019 (Figure 2.13).[27] This increase was the result of a number of developments, most of which are related to the global COVID-19 crisis: the improvement in the terms of trade as a result of the drop in oil prices, the drop in distance traveled, the closing of the skies, and the continuing high level of success of Israeli high-tech services.

The drop in energy and vehicle imports together with lower oil prices raised the current account surplus.

The monetary value of energy imports fell by $3.7 billion in 2020. Most of that ($2.5 billion) was the result of the fall in oil prices at the beginning of the crisis. Later on, that was accompanied by a drop in distance traveled, which led to a reduction in the imported quantity of fuel. In parallel, passenger vehicle imports declined by $0.9 billion, and the import of commercial vehicles also fell, though to a lesser extent. The price effect of the drop in oil prices was somewhat offset by the weakness of the dollar worldwide, particularly against the euro. This worked to worsen Israel's terms of trade since Israel's exports are biased toward the US more than its imports. According to estimates based on the statistical relationship between changes in the exchange rate and changes in the terms of trade, the changes in the exchange rate contributed

**Figure 2.13**
**Change in the Current Account Surplus, and Contribution of the Main Components, 2017–20** ($ billion)




* Excluding components listed separately.
SOURCE: Based on Central Bureau of Statistics (balance of payments and foreign trade).

[27] The discussion of the current account is in dollar terms in order to neutralize the effect of the shekel's appreciation on movements in the account. As an approximation, every billion dollars is equal to 0.25 percent of national income.

0.6 percentage points to the worsening of Israel's terms of trade, which reduced the current account surplus by about $0.8 billion.

The closing of the skies contributed to the increase in the current account surplus, due to the surplus in tourism imports over tourism exports prior to the crisis.

One of the main events that affected Israel's balance of payments was the almost total closing of the skies to incoming and outgoing tourism. This reduced the inflow and outflow of tourism to almost zero starting in the second quarter of the year, and directly contributed about $2.6 billion to the increase in the current account surplus, alongside a reduction of about one percent in GDP.[28] The contribution to the current account surplus is a result of the fact that Israel's import of tourism services ($10.4 billion in 2019) was greater than the income from incoming tourism ($7.3 billion in 2019). However, the effect of the closing of the skies on GDP in 2020 was dependent on the response of Israeli consumers to the lack of any possibility of going abroad, as described in Section 2 on private consumption, and particularly on the degree to which they substituted a local holiday or purchased some other good as a substitute for a holiday abroad.

**Table 2.9**
**Savings, investment and the current account, 1995–2020**

(percentage of national income)

| | 1995–2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|
| **Gross national savings** | 22.1 | 24.3 | 24.0 | 23.9 | 24.4 | 26.6 |
| *of which*: Public | -1.3 | 1.0 | 1.2 | -0.8 | -1.2 | -7.6 |
| Private | 23.5 | 23.3 | 22.8 | 24.7 | 25.6 | 34.2 |
| **Gross investment** | 21.2 | 20.7 | 21.2 | 21.3 | 21.0 | 21.6 |
| *of which*: In principal industries | 14.6 | 13.6 | 13.6 | 14.5 | 14.2 | 14.3 |
| *of which*: General government's investments[a] | 3.8 | 3.4 | 3.7 | 3.9 | 3.8 | 4.8 |
| In housing | 5.9 | 6.6 | 6.7 | 6.5 | 6.4 | 6.1 |
| In inventory | 0.7 | 0.5 | 0.8 | 0.3 | 0.5 | 1.3 |
| **Net current account** | 0.9 | 3.6 | 2.9 | 2.6 | 3.3 | 5.0 |
| *of which*: Balance of goods and services | -1.0 | 1.7 | 1.2 | 0.6 | 1.8 | 4.3 |
| Net income account | -2.5 | -0.9 | -0.5 | -0.1 | -0.5 | -1.1 |
| Net current transfers | 3.5 | 2.6 | 2.0 | 1.8 | 1.7 | 1.5 |
| Terms of trade[b] | 0.1 | 3.2 | -1.6 | -3.0 | 3.9 | 1.0 |
| Real effective exchange rate[b,c] | 0.0[d] | -1.5 | -4.4 | 2.1 | -2.5 | -3.1 |

[a] Including investment grants.

[b] Rate of change in annual terms, percent.

[c] Adjusted to the Consumer Price Index. An increase refers to depreciation.

[d] The figure relates to the years 1999–2015.

SOURCE: Based on Central Bureau of Statistics.

[28] As a result of the approximately NIS 20 billion decline in the tourism exports, on the assumption of about 75 percent value added in tourism.

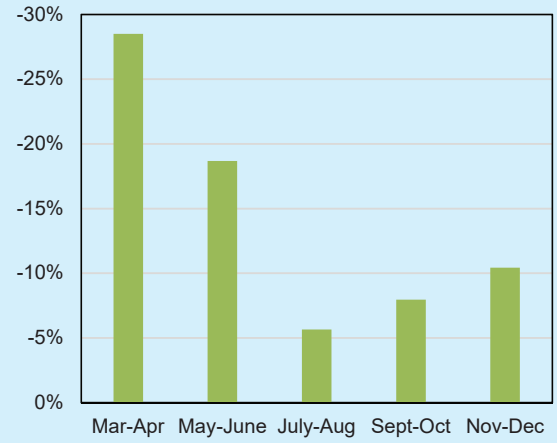
**Box 2.3**

**Developments in the Construction Industry**

**a. The production chain in the construction industry**

Construction activity slowed due to the COVID-19 crisis and its resulting uncertainty and lockdowns, yet the industry's exclusion from the lockdowns—a step that the Bank of Israel considered of importance throughout the crisis—helped mitigate the adverse effects of the crisis. In 2020, construction industry output declined by approximately 4.3 percent, total investment declined by approximately 4.2 percent, and labor inputs[1] declined by approximately 14 percent. Residential building starts in 2020 were approximately 3.5 percent lower than in the previous year.[2] The decline in the number of employees in the construction industry was especially steep around the first lockdown. It moderated in July–August to approximately 5.6 percent, and then worsened again (all figures are in comparison with the corresponding periods of the previous year, see Figure 1). According to the real-time survey conducted by the Central Bureau of Statistics (Wave 7 conducted in July 2020), the key cause of the impact on construction industry activity was a drop in demand.[3]

**Figure 1**
**Rate of Decline in the Number of Employed People Relative to the Corresponding Period Last Year, Construction Industry** (original data, prime working ages)




SOURCE: Central Bureau of Statistics Labor Force Survey and Bank of Israel Research Department Analysis.

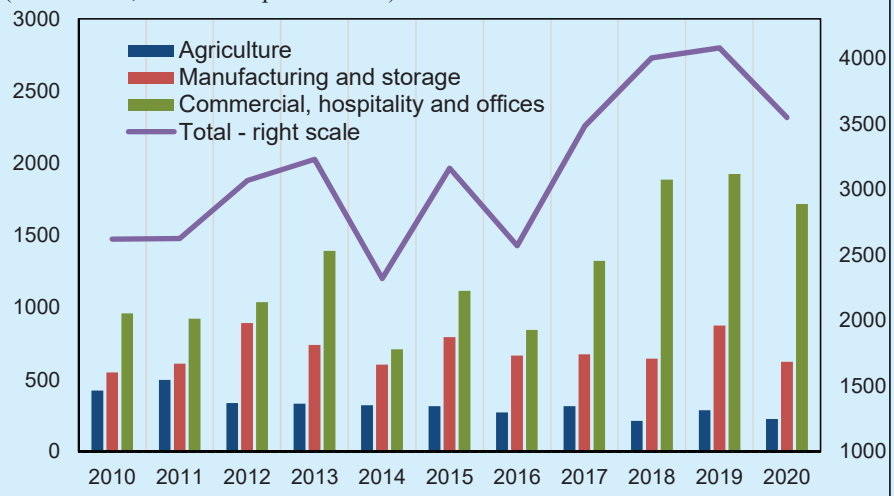
Uncertainty concerning the future of income-producing real estate as a result of the COVID-19 crisis and the increasing scope of work from home and remote shopping adversely affected nonresidential construction. After an increase of approximately 40 percent in annual nonresidential building starts between 2016 and 2019—especially construction for commerce, hospitality, and offices—the number of building starts began to decline when the crisis began in 2020, with nonresidential construction declining by approximately 30 percent in the second and third quarters (compared with the corresponding quarters of 2019). The main decline—

1 Total work hours.
2 Because the building start data published by the CBS are revised upward, the decline is apparently smaller.
3 Central Bureau of Statistics surveys do not distinguish between companies operating in residential construction and companies in nonresidential construction (or companies operating in both).

approximately 40 percent—was in building starts for commercial, hospitality, and office spaces.[4] Building starts recovered in the fourth quarter, and the annual decline compared to 2019 was approximately 13 percent (Figure 2). The impact on nonresidential construction was also reflected in a decline in income-producing real estate companies' market cap, especially those focusing on commercial properties.[5] The decline reached a maximum of approximately 40 percent, but this trend changed in October, and the decline at the end of December amounted to 20 percent.

Multiple indicators of residential construction activity pointed to a slowdown that began with the inception of the crisis and tapered off in the fourth quarter. The number of housing starts in 2020 was about 3.5 percent lower than in 2019, mainly due to a 20 percent decline in the second quarter. The number of housing completions in 2020 was 8 percent lower than in 2019, and investment in residential construction declined in that period by approximately 7.7 percent. In 2020, district planning and building committee approvals of plans, as well as the marketing of land by the Israel Land Authority, declined. The production process of homes is lengthy, and comprises multiple stages. As such, the delays in various stages in the production chain this year, resulting from the crisis, may generate future effects. The following is a discussion of the major stages of this process and the changes in them that resulted from the COVID-19 crisis.

**Figure 2**
**Nonresidential Building Starts by Designation**
(annual data, thousand square meters)



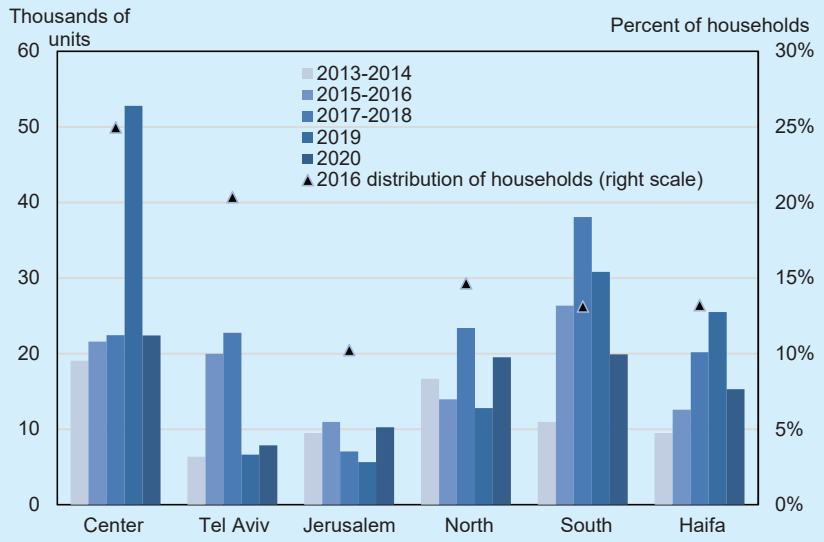

SOURCE: Based on Central Bureau of Statistics data.

[4] Nonresidential building completions, which are largely affected by building starts in previous years, increased by 3 percent in 2020, and investment in nonresidential construction increased by approximately 0.5 percent.

[5] See Box "The Decline in Value of Commercial Real Estate Companies in View of the COVID-19 Crisis" in the Bank of Israel's *Financial Stability Report* for the Second Half of 2020.

1. Approval of plans by district committees and the National Planning and Building Committee for Priority Housing Areas (VATMAL):[6] In 2020, the district committees and VATMAL approved a total of approximately 95,000 housing units—a decline of approximately 30 percent (compared with 2017–2019). The number of approved housing units declined in the Haifa, center, and southern districts (Figure 3). The share of high-demand areas in committee approvals remained relatively stable, although there was a marked decline in approvals in the center district, following an exceptionally high number of approvals in 2019.[7] The slowdown in planning committees' activity during the COVID-19 crisis[8] was apparently due to logistical difficulties in managing planning procedures under the imposed health-related restrictions, and specifically the social distancing restrictions that prevented committees from convening for meetings and discussions. However, as the crisis continued, the transition to online discussions seemed to considerably reduce the adverse effects on the district committees' activity.

**Figure 3**
**Regional Distribution of District Committee and VATMAL Building Permits**




SOURCE: Based on Planning Administration.

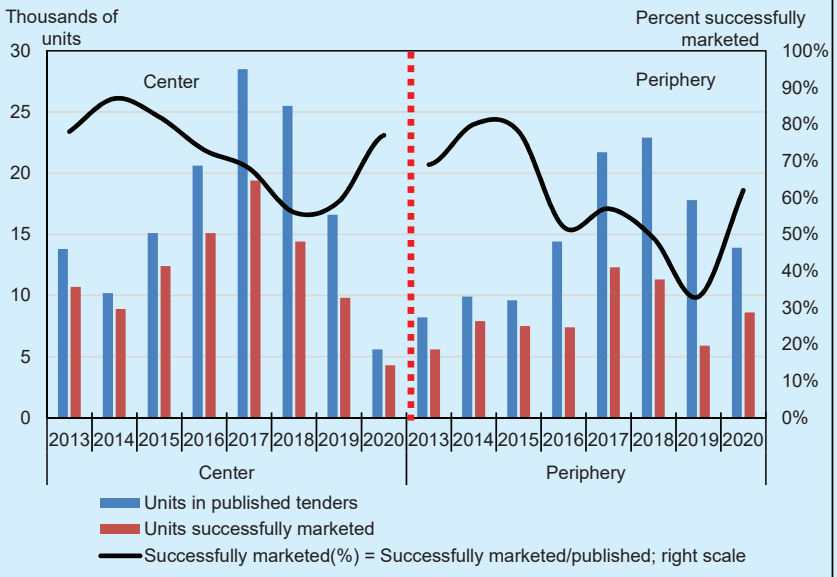
[6] The medium- and long-term planning inventory is created, and its spatial distribution is determined, at this stage. The National Planning and Building Committee for Priority Housing Areas (VATMAL) was scheduled to suspend its operations in July 2019, but its operations were extended several times, and it may continue to decide on urban renewal and other unique projects.

[7] The National Housing Directorate operated between 2016 and 2019. This agency was established in 2015 to coordinate the activities of the relevant governmental and nongovernmental agencies in order to promote progress in housing plans.

[8] According to "Activities of Planning and Construction Institutions during the COVID-19 Crisis," published by the Knesset Research and Information Center, the number of district committee hearings in March–April declined by approximately 60 percent, and the number of housing units approved by district committees during this period declined by approximately 50 percent.

2. Marketing of land by the Israel Land Authority: In 2020, the number of housing units that were successfully marketed in tenders as a share of total published tenders increased, both in the country's center and in its periphery. In the periphery, the share of successfully marketed units was lower than in the center, yet the number of successfully markets units was higher than in 2019 (Figure 4). In 2020, the Israel Land Authority marketed land for the construction of only about 14,200 units[9], compared to 20,000 in 2019, which continued the downward trend that began the previous year (Figure 4). Due to the outbreak of COVID-19 and the first lockdown, the Israel Land Authority was forced to postpone the closing dates of several tenders this year, Delays in developing and approving the new "Reduced Price Housing" program to replace the "Buyer's Price" program, and in the conversion of outstanding Buyer's Price tenders to tenders in the new program, also contributed to the decline in the number of tenders issued.

**Figure 4**
**Land Marketing: Published Tenders and Tenders with Winners** (thousands of units, high-density construction, 2013–2020)




SOURCE: Based on Israel Land Authority data.

3. Building permits issued by local committees: Figures on permit issues (for residential construction) in the second and third quarters were stable relative to the corresponding period of 2019, and indicate that COVID-19 restrictions had no significant impact on the local committees' licensing activities.[10]

[9] High density construction, tenders that were awarded to a winner.
[10] Unlike the other stages, which entail a significant financial outlay, the cost of obtaining a building permit is relatively low and therefore, despite the uncertainty, the issuing of building permits did not constitute a tangible risk for construction companies.

Possibly the transition to online permit issuing (through the Accessible Licensing system) before the outbreak of the pandemic prevented disruptions to the committees' licensing activities[11], as did the absence of permit application handling costs for developers after applications are submitted. Approximately 51,700 permits were issued in 2020, reflecting a decline of approximately 8 percent compared with 2019, which was due to the approximately 24 percent decline in the number of permits issued in the fourth quarter.[12]

4. Construction: The final stage in the housing production chain. The exclusion of the construction industry from the requirements to reduce economic activity reduced the pandemic's effects, although activity slowed down and the number of employees in the industry declined during the lockdowns.[13] The number of building starts in 2020 was approximately 51,600, a decline of approximately 3.5 percent compared with 2019.[14] The development of building starts was uneven over the year (Table 1). The main decline occurred in the second quarter, concurrent with the outbreak of COVID-19. In that quarter, the number of building starts declined by approximately 20 percent. The decline tapered off to approximately 12 percent in the third quarter, while there was stability in the fourth quarter (all quarters compared with the corresponding quarters of the previous year).

**Table 1**
**Building starts and completions, and number of employees in the construction industry**

| Construction industry | Israeli workers (thousands) | Foreign workers (thousands) | Palestinian workers[a] (thousands) | Building starts (thousands of units) | Building completions (thousands of units) |
|---|---|---|---|---|---|
| 2019:Q4 | 195 | 20 | 68 | 14 | 11.9 |
| 2020:Q1 | 189 | 19 | 62 | 15 | 12.2 |
| 2020:Q2 | 155 | 18 | 37 | 10.4 | 12.9 |
| 2020:Q3 | 175 | 18 | 58 | 12 | 10.5 |
| 2020:Q4 | 170 | 19 | 66 | 14.2 | 12.2 |

[a] Palestinian workers with permits.

SOURCE: Based on Central Bureau of Statistics.

[11] According to the publication "Activities of Planning and Construction Institutions During the COVID-19 Crisis," published by the Knesset Research and Information Center, the number of building plans approved by local committees declined by approximately 30 percent in March-April, compared to a decline of approximately 50 percent in the number of plans approved by district committees.

[12] A record high of approximately 16,800 building permits were issued in the fourth quarter of 2019, which also contributed to the anomalous decline in the fourth quarter of 2020 compared with the corresponding period of the previous year.

[13] See Box "Effects of the COVID-19 Crisis on the Construction Sector" in the *Financial Stability Report* for the First Half of 2020.

[14] And the effective decline was even smaller due to expectations of an upward revision in the number of building starts.

In 2020 construction was completed on approximately 47,900 apartments, reflecting a decline of approximately 8 percent from 2019. The main cause of this decline is the increased duration of the construction process[15], which increased from an average of 29.5 months in 2019 to 33.3 months in the fourth quarter of 2020. Delays in construction were caused by COVID-19-related restrictions. Although the construction industry was excluded from the requirements to reduce economic activity, work did not continue as usual. During the lockdowns, the number of Palestinian workers in the construction industry was lower than the quota, especially during the first lockdown in April, apparently due to employment-related restrictions.[16] Table 1 shows the number of employees in the construction industry alongside the number of building starts and completions. In contrast to building starts, which are largely affected by the expected demand for apartments, the number of building completions is a function of the number of building starts two or three years earlier, and is therefore affected by labor availability. It therefore appears that the main cause of the significant decline in building starts at the beginning of the crisis was the uncertainty regarding the implications of the crisis in general, and specifically its implications on the demand for apartments.

Although the slowdown in building starts eased, the decline in the sale of land for residential construction, which began in 2019 and continued through 2020, may contribute to a decline in building starts in the next two years.[17] This is a challenge in view of the need to satisfy demand and prevent a continued rise in housing prices, which was renewed following a decline in prices in 2018.

**b. Transactions and prices in the housing market**

The trends that characterized 2019—a high level of activity that resulted from the continued sales in Buyer's Price projects and from the same factors that had encouraged demand in the market since 2015[18] (Table 2)—continued in January and February 2020. From March onward, the crisis became the dominant factor affecting the housing market.

Since the outbreak of the crisis the number of sales reflected high volatility, which corresponded to the timing of the lockdowns: declines during lockdowns, which were almost completed offset by increases in the periods between lockdowns. A total of approximately 94,000 dwellings were

[15] Another factor that apparently contributed to the decline in building completions is the approximately 4 percent decline in building starts in 2018.

[16] For example, the requirement that Palestinian laborers in Israel not return to their homes in the Palestinian Authority for several weeks, and the restrictions that permit entry to Israel at specific times. These requirements were designed to halt the spread of COVID-19 infection between the Palestinian Authority and Israel. For additional information see Hagay Atkes, "Palestinian Employment in the Israeli Economy During the COVID-19 Crisis,"
ht tps://www.boi.org.il/he/NewsAndPublications/PressReleases/Pages/29-12-20.aspx

[17] It takes an average of two years to market the land, have the local committee issue a building permit, and start construction. (For additional information, see Chapter 8 of the Bank of Israel's *Annual Report* for 2019).

[18] An increase in the prime-working-age population (25–64), an increase in real household income, low unemployment and the low interest rate.

**Table 2**
**Selected Housing Market Data, 2011–2020**

| | 1997–2010 average (unless otherwise noted) | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Demand factors** | | | | | | | | | | | |
| Population aged 25–64 (change in thousands)[a] | 71.8 | 60.3 | 39.8 | 49.3 | 67.8 | 51.4 | 57.6 | 57.2 | 54.8 | 56.4 | 63.8 |
| Average real wage per Israeli employee post (rate of change) | 0.93 | 0.4 | 0.6 | 1.1 | 1.3 | 2.8 | 2.9 | 2.9 | 2.7 | 2.1 | 1.6[f] |
| Average real net household income (rate of change) | 2.7 | -0.2 | 3.5 | 4.1 | 3.1 | 2.5 | 2.7 | 4.6 | 3.5 | 3.1 | |
| Unemployment rate among those aged 25–64 (percent) | 9.1 | 6.3 | 5.9 | 5.4 | 5.0 | 4.5 | 4.1 | 3.7 | 3.5 | 3.4 | 4.3 |
| Weighted real interest rate on new mortgages[b] | 3.4 | 2.5 | 2.2 | 1.6 | 1.3 | 1.0 | 1.5 | 1.9 | 1.7 | 1.5 | 1.0 |
| Real per capita GDP (rate of change) | 1.6 | 2.8 | 0.7 | 2.4 | 2.0 | 0.2 | 1.8 | 1.6 | 1.5 | 1.5 | -4.1 |
| Rate of those planning to purchase a dwelling in the next 12 months[c] (percent) | | 6.6 | 7.7 | 7.4 | 7.3 | 7.0 | 7.6 | 7.3 | 8.4 | 8.3 | 7.8 |
| **Supply factors** | | | | | | | | | | | |
| Building starts[d] (thousands of units) | 36.8 | 46.6 | 43.5 | 47.9 | 47.7 | 53.7 | 56.5 | 55.1 | 53.6 | 53.5 | 51.6 |
| Building completions[d] (thousands of units) | 39.7 | 34.1 | 37.4 | 42.5 | 44.7 | 43.9 | 46.1 | 48.5 | 50.6 | 52.1 | 47.9 |
| Stock of dwellings under active construction (end of year, thousands of units) | 69.4 | 83.2 | 89.0 | 94.1 | 96.9 | 105.7 | 115.3 | 119.9 | 121.3 | 122.8 | 126.8 |
| Building permits[d] (thousands of units) | 29.3 | 50.3 | 45.5 | 50.1 | 47.6 | 55.3 | 54.1 | 55.9 | 51.9 | 55.5 | 51.7 |
| Investment in residential construction (rate of change) | 0.04 | 9.7 | 6.8 | 5.3 | 6.5 | 0.2 | 9.1 | 4.4 | -1.1 | 2.0 | -7.7 |
| **Outcome variables** | | | | | | | | | | | |
| Housing transactions[e] (thousands) | 92.4 | 86.5 | 102.7 | 114.4 | 99.6 | 121.1 | 112.0 | 101.5 | 102.6 | 110.0 | 107.0 |
| New dwellings sold (thousands) | 17.6 | 19.5 | 22.5 | 24.3 | 23.5 | 31.7 | 29.7 | 24.8 | 22.6 | 33.8 | 39.4 |
| Unsold dwellings where construction has started (thousands) | 14.7[g] | 20.3 | 20.2 | 19.5 | 18.3 | 18.9 | 19.8 | 18.5 | 18.3 | 18.0 | 13.9 |
| Home prices (real rate of change) | -0.23 | 1.8 | 6.9 | 5.4 | 4.5 | 9.0 | 5.9 | 1.0 | -1.0 | 2.6 | 4.8 |
| Households that do not own a home (percentage of population) | 28.6[h] | 27.6 | 28.0 | 27.9 | 27.9 | 27.5 | 27.4 | 28.2 | 27.5 | | |
| Households that own more than one home (percentage of population) | 3.3[h] | 6.4 | 7.9 | 8.4 | 9.1 | 9.9 | 9.7 | 10.0 | 10.1 | | |
| Length of time to sell a dwelling (days) | | | | 167.7 | 203.5 | 189.8 | 194.4 | 173.4 | 220.5 | 218.3 | 205.0 |
| Percentage of homes purchased for investment (as a share of total purchases) | | 23.8 | 22.2 | 22.6 | 25.0 | 24.9 | 18.7 | 16.9 | 16.5 | 15.5 | 16.9 |

[a] The break in the series of population aged 25–64 is due to changes in the census that was conducted in 2008.

[b] The weighted real interest rate on mortgages is calculated assuming an annual inflation rate of 2 percent.

[c] The rate of those planning to purchase a dwelling, from the Consumer Confidence Index, Central Bureau of Statistics.

[d] Interim data.

[e] The number of residential real estate transactions is based on purchase tax and betterment tax data.

[f] The change in the average real wage is presented net of the effect of the change in the composition of employees. (See Chapter 5 for more information). The real wage with the effect increased by about 8.5 percent, which does not reflect the change in wage of individuals who were employed in 2019 and remained employed in 2020.

[g] 2004–2010 average.

[h] 2003–2010 average.

SOURCE: Central Bureau of Statistics, Ministry of Construction and Housing, Israel Tax Authority, and Bank of Israel.

sold in 2020, which is 4 percent lower than in 2019[19], and approximately 40 percent of the sales in 2020 were of new dwellings, similar to their share in 2019.

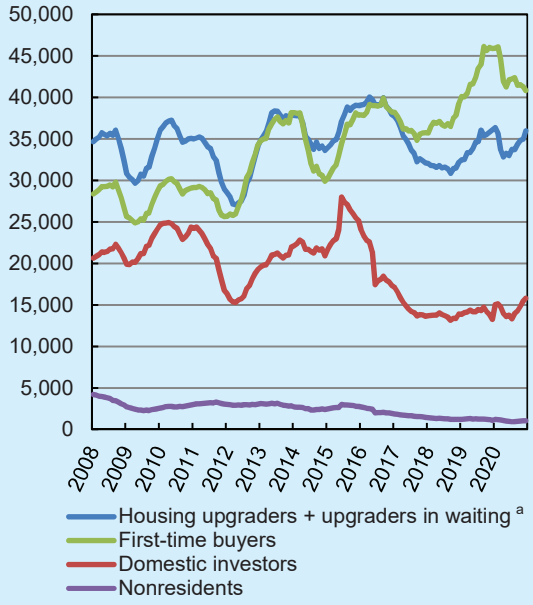
The decline in the number of sales was mainly due to the decline in first-time buyers, which dropped by approximately 4,500 (10 percent) from 2019, largely due to the decline in the number of Buyer's Price sales, which declined by 4,000 compared with 2019. Buyer's Price marketing assemblies could not be held in their normal format due to the outbreak of the pandemic, and were moved online after a short time. The number of assembly participants declined as a result, which may have contributed to the decline in the number of sales in the second quarter. This effect dissipated in the second half of 2020. Another possible reason for the decline in the number of sales in Buyer's Price projects is that the proportion of households with at least one partner on unpaid leave was higher among Buyer's Price buyers than among first-time home-buyers in general, due to their typically younger age relative to all first-time home-buyers.[20]

A total of approximately 17,000 dwellings were purchased by investors, and the number of purchases by local investors increased toward the end of the year after a cut in purchase tax in late July (Figure 5). In December, investors' purchases slightly exceeded investors' sales, for the first time since 2016.

The rise in home prices was renewed in 2019–20, after declining in 2018, and in 2020 home prices increased by 4 percent. The development of home prices is presented in Figure 6.

The index of new home prices increased by approximately 3.1 percent, while the share of government-supported sales declined moderately.

**Figure 5**
**Annual Transactions by Type of Transaction, 2008–2020**




[a] Housing upgraders in waiting are households that purchased a new dwelling before selling their previous one.

SOURCE: Based on Israel Tax Authority (Carman file).

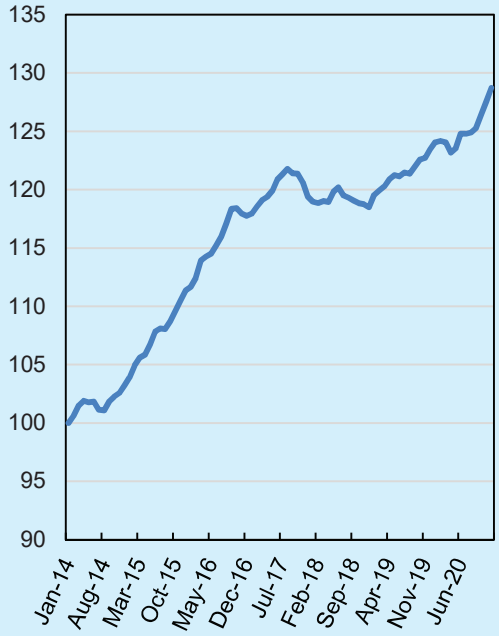
[19] Sales of 1.5–5-room apartments, according to the Karmen database.

[20] According to the publication by the Chief Economist, "First-Time Home Buyers who were Furloughed or Dismissed at the Outbreak of the COVID-19 Pandemic". Similar results were obtained in an age-based analysis of Buyer's Price purchasers and those in the open market, which the Bank of Israel conducted by merging the sales file with data from the Karmen and Shaam databases. For a discussion of the association between employee age and risk of being furloughed, see Chapter 5.

**c. The Buyer's Price and Reduced Price Housing programs**

Following the continuing rise in housing prices between 2008 and 2015, solving the housing crisis became one of the government's main goals, and it adopted a series of measures to expand the housing supply and reduce housing costs. A key component was the implementation of the Buyer's Price program in late 2015, designed to assist households that had no rights to property in the past six years to purchase an apartment.[21] The program operated from 2015 to 2020, when it was replaced by the Reduced Price Housing program, which was approved in December 2020.

**Figure 6**
**Index of Home Prices, January 2014–December 2020**




SOURCE: Central Bureau of Statistics.

Of approximately 76,000 households who won the option of purchasing an apartment in the Buyer's Price program[22], approximately 50,000 exercised their option and purchased an apartment by the end of 2020. Approximately 25 percent of all first-time home purchases between 2016 and 2020 were made through the Buyer's Price program. Approximately 26,000 households who won an option to purchase have yet to reach the purchase stage.[23] As such, although the program is no longer in operation, approximately 20,000 households are expected to exercise their right to purchase an apartment in the program.

In addition to the Buyer's Price program, the government also took steps to increase the supply side. One of these steps was a significant increase in land marketing tenders by the Israel Land Authority (Figure 3), which allocated the majority of state lands zoned for high-rise construction to the Buyer's Price program track. As development of Buyer's Price projects progressed, the number of building starts stemming from Buyer's Price projects increased, so that they accounted for approximately 30 percent of all building starts in 2020.

[21] Beginning from 2018, this period was shortened to three years.
[22] Based on weekly data on the program, published on the Ministry of Housing website.
[23] The calculation is based on weekly data on the program (number of lottery winners) published on the Ministry of Housing website, and on the number of sales in the program.

Subsidies granted to households under the program are not uniform. The discount reflected in the price varies from one project to another and is frequently more significant in high-demand areas than in the periphery.[24] The program, which also increased the housing supply in the periphery, significantly reduced the housing shortage in those areas and satisfied the demand, yet demand in the center of the country remains high and the housing shortage remains significant.[25] In 2017-18, concurrent with the operation of this program, housing prices rose more moderately, and in 2018 they even declined. In 2019-20, however, the increase in prices was renewed, reaching an annual rate of 4 percent.

According to the government's financial statements, the program cost approximately NIS 9.3 billion between 2015 and March 31, 2020.[26] Approximately-two thirds of the cost reflects a loss of revenue due to discounted land prices. The final cost of the program is expected to exceed NIS 10 billion.

The Ministry of Housing's Reduced Price Housing program was approved in early December 2020[27] to replace the Buyer's Price program, and includes several modifications based on the experience accumulated in the Buyer's Price program. By early January 2021, approximately 4,200 housing units were marketed in the new program. Several tenders closed in December and others will close subsequently. A comparison of the two programs indicates:

(a) The terms of eligibility in the Reduced Price Housing program are very similar to those in the Buyer's Price program. Eligible Buyer's Price purchasers may apply to Reduced Price project lotteries.

(b) The Buyer's Price program included a guaranteed minimum discount of NIS 200,000 per apartment. The Reduced Price Housing program includes no such guarantee of a minimum discount.

(c) The Buyer's Price projects included the marketing of projects nationwide based on a uniform marketing method: The price of the land was determined in advance by the Israel Land Authority (land was subsidized) and contractors competed over the sales price per square meter in the future

[24] According to the Survey of the Residential Real Estate Industry by the Chief Economist Division in the Ministry of Finance, published in December 2018, apartments in high-demand areas were purchased at a discount of approximately 30 percent compared to apartments sold on the free market, while the discount in the periphery was only 7 percent. An analysis conducted by the Bank of Israel based on Buyer's Price sales until August 2020 indicates a similar discount differential. The analysis also shows that apartments purchased in the Buyer's Price program are, on average, larger and have more rooms than dwellings purchased by first-time home buyers on the free market, and therefore, the discount is itself skewed downward. Larger discounts emerge when controlling for apartment size.

[25] The demand for apartments in Buyer's Price projects in the periphery was lower than the demand in the center, both because the discounts reflected in the prices in high-demand areas were more substantial than in the periphery, and because the demand for housing in the center is higher than the demand in the periphery. This may be inferred from the figures on (a) the ratio between the number of lottery applicants and the number of apartments available in the lotteries; (b) the number of apartments remaining unsold in the program; and (c) the success rate of the land tenders. For additional information see Chapter 9 in the Bank of Israel *Annual Report* for 2018 and Chapter 8 in the *Annual Report* for 2019.

[26] Of that, approximately NIS 7 billion was lost revenue in respect of discounts on land, and approximately NIS 2.3 billion was lost in additional subsidies and grants to buyers, not including the cost of State-issued guarantees in the program and the expenses in its umbrella agreements.

[27] In September the program was approved by the Israel Land Authority, and in early December it was approved by the Minister of Finance.

finished project. The tender was awarded to the bidder who offered the lowest sales price. The Reduced Price Housing program divides the country into three regions, with a different marketing method in each. In upscale areas[28], no discounts are offered on the land, and the land will be marketed in public tenders to the highest bidder. In high-demand areas, Reduced Price Housing tenders have two stages: the minimum and maximum sales prices per square meter are pre-determined, and in the first stage, developers submit their bids for the price per square meter. In the second stage of the tender, the developers with the lowest price bids (in the tenders that were conducted until now, the lowest bids were equal to the minimum price set in the tender) offer an additional amount for the land, above the discounted price that the Israel Land Authority offered in the tender. In the periphery, the state determines the price for the land and the sales price per square meter of the apartments, and the developers compete over the additional amount they offer for development costs.

(d) Land prices in the Buyer's Price programs were a function of appraisals prepared by the Government Appraiser in 2015, which have not been revised since. As prices rose over time, the appraisal-based prices occasionally represented significant discounts. In the Reduced Price Housing program, discounts on the land price are a function of revised land appraisals, and therefore the discount to eligible buyers is not expected to be on the same scale.

(e) The mix of apartments defined for Reduced Price Housing projects was modified such that half of the apartments in each project will be sold at market prices.

[28] The benchmark price that defines upscale areas, at which land is marketed at market prices, is NIS 20,000–22,000 per sq.m. Examples of cities defined as upscale areas are Tel Aviv, Herzliya, and Ramat Hasharon.