Chapter 2
Aggregate Activity: GDP and Employment

- In 2017, amid good macroeconomic conditions and nearly full employment, Gross Domestic Product increased by 3.4 percent, surpassing the growth rate of potential GDP.
- The composition of growth was more balanced than in previous years. In 2016–2017, domestic uses accelerated due to improved terms of trade and the accommodative monetary and fiscal macroeconomic policies. In addition, exports accelerated, abetted by the recovery of world trade.
- The growth in exports was largely a reflection of improved exports of business services and the recovery of tourism. In contrast, goods exports increased moderately, impeded by protracted currency appreciation as reflected in the real exchange rate.
- The rapid expansion of private consumption (excluding durable goods) lowered the national saving rate—reversing the trend of recent years—because consumption growth outpaced GDP growth (in fixed prices), and the terms of trade deteriorated.
- The employment rate continued to rise and the labor market tightened further. The unemployment rate fell to its lowest in several decades; the job vacancy rate reached a record high, firms in the business sector reported a growing shortage of labor, wage increases accelerated, and there was a marked increase in the rate of return on labor after a protracted decline.
- The economy appears to have exhausted its surplus production capacity after two years of vigorous growth in demand and slower growth of potential GDP. The presence of a supply constraint makes it hard for economic activity to continue its rapid expansion, and the share of domestic demand diverted to exports therefore increased, while the surplus in the current account declined.

1. MAIN DEVELOPMENTS AND BACKGROUND CONDITIONS

a. Main developments

The growth rate accelerated and the composition of growth was more balanced.

In 2017, Gross Domestic Product grew by 3.4 percent. Net of the value added associated with motor vehicle imports[1], the growth rate was 4.0 percent—surpassing the 2012–2016 average and the potential growth rate. Domestic uses have accelerated in the past two years and this, combined with export growth in the reviewed year, resulted in a more balanced composition of growth than before.

The tightening labor market was reflected in a marked increase in the GDP labor share.

The GDP growth was also predicated on an increase in employment, as the employment rate among the prime working ages continued to rise, to 77.1 percent. The labor market participation rate stabilized and the unemployment rate continued to fall. Indications of tightening in the labor market increased, including the sizable increase in the rate of return on labor, countering the trend of recent years. This is expected to make it hard for employers to continue hiring on a large scale. It also creates doubt about the possibility that supply will continue to expand via the path of employment.

In terms of production capacity, the long-term processes that have been lowering the potential pace of output growth continued in the reviewed year. Foremost among them are a slowing rate of increase in the prime working-age population and the buildup of indications that important growth engines in the past—rising participation, declining natural unemployment, and an increase in the proportion of educated people in the population—have exhausted nearly all of their potential within the framework of current policy.

Due to the rapid increase in domestic demand, the economy encountered a supply constraint—which worsened during the year as exports recovered—and appears to have used up its entire surplus production capacity.[2] Given the supply constraint and the surge in the real appreciation of the shekel, imports increased rapidly and supplied the brisk demand for consumption and investment. The concurrent worsening of the terms of trade halted the protracted increase in the ratio of the GDP deflator to the CPI. These processes sped up the erosion of national savings and the current account surplus.

The economy benefitted from a good macroeconomic state, but there is no guarantee that it will continue to grow at the current pace.

This year, like last, the constellation of developments indicates that the economy enjoyed a good macroeconomic situation that was supported by accommodative policies, an improvement in the global environment, and room to increase capacity utilization. Some of these conditions, however, are unlikely to persist. First, the upward trend in domestic demand, evident for several years, relies on very low interest rates dictated by domestic and foreign monetary policies. The past two years have also seen

[1] Motor vehicle imports declined sharply in the reviewed year because the public moved up purchases to the end of 2016 in response to an expectation that an adjustment to the "green taxation" formula at the beginning of 2017 would result in higher taxation of some motor vehicles. The formula was also adjusted at the beginning of 2015, and is expected to be reviseed once every two years in the future.

[2] The term "surplus production capacity" is used when actual GDP is below its potential (i.e., when a negative output gap exists).

fiscal accommodation that is manifest in the growing structural budget deficit. These policy environments are unlikely to endure in the long run. Second, there are growing indications that the Israeli economy has reached a full employment environment and has no further surplus production capacity. Finally, the growth rate of potential GDP has moderated in recent years, and will probably continue to do so in the coming decade (due to demographic changes) unless meaningful policy measures are taken. Accordingly, measures to boost the employment rate among population groups with low labor force participation (chiefly ultra-Orthodox men and Arab women) should continue. Concurrently, domestic labor productivity must be increased. To accomplish this, it is necessary (1) to improve human capital and strengthen workers' skills, particularly through measures to narrow gaps in the education system (see Chapter 1); (2) to invest more in infrastructure, particularly public transportation (see Box 2.1); and (3) to improve the business environment, particularly by reducing excess regulation and bureaucracy for businesses that operate in the domestic market.

Measures to increase the employment rate and labor productivity should continue.

Table 2.1

Selected indicators of economic activity, 1995–2017

(annual change, percent)

	1995–2012	2013	2014	2015	2016	2017
GDP	3.9	4.2	3.5	2.6	4.0	3.4
GDP of OECD countries	2.2	1.5	2.2	2.6	1.8	2.4[a]
Per capita GDP in Israel	1.7	2.3	1.5	0.6	1.9	1.4
Per capita GDP in OECD countries	1.5	0.9	1.6	2.0	1.2	1.8[a]
Exports excluding diamonds and startups	7.2	1.7	5.3	-0.9	1.1	5.7
Domestic uses	3.3	2.8	4.3	3.6	5.9	3.8
Unemployment rate (ages 25-64, percent)	8.4	5.4	5.0	4.5	4.1	3.7
Real wage per employee post	0.8	0.9	1.1	2.9	2.8	2.9
Current account surplus (percent of GDP)	0.4	3.0	3.9	5.2	3.8	3.0
Gross national savings (percent of GDP)	21.6	22.7	23.5	24.4	23.9	23.4
Real effective exchange rate[b]	0.5[c]	-5.7	-1.3	-0.1	-1.9	-4.5

[a] Data for 2017 are based on estimates from: OECD Economic Outlook, November 2017.
[b] An increase refers to depreciation.
[c] The figure relates to the years 1999–2012.
SOURCE: Based on Central Bureau of Statistics, OECD, and IMF.

b. Background conditions

The improvement in the global economy is consolidating itself and world trade recovered.

Background conditions abroad[3]

The improvement in the global economy is consolidating itself and global activity has developed in a way that seems to be supportive of continued domestic growth. In the reviewed year, global growth recovered and the international agencies and

[3] These conditions are discussed at length in Section 2 of Chapter 1.

investment houses raised their forecasts, expecting the 2017 growth rate to continue in ensuing years. The improvement in the global environment was reflected in the recovery of world trade (Table 2.2) and investment, although both aggregates grew more moderately than in the past, particularly relative to previous recoveries. In most OECD countries, unemployment fell, the negative output gap narrowed, and inflation increased. However, these improvements were accompanied by price increases that had some negative impact on national income. Specifically, the upward movement of oil prices since 2016 accelerated in the reviewed year, surpassing 20 percent in total, and commodity prices recovered.

Domestic background conditions

Table 2.2
Global economic developments, 1995–2017

(annual change, percent)

	1995–2012	2013	2014	2015	2016	2017[a]
Advanced economies						
GDP	2.3	1.3	2.1	2.2	1.7	2.3
Trade[b]	5.8	2.8	3.9	4.2	2.6	4.1
US						
GDP	2.6	1.7	2.6	2.9	1.5	2.3
Eurozone						
GDP	1.6	-0.2	1.3	2.1	1.8	2.4
Developing economies						
GDP	6.2	5.1	4.7	4.3	4.3	4.7
Trade[b]	9.0	5.0	3.7	0.4	2.3	5.9
World trade	6.7	3.6	3.8	2.8	2.5	4.7

[a] Data for 2017 are based on estimates.
[b] Simple average of rates of change of exports and imports of goods and services.
SOURCE: Based on OECD and IMF.

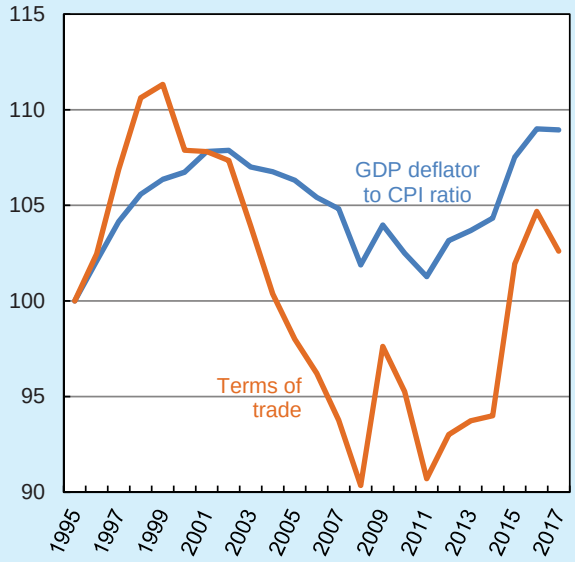
Increased competition forms the backdrop for the main macroeconomic developments.

The year's macroeconomic developments were supported by structural processes that the economy has been undergoing in recent years. The main processes of this kind are the increase in competition due to changes in consumer behavior, reforms introduced by the government, and the growth of e-commerce. The mounting competition is reflected in pressure on the business sector to improve the efficiency of its capacity utilization and to expand economic activity without raising prices. This process is powering important macroeconomic developments including the increase in private consumption, tightening of the labor market, the absence of inflation, and growth that is fasther than the growth rate of potential GDP.

The ratio between the GDP deflator and CPI prices stabilized after a prolonged increase.

The ratio of the GDP deflator to the CPI stabilized in 2017 after five years of steady increase, particularly in 2015–2016 (Figure 2.1). The sharp increase in this parameter contributed to the increase in nominal GDP, supported the growth of private

Figure 2.1
Terms of Trade and the Ratio between GDP Deflator and CPI, 1995–2017 (Index: 1995=100)



SOURCE: Based on Central Bureau of Statistics.

consumption, and allowed real wages to rise with hardly any increase in the GDP labor share. However, all of this stopped in the reviewed year, mainly because energy prices rose and caused a worsening of the terms of trade—the main source of changes in the ratio of the GDP deflator to the CPI.[4]

The Bank of Israel continued its accommodative monetary policy, which supported domestic demand.

The Bank of Israel Monetary Committee continued its accommodative monetary policy, leaving interest near zero (0.1 percent) and revising the forward guidance text in its interest announcements. Thus, the committee stated that it would maintain the accommodative policy as long as necessary in order to entrench the inflation environmentwithin the target range. The one-year ahead real interest rate remained negative and real long-term (10-year) yields remained low, at about 0.6 percent. The low interest rate environment typical of recent years supported domestic demand by lowering the cost of credit, eroding the incentive to save, and amplifying the "wealth effect" among the public by raising the value of financial and real estate assets. Along with accommodation via interest rates, the Bank continued to purchase foreign currency on a scale similar to that of the previous two years in order to dampen pro-appreciation forces. (For elaboration on monetary policy, see Chapter 3.)

In the past two years, there has also been fiscal expansion, which was reflected in a greater structural deficit in the budget.

The concurrent application of fiscal accommodation also contributed to the expansion of domestic demand. Public expenditure increased more quickly than GDP—by about 6.9 percent in current prices. This was largely because civilian public consumption increased as per-employee wages in the public sector increased rapidly while the GDP deflator stagnated. However, in quantitative terms, too, the growth of public consumption outpaced the increase in GDP. In addition to the increase in expenditure, there were statutory tax cuts totaling about 0.2 percent of GDP (a corporate-tax cut and the addition of tax credit points for parents as part of the "Net Family" program). While the government deficit contracted, this was due mainly to

[4] See Bank of Israel (2017), "The GDP Deflator, CPI, and Terms of Trade," *Selected Research and Policy Analyses*, 143, pp. 68–76.

large nonrecurrent revenues.[5] In contrast, the structural deficit grew by roughly 1.4 percent of GDP. (For elaboration on fiscal policy, see Chapter 6.)

Changes in "green-taxation" regulations that went into effect at the beginning of 2017 made some motor vehicles more expensive. Consumers and businesses therefore purchased vehicles in December 2016 instead of early 2017. Although Israel does not manufacture motor vehicles—it only imports them—the increase in car purchases affects GDP in two ways. The main way is indirect taxation on imports (including Value Added Tax), which accounts for some 40 percent of the price of a motor vehicle. The second path includes importers' profits (the importers are domestic corporations) and marketing and trade markups.

2. AGGREGATE DEMAND AND USES

a. The composition of foreign and domestic demand

In the past two years, the growth rate of domestic uses has accelerated.

The aforementioned rescheduling of motor vehicle purchases from early 2017 to late 2016 created relatively sharp fluctuations in the GDP growth rate in those years. Since the volatility does not reflect changes in the macroeconomic environment, it should be neutralized in any analysis of the state of the economy. Accordingly, the following examination of the development of sources and uses in recent years divides these aggregates into cohorts of years, with 2016–2017 specifically bracketed together (Table 2.3). This apportionment emphasizes that the growth rate of final uses accelerated in the past two years relative to the average pace in 2012–2015 due to the surge in domestic demand. The rate of increase in private and public consumption—the leading components of GDP growth since 2012—sped up during this time and investment rebounded after four years of sluggish growth. The rate of increase in uses, however, remained slightly low relative to 1995–2011 on account of the export component, which, despite faster growth in the reviewed year, remained lower than the earlier period.

The acceleration of uses was reflected in GDP growth, and even more in the growth of exports.

The acceleration of growth in uses was reflected on the sources side by the acceleration in GDP growth and, more so, in the acceleration of import growth (Table 2.3). Imports expanded rapidly both because the economy is close to full employment and because relative import prices continued to decline.[6] The growth originated in large investments in imported machinery and equipment for the electronic components industry and industries that serve the domestic economy, imports of current consumption goods and business services, and foreign travel.

[5] A tax incentive meant to advance the distribution of dividends, the Mobileye transaction, and the issuance of Tamar Petroleum.

[6] Even though imports grew quickly, their share in GDP (in current prices) did not change in 2017 due to the decline in import prices.

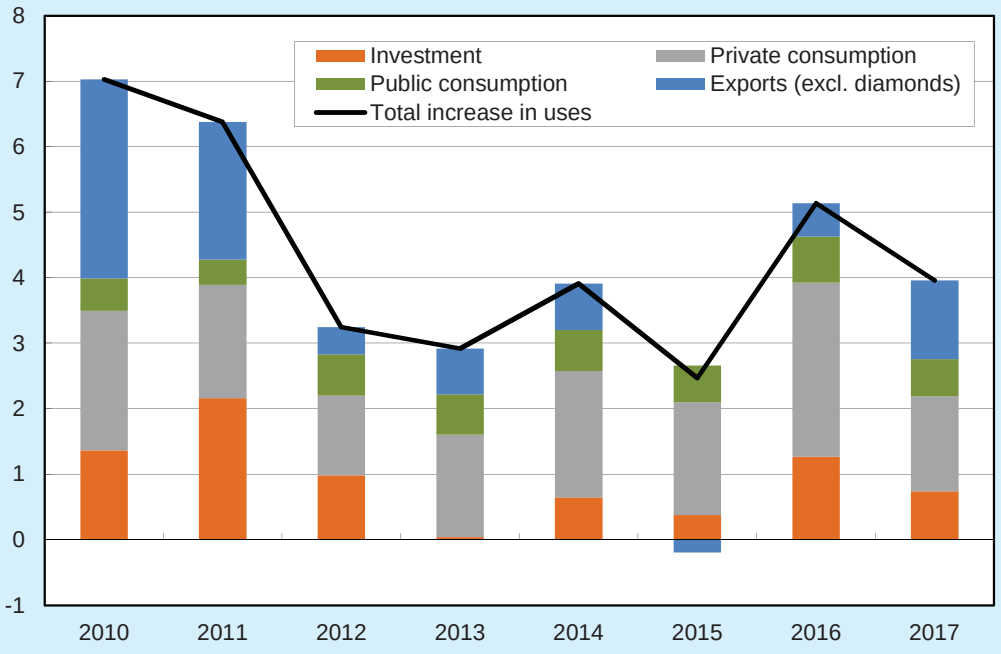
Table 2.3
Sources and uses, 1995–2017

(annual change, percent)

	1995—2011	2012—2015	2016–2017[a]
GDP	4.0	3.1	3.5
Imports (excluding ships, aircraft, diamonds and defense imports)	5.1	2.1	6.1
Final uses	4.1	2.7	4.0
Private consumption	4.2	3.7	4.9
Public consumption (excluding defense imports)	2.2	3.4	4.0
Fixed capital formation (excluding ships and aircraft)	2.6	1.9	6.0
Exports (excluding diamonds and startups)	7.6	1.7	1.7

[a] The rate of change in these years is equal to the increase in the average level in the past two years compared with the average level in the previous two years. The claculation was made to neutralize the effect of sharp fluctuations in motor vehicle imports.
SOURCE: Based on Central Bureau of Statistics.

Figure 2.2
Total Increase in Uses and Contribution of the Components, 2010–17
(percentage points)



SOURCE: Based on Central Bureau of Statistics.

b. Domestic uses

Private consumption

Private consumption grew this year by 3.3 percent, a more moderate pace than in recent years. The slowdown reflected a sharp decline in motor vehicle purchases as the public moved up purchases to the end of 2016 due to the adjustment of "green taxation." In contrast, consumption net of durable goods increased by 4.4 percent, only slightly slower than in 2016, and continued to power the growth of domestic demand.

Table 2.4
Domestic demand: Background conditions and main indicators of its development, 1995–2017

(annual change, percent)

	1995–2012	2013	2014	2015	2016	2017
Private consumption	4.1	3.7	4.5	3.9	6.1	3.3
of which: Current consumption	3.9	3.4	3.9	4.3	4.9	4.4
Durable goods consumption	5.6	7.0	10.4	-0.1	19.4	-7.6
Gross private disposable income from all sources	3.9	5.0	5.0	5.2	5.1	1.6[a]
Credit to households	7.5[b]	6.5	6.2	6.6	6.7	5.5
of which: Nonhousing credit	3.7[b]	4.7	6.2	6.9	6.1	4.8
Real 1-year interest rate (government bonds, level)	3.4	-0.3	-0.7	-0.5	-0.1	-0.1
Value of the public's financial assets portfolio	10.7	7.5	9.3	7.0	1.8	4.3
Consumer Confidence Index	3.1[c]	-4.3	2.7	3.4	1.9	3.7
Fixed capital formation (excluding ships and aircraft)	2.7	3.1	1.6	-0.9	11.2	3.0
Credit to the business sector	6.0[b]	-1.6	0.3	1.5	3.5	3.6
Real 10-year interest rate (government bonds, level)	0.4	1.7	1.0	0.5	0.4	0.6
Purchasing Managers Index (level)	51.0[c]	47.2	48.6	50.2	52.3	55.2
Change in capital utilization in manufacturing (net balance from the Bank of Israel Companies' Survey)	-2.6	-3.1	-2.1	-9.0	-0.2	5.8
Public consumption excluding defense imports	2.2	3.4	3.2	3.8	4.0	4.3
Total taxes[d]	33.1	30.6	30.9	31.1	31.1	32.6
General government budget deficit[d]	3.2	3.8	2.9	2.1	2.3	2.2
Change in the structural deficit in the government budget[d]		0.1	-1.0	-0.6	0.6	1.4
Change in the cyclically adjusted deficit[d]		-0.1	-1.0	-1.2	0.2	-0.3

[a] Disposable income increased moderately (1.6 percent) because government revenue increased markedly.
[b] The figure relates to the years 2005–2011.
[c] The figure relates to the years 2002–2011.
[d] Percent of GDP
SOURCE: Based on Central Bureau of Statistics, the "Globes-Smith" Consumer Confidence Survey, the Bank of Israel Companies Survey, and the Purchasing Managers Indices compiled by Bank Hapoalim and the Purchasing Managers Association.

Private consumption (excluding durables) continued to increase rapidly, and its share of GDP increased for the first time since 2010.

Private consumption expanded mainly because real labor income increased rapidly[7], and it relied less on credit this year, as shown by the slowdown in the growth rate of household consumer credit (Table 2.4). Additionally, private consumption expanded because home prices continued to rise and the public's financial asset portfolio recovered.[8] The increase in the value of the public's financial and real assets, coupled with job security occasioned by low unemployment, reduced contingency savings. Thus, the quantitative increase in private consumption net of durable goods surpassed the GDP growth rate for the fourth consecutive year. Concurrently, the ratio of the GDP deflator to the CPI flattened in 2017 after a protracted increase. These developments in tandem brought about the first increase in consumption (net of durable goods) as a share of GDP since 2010.

In recent years, private consumption expanded rapidly in parallel with an increase in the saving rate because relative consumption prices declined, for reasons including growing exposure to competing imports. Although direct imports as a share of total private consumption (about 16 percent in current prices) has been stable in recent years—largely because the relative price of manufactured goods has fallen—in quantitative terms it increased by about 3 percentage points between 2010 and 2016. This is part of a long-term upward trend in the share of private consumption originating in imports, which appears to have accelerated somewhat in recent years.[9]

Figure 2.3
Imports as a Share of Private Consumption of Manufactured Goods and Food and Beverages[a], 2010–16 (current prices, percent)

[a] Excluding alcoholic beverages.
SOURCE: Based on Central Bureau of Statistics.

The import intensity of manufactured consumer goods and of food and beverage products increased.

This trend is reflected in greater import intensity of private consumption of manufactured goods and of food and beverage products[10] (Figure 2.3), against the background of

[7] Although the nominal GDP growth rate slowed in 2017, the real return on labor (deflated by the CPI) continued to increase rapidly, approximating the pace in recent years (more than 5 percent) due to an increase in on the GDP labor share. In contrast, disposable income slowed the growth rate (1.6 percent) because government revenues increased considerably.

[8] See A. Barak (2017), "The Private Consumption Function in Israel," Discussion Paper 2017.04, Bank of Israel Research Department.

[9] Between 1995 and 2010, imports as a share of total private consumption grew by 4.5 percentage points (in quantitative terms), mostly due to an aberrant 3 percentage-point increase in 2006–2007.

[10] The increase in import intensity in food and beverages (excluding alcoholic beverages) stands out in consumption of fish and, to a lesser extent, of sugar and sugar products.

The public rapidly increased personal imports through online transactions, but they remain a very small part of total private consumption.

the appreciation of the shekel and policy measures that support importers' activity, such as tariff reductions and the relaxation of standards. Imports as a share of manufactured consumer goods grew due to an increase in the import intensity of consumption of semi-durable goods (clothing, footwear, and others) and an increase in transport vehicles and personal goods imports as a share of manufactured consumer goods. The latter component grew due to an increase in personal imports through online purchases. The value of this activity was about NIS 3.5 billion in 2017, having grown by an annual average of about 40 percent in the past five years, and its share of manufacutred consumer goods went up from near zero to about 3 percent during that time. Yet its proportion of total private consumption remains very low (0.5 percent). The estimates for 2017 indicate that personal imports of goods continued to increase rapidly, and that the share of such imports continued to grow in food and beverages but not in the other components of consumption. Imports as a share of private consumption increased not only because import intensity in manufacturing and food products grew, but also because Israelis have devoted a much larger share of consumption to foreign travel in recent years.

Investment

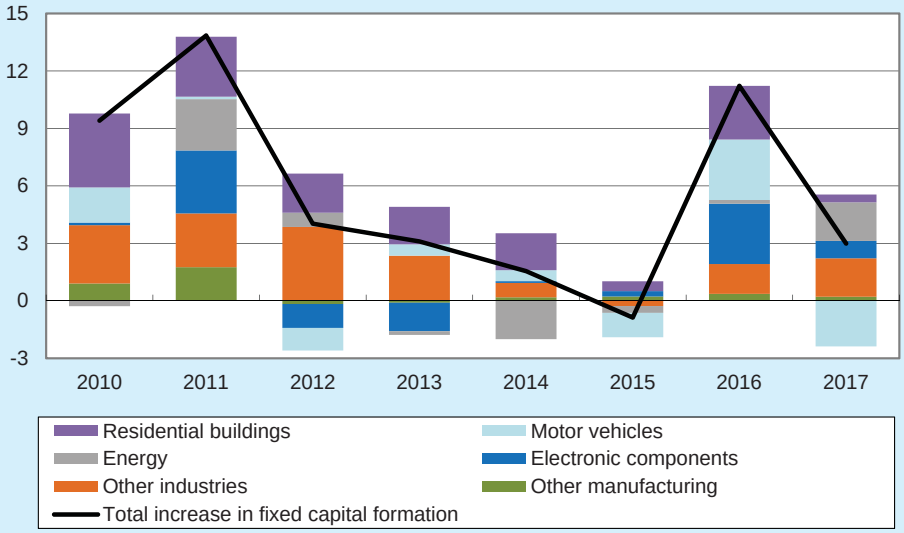
Gross domestic investment increased by 4.5 percent in the reviewed year, as fixed capital formation (excluding ships and aircraft) increased by a moderate rate of 3.0 percent while inventory investment (excluding diamonds and startup enterprises) increased by about 0.3 percent of GDP (NIS 5 billion).

Investment in the principal industries expanded in the past two years due to an improved economic environment and the low interest rate.

Investment in the principal industries—which account for about two-thirds of fixed capital formation—expanded rapidly in the past two years due to an improvement in the economic environment, and is based on the acceleration of business credit due to the low interest rate environment (Table 2.4). During that time, industries that focus on the domestic market increased their investments in machinery and equipment and improved their output considerably. These industries—construction in 2016 and trade and services in 2017—have been exposed to brisk domestic demand and a labor supply constraint in recent years, with companies in those industries reporting that labor shortage has become a serious obstacle to the expansion of their activity (see Section 3). Investment in the principal industries was abetted in the past two years by an increase in investment in intellectual property, mainly reflecting software and R&D investment by rapidly growing high-tech export industries. Investment was also accelerated by large projects in the electronic components and energy industries: major imports of machinery and equipment by Intel in 2016–2017, and sizable investments in oil and gas infrastructure in 2017 (Figure 2.4).

In contrast, investment in manufacturing industries (excluding electronic components) has continued to stagnate since 2011 (Figure 2.4), despite a large increase in the purchasing managers index in the past two years. As such, machinery and equipment do not appear to be a supply constraint in manufacturing, which expanded its output in 2017 by using capital, not by way of investment but by enhancing utilization after having reduced utilization for several years (Table 2.4).

Figure 2.4
Total Increase in Fixed Capital Formation and Contribution of its Components, 2010–17 (percentage points)



SOURCE: Based on Central Bureau of Statistics.

Total investment in the principal industries (excluding ships and aircraft) increased by 3.9 percent in the reviewed year, more moderately than the vigorous growth in 2016. One of the main factors of the change is the sharp contraction of investment in transport vehicles in 2017 after an aberrant increase in 2016 due to the aforementioned tax adjustment.

Investment in residential buildings increased at a significantly lower rate than in recent years.

Active investment in residential buildings—about one-third of fixed capital formation—grew by 1.2 percent, far below the typical growth rates in recent years, as housing starts fell from an average of about 53,800 units in the previous two years to about 46,300 in 2017.[11] (A detailed description of the housing market appears in Chapter 9.)

Total construction investment (residential and nonresidential) increased construction industry output by 4.4 percent, making its direct contribution to GDP[12] about 0.3 percentage points and its indirect contribution almost twice as large[13] (Table 2.5). This contribution is of similar value to the industry's contribution in 2016, but whereas 75 percent of the increase in 2016 originated in growth of residential construction activity, the increase in the reviewed year flowed from nonresidential

[11] Although the number of housing starts in 2017 will probably be revised upward in 2018, the adjustment is unlikely to offset the decline and will merely reduce it. See "Significant Revisions in Estimating Housing Starts," in Bank of Israel (2017), *Fiscal Survey and Selected Research Analyses*, 142, pp. 31–40.

[12] Derived from the growth of output in the industry and its share of total GDP.

[13] The indirect contribution takes place when construction companies buy intermediates from other firms that also generate added value for the economy.

construction.[14] This is an exceptional contrast because there is a long-term positive correlation between the two types of construction, since large-scale homebuilding requires infrastructure construction (electricity and water supply, roads, public buildings), making them complementary activities with common demand. While both types of construction compete for the same factors of production, and may therefore come at each other's expense, this is usually a matter of secondary importance in the construction industry because cycles in this industry are generally powered by demographic changes and shocks to aggregate demand.[15] Experience shows that a slowdown in residential construction demand[16] also generally seeps into nonresidential building investment and ultimately attenuates the construction industry's contribution to growth.

A moderation of demand for residential construction generally seeps into investment in nonresidential construction as well.

Table 2.5

Periods of growth and contraction in construction industry output, 2008–17

(annual average, percent)

	Annual average growth				Contribution of construction to growth		
Period	GDP	Construction industry output	Investment in residential construction	Investment in other construction	Direct[a]	Total[b]	Construction as a share of GDP[c]
2008–13	3.6	7.2	8.8	5.4	0.3	0.6	5.3
2014–15	3.1	0.6	3.7	-3.7	0.0	0.1	5.1
2016	4.0	3.9	8.1	3.1	0.2	0.4	5.2
2017	3.4	4.4	1.2	10.4	0.3	0.4	5.3

[a] The direct contribution to growth is equal to the growth rate of the construction industry's output multiplied by its share of GDP at the end of the previous period.
[b] Estimated total contribution to growth is equal to the direct contribution multiplied by 1.7.
[c] End of period.
SOURCE: Based on Central Bureau of Statistics.

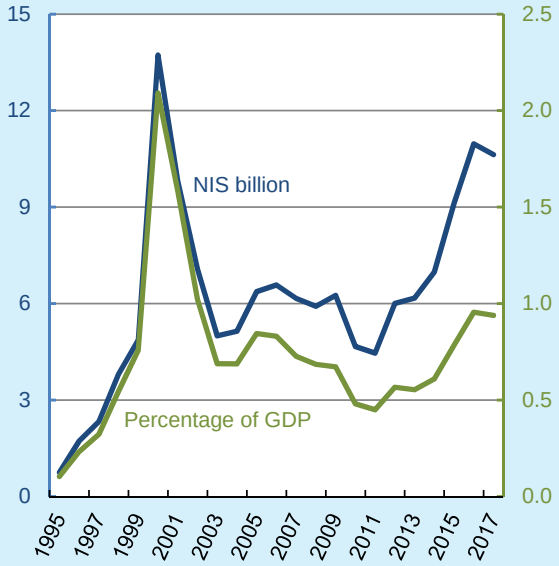
Another contributing factor in recent years' growth is the rapid growth of startup activity. Before this is described, it is worth noting that the Central Bureau of Statistics (CBS) defines a startup company as one that originates in research-based technological entrepreneurship and channels its resources to the development of an idea, service, or good. The sale value of such a firm in its development stage does not reflect the value of its economic activity (such firms often have zero sales); by and large, the firm's

[14] Investment in nonresidential buildings grew rapidly in the reviewed year (10.4 percent) largely due to energy infrastructure work but also in construction of nonresidential buildings in the manufacturing, transport, and hospitality industries.

[15] See Bank of Israel, "The Construction Industry and Its Contribution to Growth," *Recent Economic Developments* 140, April–September 2015, pp. 6–13.

[16] Such a slowdown is consistent with the decrease in the number of transactions in the housing market and with the deceleration of increases in home prices.

Figure 2.5
Startup Company Output, 1995–2017



SOURCE: Based on Central Bureau of Statistics.

development is funded by raising capital. In this stage, startups' contribution to GDP is derived from their production costs. Thus, startups' current expenses (largely payroll) and average sales margin are recorded in the National Accounts as investments in the inventory of startup companies, increasing the GDP. When a startup firm is sold to a foreign buyer, the proceeds of the sale are recorded in exports and the startup company inventory line is debited (negative investment). Therefore, the sale does not affect GDP on the books.

Startup output expanded rapidly in 2012–2016, by an average of about 20 percent per year, reaching about 1.0 percent of GDP—the highest ever except for the level recorded during the high-tech bubble in the early 2000s (Figure 2.5). In those five years, startup firms contributed an average of about 0.1 percentage points to annual growth. In 2017, however, their output contracted by 4.7 percent, meaning that their contribution was of no benefit to the economy.

In years when startup firms enjoyed rapid product growth, they also posted strong increases in employment. Salaried positions increased by more than 50 percent to about 27,000, and their share in total high-tech employment climbed from 6.4 percent to about 9.1 percent. Employment in these firms centers on software and, lagging quite far behind, information systems, trailed in turn by communication.

The rapid growth of startup company output was halted this year.

In the reviewed year, as stated, the increase in the growth of startup output was halted. This is consistent with the standstill that occurred in capital-raising, as data from Start-Up Nation Central demonstrate. The slowdown in total capital raised was a result of the decline in capital raised by firms that had 11–200 employees, while capital raised by the smallest enterprises (up to ten workers) continued to surge and their share in new capital rounds continued to rise, pursuant to the trend in recent years.[17]

[17] Capital raising by larger firms (those with more than 200 employees) increased moderately.

c. Global demand and exports

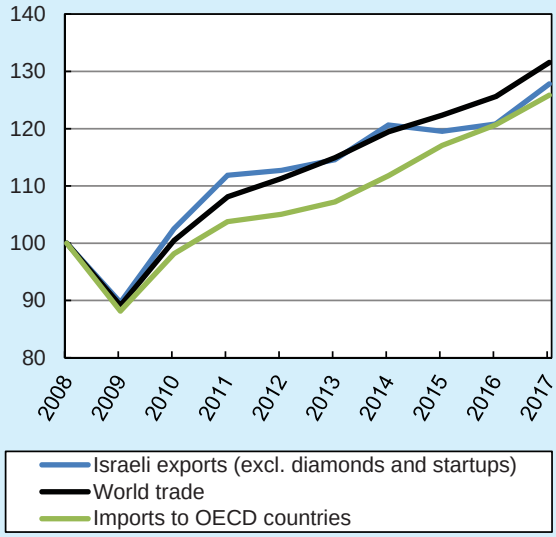
Exports accelerated this year, influenced by the recovery of world trade.

Exports (excluding diamonds and startup companies) recovered in the reviewed year, increasing by 5.7 percent after annual average growth of about 1.5 percent in the preceding five years. The increase was strongly affected by the recovery of world trade (4.7 percent growth, the highest observed since 2010). Figure 2.6 shows that Israeli exports recovered swiftly after the 2008 crisis; was much weaker than world trade since 2012, particularly in 2015–2016; and returned to a rate similar to the growth of world trade in 2017.

Total exports increased rapidly mainly due to services exports, since goods exports increased only moderately. Services exports also continued to surge relative to average export rates among OECD countries, whereas goods exports continued to underperform (Figure 2.7).

Services exports are led by business services[18], which account for about 35 percent of Israeli exports. Exports of business services grew by an impressive 9.1 percent in 2017, higher even than the strong growth of the past five years (5.3 percent on average). However, much of the quantitative increase in exports of business services this year originated in a 5.2 percent decrease in their measured prices[19], since for a given level of nominal revenue, a low estimated price implies a quantity increase. Price and quantity are relatively easy to tell apart when commodities are at issue but the differentiation becomes

Figure 2.6
World Trade, Imports to OECD Countries, and Israeli Exports (Goods and Services), 2008–17
(Quantitative index: 2008=100)

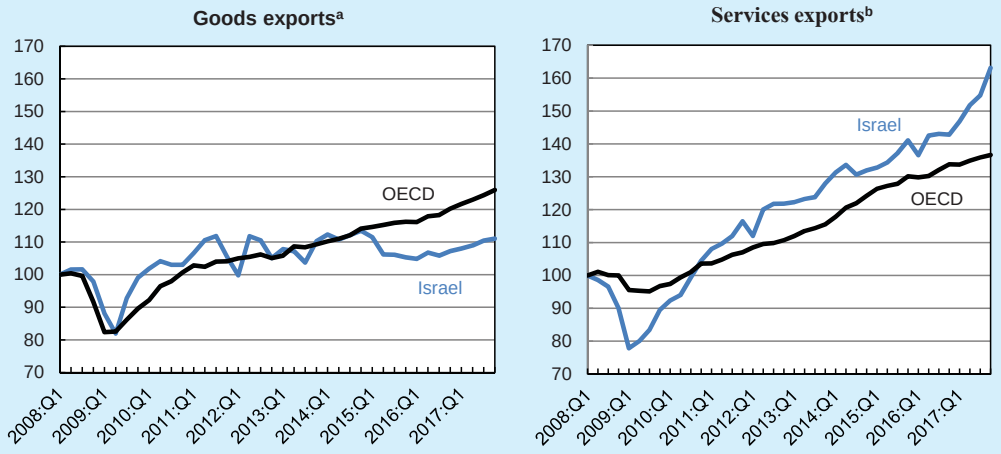


SOURCE: Based on Central Bureau of Statistics and OECD.

[18] The main components of business services analyzed here are software services, R&D (excluding sales of startup companies), shipping and transport services, professional (legal, accounting, scientific, technological, managerial, and supportive) services, wholesale trade services, complementary services provided by production industries, financial services, and more. Exports of business services grew in the reviewed year due to increases in all main components with the exception of R&D services, with software services (which account for 40 percent of the aggregate) making the largest contribution.

[19] Prices fell due to sharp appreciation of the shekel against the dollar, given the nearly full correlation that exists between changes in shekel price of business services and the NIS/$ exchange rate.

Figure 2.7
Goods and Services Exports from Israel and from the OECD, 2008–17 (Quantitative index: 2008:Q1=100)



[a] In Israel - excluding diamonds.
[b] In israel - excluding the sale of startup companies.
SOURCE: Based on Central Bureau of Statistics and OECD.

blurred in reference to sophisticated goods and/or those that have different levels of quality over time. This is even more the case in respect of services, particularly high-tech export services. Therefore, the development of services exports should also be examined in current prices. Such an examination shows that the rate of increase in 2017 was much more modest, at only 3.5 percent.

Furthermore, the dollar prices of services exports are measured on the basis of international prices[20] and are adjusted to domestic currency through the exchange rate. Among some service exporters that operate in Israel, however, revenue depends not on international prices but on wage expenditure in domestic currency.[21] Accordingly, we examine an alternative estimate of the change in price of business service exports, with the price of services of the subject companies based on the average wage in the Computer Programming, Consultancy and Related Activities industry (Division 62 in the Central Bureau of Statistics industrial classification) and the Scientific Research Development industry (Division 72).[22] This alternative yields a more moderate decrease in prices than the National Accounts estimate and the quantitative increase in exports of business services comes to only 4.8 percent. In summation, it appears that services exports continued to grow in 2017 but the acceleration in fixed prices traces to the measurement of price decline, whichdoes not appear to reflect a significant economic development.

[20] Import and export prices of services in the United States and the producer price indices in effect there.

[21] These are mainly multinational firms' development centers, which receive their revenues on a cost-plus basis: domestic input cost plus a margin.

[22] To calculate the relevant wage, we used the weights of these industries in services exports (Division 62: 70 percent of the total; Division 72: 30 percent).

The growth of exports mainly reflects the acceleration of business services and the recovery of tourism.

Another reason for the growth of Israeli exports in 2017 is that the export of tourism services—about 5 percent of total exports—increased by 12.7 percent, after lagging for two-and-a-half years below its level in the first half of 2014, prior to Operation Protective Edge. The recovery was manifested in a sharp 25 percent increase in tourist arrivals thanks to the improvement in the security situation; the open-skies policy reform (which increased the supply of available flights and increased competition in the industry); and the Ministry of Tourism's activity focusing on Southeast Asian and East European countries[23], after evidently identifying the potential of these markets due to steady improvement in their standards of living.

Goods exports are underperforming relative to world trade.

Goods exports (excluding diamonds)—roughly half of Israeli exports—recovered slightly, posting 2.9 percent growth after several years of stagnation. Nevertheless, this remains the weak link in the country's economic growth. Goods exports increased more slowly in recent years than world trade in goods, and underperformed even after the composition of the goods and the destination countries of Israeli exports are taken into account. Growth has been near-zero in quantitative terms since 2012, and its monetary value declined by about 4 percent in during this time. Since national income is ultimately affected by the value of exports, it makes no difference whether the contraction was a result of a decrease in quantity or a downturn in prices.[24]

Table 2.6
Indices of manufacturing activity by technological intensity

Technological group Share of manufacutring value added, 2014	Total (100 percent)	High (42 percent)	Medium-High (18 percent)	Medium-low (19 percent)	Low (21 percent)
			Rate of change: 2017 vs 2016, percent		
Production	1.9	1.6	2.5	2.4	1.6
Export revenue (fixed prices)	2.2	0.5	5.5	3.1	1.0
Number of employees	0.4	0.5	-0.4	0.3	0.7
Work hours per employee	0.1	0.3	0.0	0.6	-0.4
Real cost per work hour	4.2	2.8	4.9	3.6	6.3
			Rate of change: 2017 vs 2012–2016 average, percent		
Production	3.0	-1.5	4.8	7.4	7.5
Export revenue (fixed prices)	-2.1	-4.2	9.3	-9.1	-3.4
Number of employees	0.5	-1.4	-0.9	0.8	2.7
Work hours per employee	0.0	1.5	0.9	-0.8	-2.6
Real cost per work hour	9.0	7.7	7.9	9.8	13.4

SOURCE: Based on Central Bureau of Statistics.

[23] Cancellation of fees, extension of visas, subsidization of flights to Ovda Airport, and aggressive marketing.

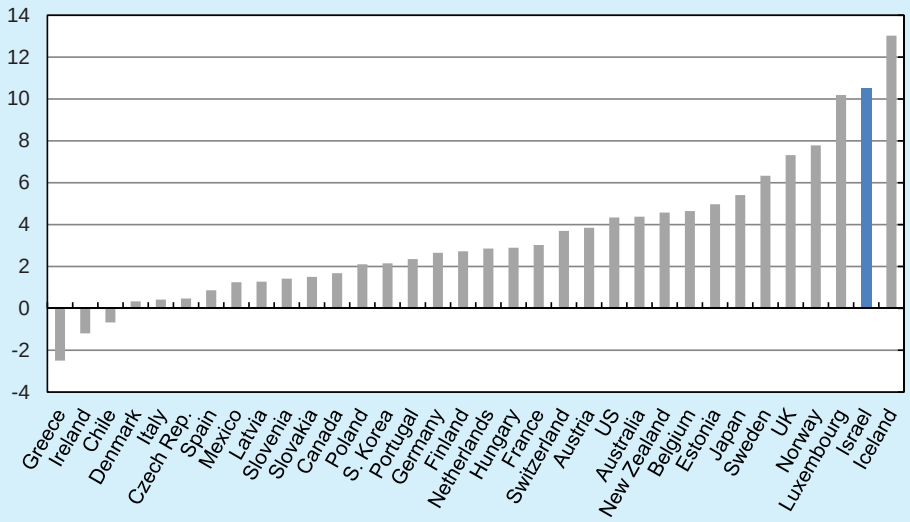
[24] Although the distinction between change in price and change in quantity makes no difference in national income terms, it is important for economic analysis.

By technological intensity, weak exports have been a characteristic of all manufacturing industries in recent years other than mixed-high technology (Table 2.6). In high-tech, the weakness reflects contraction in exports of pharmaceuticals and electronic components[25] and manifests in declines in production and employment. Accordingly, the contribution of these industries to growth was near zero in 2012–2016.[26] In contrast, traditional industries expanded their domestic activity at the expense of exports.

The change in the composition of exports is to a great extent influenced by the continued real appreciation.

The development of exports in recent years is comprised of an increase in the share of advanced services at the expense of goods, mirroring a structural change that the domestic economy has been undergoing in accordance with the global trend. (For an analysis of the change from a long-term perspective, see Chapter 7.) However, Israel has been making the transition from goods to services more quickly than most advanced economies (Figure 2.8) because its services exports are growing more rapidly and its goods exports are underperforming. An analysis by the Bank of Israel shows that the manufacturing industries are more sensitive than service industries to changes in the exchange rate.[27] Therefore, the change in composition of Israeli exports seems to be heavily affected by the prologed real appreciation of the shekel over the past several years. is the analysis also found that the adverse effect of real

Figure 2.8
Change in Services as a Share of Exports in OECD Countries, 2016 compared with 2011 (percentage points)



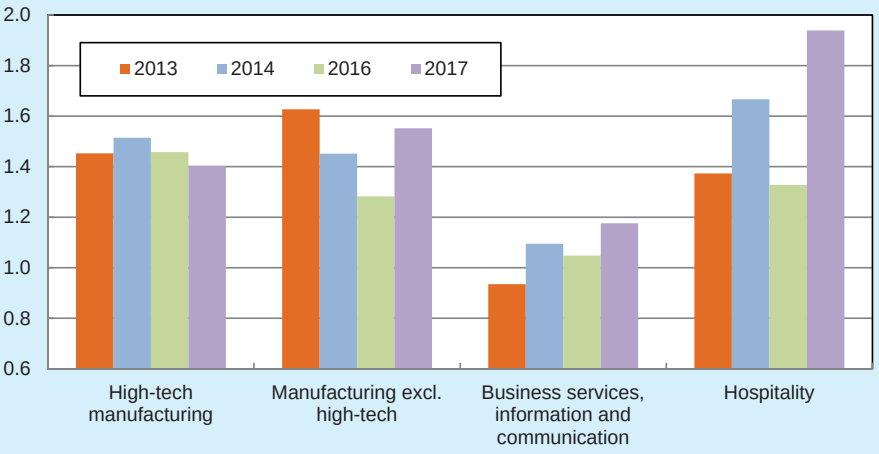
SOURCE: Based on OECD.

[25] Electronic-components exports decreased mainly because Intel temporarily cut back on its production activity in order to replace machinery at its new fabrication plant.
[26] In 1996–2011, high-tech industries contributed 0.3 percentage point on average to GDP growth.
[27] Bank of Israel (2017), *Annual Report for 2016*, Chapter 2, Box 2.1.

appreciation on exports takes about two years to crest. As such, the development of the exchange rate in 2017—particularly the strengthening of the shekel against the dollar—is likely to impede export growth in the next year or two as well. The trend of appreciation strengthened in the reviewed year. The shekel appreciated by 4.5 percent in terms of the real effective exchange rate, and particularly by 6.3 percent against the dollar. The dollar is important in the short term because Israeli exports are more oriented to it than Israeli imports are, and they are also, apparently, more oriented to it than the exports of other advanced economies. Furthermore, the impact of the dollar exceeds the share of trade with the United States, probably because the dollar is used for trade with additional countries. (For discussion of the importance of the dollar in imports, see Chapter 3.).

According to the companies that participated in the Central Bureau of Statistics Business Tendency Survey, most industries—manufacturing (excluding high-tech), hospitality, and main export services—are suffering from the erosion of export profitability.[28] Figure 2.9 shows that this constraint worsened in these industries relative to 2016, an outcome consistent with the resumption of the increase in the

Figure 2.9
Seriousness of the Restriction Due to Erosion of Export Profitability[a], 2013–17[b]
(average rating)



[a] Companies in the manufacturing industry received a questionnaire containing the "erosion of export profitability" restriction, while companies in the services industries received a questionnaire containing the "erosion of profitability due to exchange rate fluctuations" restriction. We assume that in the latter case, the erosion is mainly a result of export activity.
[b] In 2015, the sample was split in two due to a change made to other questions in the Business Tendency Survey.
SOURCE: Based on Central Bureau of Statistics.

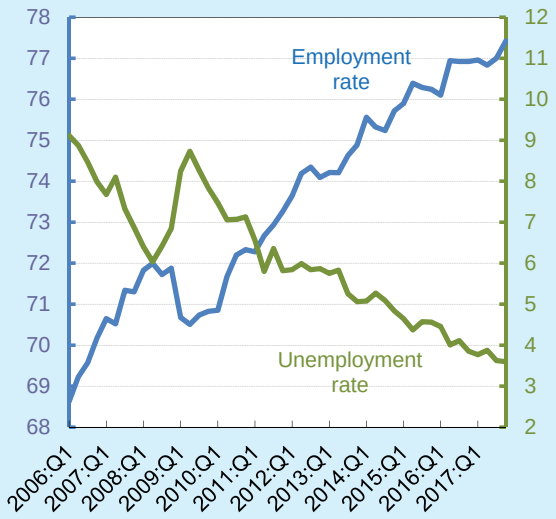
[28] Other industries focus their activity on the domestic market. For them, the constraint is actually a source of relief.

appreciation trend.[29] The constraint was most acute in the manufacturing and hospitality industries, and in 2017 it became the main constraint to the expansion of activity. In exporting services, it was the second most severe constraint (trailing enhanced competition in the industry). If the appreciation trend continues, it is likely to impair their development as well. In contrast, in high-tech manufacturing the constraint eased slightly but remained severe.

3. MACROECONOMIC DEVELOPMENTS IN THE LABOR MARKET

The labor market continued to tighten in 2017 and, according to various indicators, was in a full employment environment. The employment rate climbed to a record 77.1 percent as the unemployment rate (among the prime working ages, 25–64) continued to fall (Figure 2.10) while the participation rate held steady.

Figure 2.10
Unemployment and Employment Rates in the Prime Working Ages (25–64), 2006–17
(percent)



SOURCE: Based on Central Bureau of Statistics.

In recent years, ultra-Orthodox men and Arab women slowed their pace of entry into the labor force.

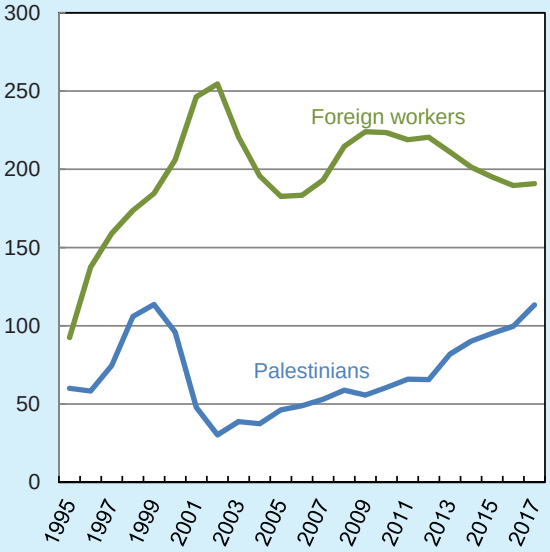
Growth of labor supply continued to slow in 2017—a process that began in 2015, after more than a decade of impressive increases—due to two main developments: (1) slowing of the growth rate of the prime working-age population, and (2) exhaustion of the effects of structural processes such as the increase in education and the ongoing implications of raising the retirement age, which increased the participation rate among older members of the labor force (55–64). In the past two years, Israel's participation rate has been around 80 percent, slightly below the median among OECD countries. The possibility of further increasing the

[29] In manufacturing, in contrast to hospitality and services, the constraint was not higher in 2017 than it was in 2013–2014. The reason may be that manufacturing firms received a questionnaire containing the expression "erosion of export profitability," whereas the questionnaire given to the service industries spoke of "erosion of profitability due to exchange-rate volatility." In other words, manufacturing firms may have addressed themselves to undifferentiated erosion in export profitability and not necessarily the kind precipitated by the exchange rate.

Some of the increasing demand for labor was channeled to increasing the supply of nonresident labor.

labor force now depends on low-participation groups—Arab women[30] and ultra-Orthodox men.[31] These groups' participation rates rose steadily in 2002–2014 but have slowed in the past three years—a troubling trend in view of the expected increase in their share of the population. (Their employment rates are discussed in Chapter 8.)

Figure 2.11
Number of Foreign and Palestinian Workers, 1995–2017 (thousand)



SOURCE: Based on Central Bureau of Statistics.

The combination of a halt in the increase in participation and the proximity to full employment appears to have channeled some labor demand into an increase in the nonresident labor supply in the reviewed year. Although the Central Bureau of Statistics estimates show a steady increase in the number of Palestinian workers since 2002, the trend accelerated in the reviewed year. Their numbers peaked at about 113,000, exceeding the 1999 level (prior to the second intifada) for the first time (Figure 2.11). Concurrently, the decline in the number of foreign workers since 2009 was halted, with the number leveling off at about 190,000. The reason is that government policy in recent years has aimed to raise the quota of non-Israeli workers, particularly in construction. In 2017, the government also decided to improve the process that allows foreign high-tech experts to work in Israel[32] by offering various dispensations designed to expedite and streamline the issuance of work permits.[33]

The benefit derived by the economy from increasing the supply of nonresident labor depends among other things on how temporary these workers are, and on their occupations.

Admitting more non-Israeli workers may help employers to cope with the labor supply constraint (see discussion of the constraint below) but may also impair Israeli workers' labor productivity and wages. The overall utility to the economy of such measures depends, for example, on how temporary the nonresident workers' stay in Israel really is. Experience shows that it is hard to reduce the number of foreign

30 The participation rate of Arab women aged 25–64 (36.9 percent) rose in 2017 after stagnating in 2015–2016 and rising for more than a decade preceding those years.

31 According to the Central Bureau of Statistics' definition of the ultra-Orthodox, the participation rate among ultra-Orthodox men aged 25–64 (49.8 percent) exceeds the level a decade ago (about 37 percent) but has not improved in the past two years.

32 See Government Decision 2292 (Section 8), http://www.pmo.gov.il/Secretary/GovDecisions/2017/Pages/des2292.aspx

33 The decision also includes dispensations in the issuance of work permits in high-tech for foreign students in Israel.

workers when such action becomes necessary. This is an important issue because the employment of nonresidents may contribute to the economy when the labor market is close to full employment but creates an oversupply when unemployment rises.

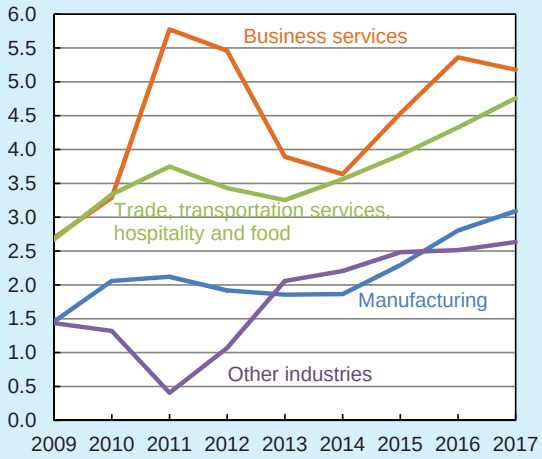
Another question concerns these workers' occupations and the extent to which nonresident labor and domestic labor are substitutable. A large majority of foreign workers in Israel are poorly skilled, especially those in low-productivity industries such as construction and agriculture. These workers may impair productivity because employers who can utilize an abundant supply of cheap and poorly skilled labor have an incentive to base themselves on labor-intensive production functions instead of investing in physical capital and mechanization. Even so, these workers may contribute to total national income if they complement domestic factors of production and allow them to be utilized more efficiently (e.g., to create additional jobs and increase return on equity). In this context, it is noteworthy that these industries employ large numbers of poorly educated Israeli workers who have few employment opportunities and relatively high unemployment rates.

The increased demand for labor continues to overshadow the increased supply.

In contrast, skilled foreign workers in high tech are expected to join an area of activity that suffers from a considerable shortage of workers. They may also create positive external effects, such as sharing unique knowledge with local workers. For this to happen, however, it must be assured that they are indeed experts in their field. According to current law, an expert foreign worker's wage must be no lower than twice the average national wage per employee post. One doubts that this threshold is high enough to ensure that these workers truly are high-tech experts.

While labor supply expanded moderately, labor demand continued to grow rapidly. This was reflected in the continuing decline in the unemployment rate and the continuing rise in the job vacancy rate, to 3.8 percent. The number of unfilled jobs showed a brisk 8.5 percent increase, largely due to rapid growth in demand for sales and services staff and for unskilled workers

Figure 2.12
Job Vacancies as a Share of Employee Posts Filled by Israelis in the Business Sector, by Industry Group[a], 2009–2017 (percent)



[a] The trade, transportation services, hospitality and food industries include the following sub-industries: wholesale and retail trade and vehicle repairs; transport, storage, post and courier services; and hospitality and food services. The business services and construction industries include the following sub-industries: construction; real estate activity; professional, scientific and technical services; and administrative and support services. Other industries include the following sub-industries: electricity and water; information and communication; finance and insurance; education; art, recreation and leisure; healthcare and community services.

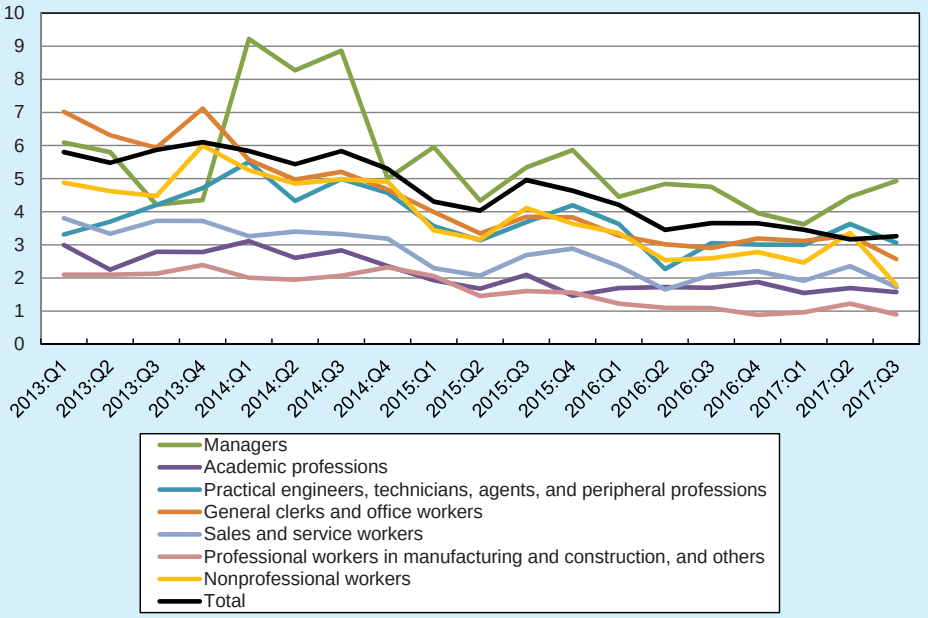
SOURCE: Based on Central Bureau of Statistics.

in the trade, hospitality services and food industries (Figure 2.12). These industries are finding it hard to keep up with the increase in domestic demand, and in 2017 they also faced stronger demand from tourists. In addition, there has been a strong increase in demand for persons with academic training in information technology, a development consistent with the rapid growth of high tech services exports in recent years.[34]

In view of the full-employment environment, the increase in unfilled jobs was accompanied by a slowdown in the growth rate of employee posts in the business sector (Table 2.7). The slowdown originates in the aforementioned industries, in which the number of job vacancies had grown rapidly, and in the construction and business services industries.[35] The latter two are largely responsible for the slowed growth of unfilled jobs in 2017, even though the absolute number of job vacancies increased (Figure 2.12). In the construction industry, job vacancies for skilled workers decreased after sharp increases in the two previous years, a development consistent with the slowdown in residential construction. In manufacturing, too, there were fewer jobs for skilled workers but the total number of job vacancies increased, largely due to demand for white collar and unskilled workers. The increase in job vacancies was

The tightening of the labor market is comprehensive and extensive, and is even noticeable among nonprofessional workers and sales and service employees.

Figure 2.13
Ratio between Supply and Demand in Selected Professions, 2013–17



SOURCE: Based on Central Bureau of Statistics.

[34] Academic occupations, personal caregivers, drivers and mobile facility operators, particularly in transport, also made important contributions to the increase in total job vacancies in the reviewed year.

[35] The business services industry includes real estate activities; professional, scientific, and technical services, and managerial and support services. In this industry, the number of unfilled jobs in sales and customer service contracted.

accompanied by an increase in the number of employee posts in manufacturing, in view of the recovery of world trade and the increase in the purchasing managers index in manufacturing. The latter development reflects an improvement in the industry's ability to compete for workers, which also makes the expansion of employment in the other industries difficult in 2017.

The tightening of the labor market is comprehensive and extensive, with the ratio of supply (jobseekers) to demand (job vacancies) trending downward in all main occupational groups (Figure 2.13). The continued contraction of the ratio in 2017 was mainly due to lower ratios among unskilled workers and those with no known occupation (some 40 percent of labor supply). In most occupations, the ratio has settled at a low level. The shortage is more acute among skilled workers and those with an academic occupation than among unskilled workers and sales and services staff. In the past two years, however, the disparity between the groups has narrowed. Similar findings were obtained from companies' reports in the Business Tendency survey. This indicates that employers are finding it increasingly difficult to hire people who will accommodate the rapid growth in domestic demand.

The surplus demand for labor was reflected this year in a marked increase in the cost of labor.

As growing demand for labor has made it hard to fill job vacancies, it is also continuing to lower the share of those involuntarily working part-time.[36] The number of hours per employee, however, plateaued at a high level in the reviewed year after increasing sharply in 2016. An additional increase will be difficult to attain because Israelis already work long hours relative to other advanced economies, and because at the beginning of 2018 the Histadrut (Federation of Trade Unions) and the employers agreed to reduce the work week from forty-three hours to forty-two (without cutting wages).

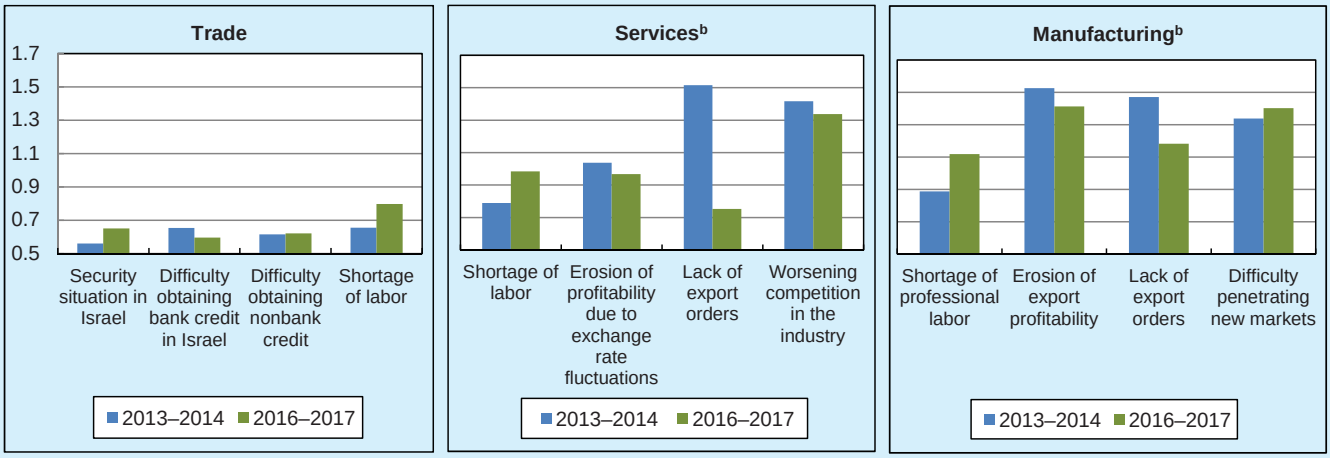
The excess demand for labor was manifest this year in accelerated wage growth. The rate of increase in the nominal wage per employee post accelerated to 3.1 percent in 2017 after years of lethargic increases. As a result, real wages continued to rise impressively (Table 2.7). The surplus demand was also reflected in a significant increase in the nominal unit labor cost to producers, causing the rate of return on labor in the business sector to rise as well, by 1.5 percent, after a lengthy decline in previous years that was followed by a negligible increase in 2016 (Table 2.9). The rate of return on labor increased because the growth in nominal wages accelerated while the increase in output prices halted. (For discussion of the rate of return on labor over time, see Chapter 5.)

While the labor shortage poses a considerable and worsening constraint on firms' activity, most industries face tougher constraints for the time being.

How badly is the labor shortage limiting activity? According to the Central Bureau of Statistics' Business Tendency Survey and the Bank of Israel's Companies Survey, the shortage has worsened in all industries in the past two years. The Tendency Survey shows that it is the most serious constraint in the trade industry, although its level there is low compared with other industries (Figure 2.14). In the services

[36] The share of involuntary part-time employment was 2.3 percent in 2017, falling steadily from 3.5 percent in the middle of 2014.

Figure 2.14
The Main Restrictions Cited in the Business Trends Survey in the Trade, Services and Manufacturing Industries, 2013–17[a]
(average rating)



[a] In 2015, the sample was split into two due to changes made to other questions in the Business Tendency Survey.
[b] Companies in the manufacturing industry received a questionnaire containing the "erosion of export profitability" restriction, while companies in the services industry received a questionnaire containing the "erosion of profitability due to exchange rate fluctuations" restriction.
SOURCE: Based on Central Bureau of Statistics.

industry, it is the second-worst constraint, after the intensification of competition[37], with the main burden falling on services industries that focus on the domestic market.[38] In information and communication services, the constraint is less severe but has worsened in recent years even as most other constraints eased.[39] In manufacturing, too, the constraint became more acute, although constraints associated with exports continue to impede these industries more (irrespective of their level of technological intensity). In the construction and hospitality industries, the constraint is strong (not shown) but firms in these industries find industry-specific factors more troublesome.[40] The Companies Survey paints a similar picture regarding the trade and services industries, but a slightly different one in manufacturing. The labor-shortage constraint tops the list in manufacturing, but this may be because participants in the Companies

[37] Notably, the increase in competition may actually cause total activity in the services industry to increase. Obviously, however, the survey results reflect the severity of the constraints only from the standpoint of firms currently active in the industry.

[38] The services that meet this definition include food and beverages, transport, storage, postage and delivery, and other services. Exceptions to this rule are financial and insurance services, in which there is no labor shortage. The business services include both services for the domestic market and those for export.

[39] Only one other constraint worsened: erosion of export profitability due to exchange rate volatility.

[40] In the construction industry, the most severe constraints are shortages of land and delays in obtaining permits and approvals. In the hospitality industry, the strongest constraints are erosion of export profitability, shortage of foreign tourist reservations, and the security situation.

Table 2.7
Principal labor market data, 1995–2017

(annual change, percent)

	1995–2012	2013	2014	2015	2016	2017
Population in the prime working ages (25–64)	2.4	1.3	1.8	1.4	1.5	1.5
Labor force participation rate in the prime working ages (level)		78.8	79.5	79.8	79.9	80.0
Employment rate in the prime working ages (level)		74.5	75.5	76.2	76.6	77.1
Unemployment rate in the prime working ages (level)		5.4	5.0	4.5	4.1	3.7
Employed persons (Including non-Israelis)	2.7	2.7	2.8	2.3	2.3	2.6
of which: Employed in the business sector	2.7	1.9	2.4	1.7	2.8	2.4
Employed in the public services	2.8	4.3	3.7	3.5	1.4	2.8
Total work hours (including non-Israelis)	2.8	2.1	2.1	2.3	3.8	2.3
of which: Total work hours in the business sector	2.7	1.9	1.6	2.0	4.2	2.2
of which: Total work hours in the manufacturing industry		-1.2	-2.9	0.4	0.9	1.5
Total work hours in the public services	3.2	2.7	3.6	3.3	2.5	2.9
Hours per employed person (including non-Israelis)	2.7	2.5	3.0	3.0	3.5	-0.2
of which: Hours per employed person in the business sector	2.6	2.0	3.0	2.8	3.6	-0.2
Hours per employed person in the public services	3.1	3.5	2.9	3.2	3.3	0.0
Employee posts (including non-Israelis)	2.7	2.5	3.0	3.0	3.5	2.8
of which: Employee posts in the business sector	2.6	2.0	3.0	2.8	3.6	2.4
Employee posts in the public services	3.1	3.5	2.9	3.2	3.3	3.6
Nominal wage per employee post	2.5[a]	2.5	1.6	2.2	2.2	3.1
Real wage per employee post	0.3[a]	0.9	1.1	2.9	2.8	2.9

[a] The figure relates to the years 1999–2011.
SOURCE: Based on Central Bureau of Statistics.

Table 2.8
Change in output of principal industries, 1995–2017

(annual change, percent)

	Share of total output (2017)[a]	1995–2012	2013	2014	2015	2016	2017
Total		3.9	4.2	3.5	2.6	4.0	3.4
Public services	16.3	2.1	1.8	2.7	2.7	3.4	2.7
Business sector	70.9	4.2	4.8	3.5	2.7	4.3	3.5
Manufacturing, mining and quarrying	12.7	3.9	-0.8	1.8	0.2	1.1	3.8
Trade and hospitality and food services	11.4	4.8	3.4	4.6	4.2	6.0	3.9
Business services	17.3	4.1	5.1	5.2	4.0	4.2	4.4
Construction	5.9	2.6	6.4	0.9	0.3	3.9	4.4
Transport and Storage	3.2	3.1	-0.7	3.3	6.4	4.9	5.9
Information and communication	10.8	8.3	11.8	8.3	7.7	8.5	2.1
Agriculture	1.3	3.6	-2.6	-3.4	-7.4	4.1	3.2
Water and Electricity[b]	1.9	1.3	65.1	0.6	3.3	6.6	3.2

[a] In addition to output of public services and business sector product that appear in the table, total output also includes housing services output.
[b] The sharp fluctuations in the water and electricity industry in 2012 and 2013 derive from the cessation of the import of natural gas from Egypt in 2012 and its replacement with the import of expensive fuels, and by the start of the production of natural gas from the Tamar reservoir beginning in 2013. It should be noted that these are changes in the output of the industry and not in electricity production.
SOURCE: Based on Central Bureau of Statistics.

Survey are not asked about export profitability.[41] Thus, while the labor shortage poses a considerable and worsening constraint on firms' activity, most industries face tougher constraints for the time being.

The composition of domestic activity (Table 2.8) suggests more strongly that in 2017 the labor shortage constraint impeded product growth in the trade, hospitality and food services, and information and communication industries—the very industries in which the growth of the number of employee posts slowed while the number of job vacancies increased. The growth leaders in 2016, these industries saw their rates of increase slow to the overall pace of business product growth in 2017. In particular, the information and communication industry grew by 2.1 percent in the reviewed year following average annual growth of 9 percent in the preceding five years. In manufacturing, in contrast, the labor in labor input had no meaningful effect on the industry's product growth. Although the growth rate of manufacturing, mining, and quarrying product accelerated to 3.8 percent in 2017, the main reason was a rapid increase in the mining and quarrying production index, given that the manufacturing production index grew by only 1.9 percent.

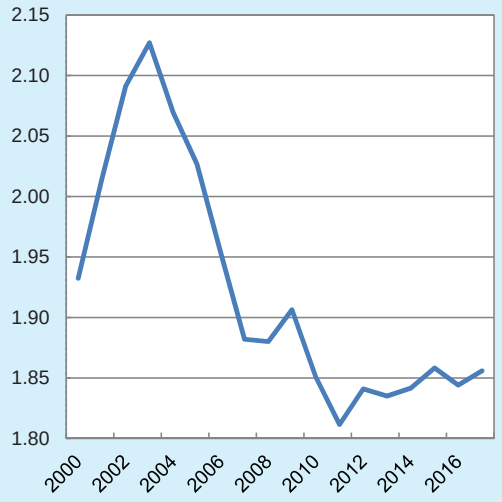
The growth rate of potential GDP is declining gradually.

4. SUPPLY AND EQUILIBRIUM

a. Potential GDP and the output gap

The growth rate of potential GDP[42] has been moderating gradually in recent years, and was about 3.0 percent in 2017 (Table 2.9). The growth rate's decline in recent years has been due to moderating growth rates of labor input and stock of physical capital. Labor input growth lost momentum due to a slowdown in the upward trend of the labor participation rate (Table 2.7) and the near exhaustion

Figure 2.15
Tha Ratio between Net Stock of Capital and GDP, 2000–17 (fixed prices)



SOURCE: Based on Central Bureau of Statistics.

[41] The Bank of Israel Companies Survey d
construction, hospitality, and transport and communication industries there are too few observations to yield statistically valid findings.

[42] In accordance with the production function approach—the one that underlies the following analysis—potential GDP is equal to the GDP in a hypothetical equilibrium in which capacity utilization of all factors of production resembles the long-term average and creates neither price nor wage pressures. Accordingly, the output gap reflects the extent to which actual GDP deviates from potential GDP. The growth rate of potential GDP is derived from long-term trends of increase in the various means of production—physical capital, labor, and human capital—and the average increase in total factor productivity, which is derived from technological and other structural improvements.

of the decline in the natural unemployment rate. The sotck of physical capital eroded gradually in recent years but but returned to more growth than GDP in 2017 due to the rapid expansion of investment the previous year.

The ratio of capital stock to GDP has been rising moderately in recent years but remains lower than in the past (Figure 2.15). It is expected to continue dropping due to the structural change taking place in the economy—the growth of service industries at the expense of manufacturing, which is physical capital intensive.

The negative output gap continues to narrow, and it seems that there is no longer a significant surplus manufacturing capacity in the economy.

Thus, in recent years the labor force has grown considerably while the ratio of capital stock to GDP has shown a moderate increase—a development that is consistent with the increase in the rate of return on capital during this time. Consequently, although the GDP capital share increased, the rate of return on labor increased at the expense of the rate of return on capital because the labor supply constraint has worsened in the past two years.

The growth rate of potential GDP is also affected by the increase in total factor productivity, which continued to increase at a modest 0.7 percent pace in the reviewed year. Total factor productivity has been growing moderately in recent years for reasons that include the entry of unskilled workers into the labor market and the growth of

Table 2.9
The supply of business sector product, 1995–2017

(annual change, percent)

	1995–2012	2013	2014	2015	2016	2017
Gross Domestic Product	3.9	4.2	3.5	2.6	4.0	3.4
of which: Business sector product	4.2	4.8	3.5	2.7	4.2	3.5
Public services output	2.1	1.8	2.7	2.7	3.4	2.7
Stock of physical capital of the business sector	5.6	4.5	4.1	3.6	3.0	4.0
Labor force	2.6	2.0	2.7	1.8	2.1	1.7
Total hours worked	2.7	1.9	1.6	2.0	4.2	2.2
Total factor productivity	0.6	2.0	1.1	0.2	0.5	0.7
Output per work hour (nominal)	4.8	5.0	1.7	4.3	0.9	1.5
Labor compensation per hour worked (nominal)	4.3	2.2	1.7	3.7	1.9	3.0
GDP labor share	-0.5	-2.7	0.0	-0.6	1.0	1.5
GDP labor share (level)	63.4	59.4	59.4	59.0	59.5	60.7
Potential output[a]	4.0	3.4	3.8	3.2	3.1	3.0
Output gap[a,b]	0.1	-0.1	-0.4	-1.4	-0.6	-0.3

[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 and does not create price or wage pressures. 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.

The increased demand has encountered a supply constraint, and the economy must expand imports.

industries that are typified by low productivity. The combination of accelerated actual growth and continued moderating of potential GDP in the past two years has narrowed the negative output gap, meaning that the economy appears to have exhausted its surplus production capacity (Table 2.9). Although most developed countries have not yet reached this situation, the global economic improvement in 2017 allowed most countries to significantly narrow their gaps—causing the difference between Israel's output gap and the global one to contract as well.

b. The current account and the real exchange rate

Growing domestic and global demand amid a labor supply constraint is making the continued expansion of economic activity hard to achieve. Consequently, the economy has had to divert more resources to investment, a larger share of domestic demand is being met by imports, and the current account surplus has contracted.

The current account surplus balances domestic investment with national savings (public savings plus private savings by households and the business sector). National savings contracted in the reviewed year because a decrease in private savings more than offset an increase in public savings (Table 2.10). Private savings began to decline in 2016 after trending upward for several years, but the decrease was greater in 2017 and left private savings at its lowest level (22.3 percent of national income) since 2010. The contraction of private savings in the reviewed year traces to the development of terms of trade—the very factor that allowed savings to expand in recent years despite the rapid growth of private consumption. In particular, the recovery of the global economy was accompanied by an increase in energy and commodity prices, which worsened Israel's terms of trade by 1.8 percent after a cumulative improvement of about 15 percent in 2011–2016—most of which was in the two last years (Table 2.10). Private savings also declined because tax payments on dividends were made early. This, however, had no effect on total national savings because it allowed public savings to increase commensurately.[43]

In the past two years, private saving has declined and the current account surplus has narrowed.

In addition to the decline in savings in the past two years, investment as a share of GDP also continued its increase that began in 2016, and the current account surplus narrowed from 5.1 percent of GDP in 2015 to 3.0 percent in 2017 (Table 2.10). The decline was mainly a result of the rapid growth of imports, which was supported by the escalation of domestic demand and the appreciation of the shekel. As a result, the export surplus fell.[44]

Although the current account surplus narrowed in 2016–2017, it still exists much as it has in the past fifteen years. The combination of a protracted current account surplus and a small surplus in production capacity has been generating real upward pressure on the currency since the 2008 crisis. Evidently, however, the narrowing

[43] The tax payments were brought forward because corporate stakeholders who drew dividends in 2017 were given a temporary tax benefit. (See detailed discussion in Chapter 6.)

[44] The current transfers account accounts for the rest of the decline, whereas the primary income account (net receipts from means of production abroad) was virtually unchanged (Table 2.10).

of the advantage of Israel's output gap over the output gaps of the country's main trading partners[45], along with foreign exchange purchases by the Bank of Israel, moderated the real appreciation forces. In 2012–2015, average appreciation was only 0.5 percent. Even though the advantage continued to shrink, the foreign exchange purchases continued, and the current account surplus narrowed in the past two years, real appreciation accelerated to 4.5 percent in the reviewed year (Table 2.10).

Table 2.10
Savings, investment and the current account, 1995–2017

(percentage of national income)

	1995–2012	2013	2014	2015	2016	2017
Gross national savings	21.6	22.7	23.5	24.4	23.9	23.4
of which: Public	0.3	-0.6	0.0	0.4	0.5	1.1
Private	21.3	23.3	23.5	24.0	23.4	22.3
Gross investment	21.2	19.7	19.7	19.3	20.1	20.4
of which: In principal industries	14.7	13.5	12.8	12.1	13.3	13.3
of which: General government's investments	2.7	2.3	2.2	2.1	2.2	2.6
In housing	5.7	6.5	6.6	6.4	6.6	6.6
In inventory	0.7	-0.3	0.3	0.8	0.2	0.5
Net current account	0.4	2.9	3.8	5.1	3.7	3.0
of which: Balance of goods and services	-1.5	1.8	1.4	2.9	2.1	1.6
Net income account	-2.7	-1.9	-0.7	-0.8	-1.2	-0.8
Net current transfers	3.6	2.7	3.0	2.7	2.6	2.0
Terms of trade[a]	-0.4	0.8	0.3	8.4	2.7	-1.8
Real effective exchange rate[a,b]	0.5[c]	-5.7	-1.3	-0.1	-1.9	-4.5

[a] Rate of change in annual terms, percent.
[b] An increase refers to depreciation.
[c] The figure relates to the years 1999–2012.
SOURCE: Based on Central Bureau of Statistics.

[45] Israel was mildly impacted by the crisis that erupted in 2008 and intensified in 2012. The impact was felt mainly in a decrease in global demand for Israeli exports. Much of the adverse effect was offset in subsequent years because domestic demand increased as a result to monetary accommodation, labor market elasticity, and the understanding that Israel's financial system was coping with the crisis successfully. In the situation that resulted, the negative output gap in Israel widened less than in other advanced economies. As stated, however, this advantage narrowed later on.

Box 2.1
Public transit in Israel and Europe

- Improving public transit should contribute to the convergence of Israel's standard of living to that of other advanced economies.
- The government must act with greater vigor to improve public transit, beyond the increase in investment that has taken place in recent years.
- Satisfaction with public transit in the three largest cities in Israel is lower than in major cities in Europe.
- The public transit usage intensity index in Israel, which is influenced by the unique characteristics of each city, shows that usage intensity in the Tel Aviv district is lower than the average in the major cities in Europe.

Improving the public transit infrastructure should contribute to the economy's convergence to the standard of living that exists in other advanced economies. It will contribute to growth and to the standard of living by improving the compatibility between workers and firms, it will support the population that is interested in joining the labor market but cannot purchase a private vehicle, and it will provide those using a private vehicle with a quality alternative. Moreover, wide-scale and efficient public transit in the large metropolitan areas will allow for the clustering of employment areas and an increase in population density, which has significant economic advantages. Investment in public transit infrastructure is mainly derived from government policy, and the findings of this box show that even though the government increased such investment in recent years, it must act with greater vigor to improve infrastructure.[1]

Investment in, and use of, public transit in Israel: the current situation

Over the years, investment in land-based transport has been about 1 percent of GDP, two-thirds of which has been for roads, and one-third for public transit (mainly heavy and light rail). In recent years, the weight of investment in public transit has increased slightly due to investments in large-scale infrastructure projects, such as the Tel Aviv–Jerusalem rail line and the red line of the Tel Aviv light rail (Figure 1).

Despite the investments made in recent years, the burden on transport infrastructure has increased. The number of people traveling to work has greatly increased due to the natural growth of the population, its greater spatial dispersion, and the impressive increase in the employment rate. At the same time, transport has improved, which further encourages spatial dispersion and the attendant heavier burden on infrastructure.

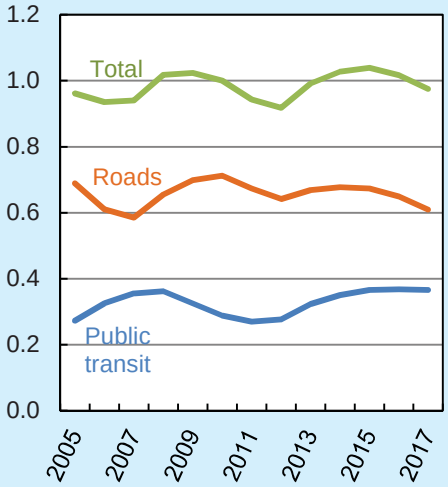
While the population of individuals who work in their residential locality increased by about 34 percent between 2006 and 2016, the population of individuals who work outside their residential

[1] This box discusses an international comparison of the current use of transit, mainly public. It does not deal with the expected changes in the field, mainly as a result of the development of autonomous vehicles, or their implications on regulation and perhaps on the mix of investment.

locality increased during the same period by about 53 percent. Accordingly, data from the Central Bureau of Statistics Social Survey indicate a gradual increase in the time it takes to travel to work (Figure 2). Among those who work in their residential locality, the increase in travel time is relatively small, and mainly reflects an increase in the burden on transport infrastructure. In contrast, there is a more significant increase in travel time among those who work outside their residential locality, which reflects the burden on infrastructure and the growing distance between residence and place of work. In parallel with the longer travel times, the rate of those who respond affirmatively to the question "Does the travel time bother you?" exceeds the rate of those who respond to the question negatively (Figure 3).

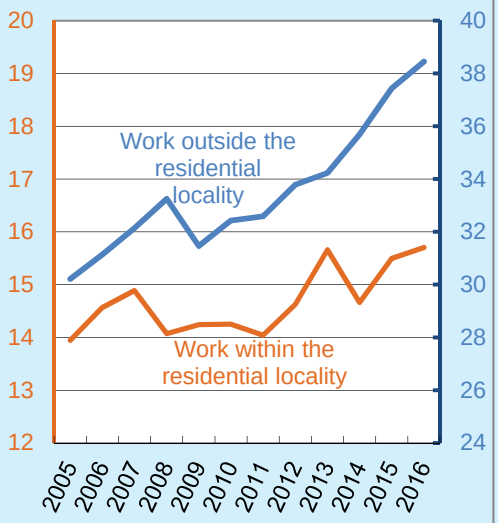
The vast majority of employees in the economy (69 percent) travel to work in private vehicles, and just 21 percent use public transit (bus or train). As expected, the rate is higher than 21 percent in the large cities[2] because public transit in the cities is more widespread. As wages increase,

Figure 1
Investment in Land Transport Infrastructure, 2005–17[a]
(percent of GDP)



[a] Moving 4-year average.
SOURCE: Central Bureau of Statistics.

Figure 2
Duration of Travel to Work in Israel, 2005–16 (minutes)



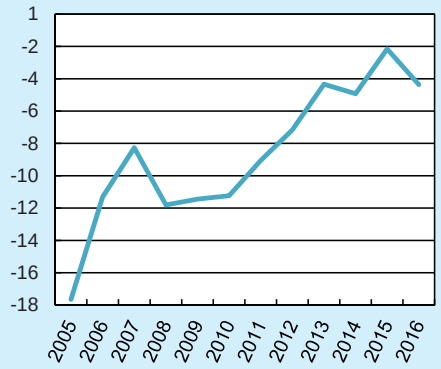
SOURCE: Based on Central Bureau of Statistics Social Survey data, 2005–16.

[2] The definitions of Haifa and Tel Aviv are different than the Central Bureau of Statistics definitions. Haifa includes the Haifa sub-district, and Tel Aviv includes the Tel Aviv district and the cities of Rishon LeZion and Petach Tikva, since in those cases the urban area is contiguous.

the use of busses declines[3] (Table 1). This supports the argument that individuals in Israel use public transit as a last resort, meaning if they do not have a private vehicle available.[4]

The situation described above shows that increasing the volume of investment in transport infrastructure—particularly public transit—is necessary, while making sure that the various means of transportation are coordinated, with the aim of achieving the optimal balance between the cost inherent in infrastructure improvement and the time that people lose while traveling to and from their place of work.

Figure 3
Balance of Opinions[a] on Whether the Duration of Travel is Bothersome, 2005–16



[a] The rate of those responding affirmatively minus the rate responding negatively. In the original, the answers are on an ordinal scale of 1 to 4, but we gathered the "bothers" and "greatly bothers" responses and the "Does not bother" and "does not bother at all" responses. In parallel with the upward trend in the balance toward "bothers", there is a persistent decline in the rate who didn't answer (from 41 percent to 31 percent).

SOURCE: Based on Central Bureau of Statistics Social Survey data, 2005–16.

Table 1
Mode of travel to work, 2014–16 (percent)

Mode of travel	Israel	Jerusalem	Haifa sub-district	Tel Aviv district[a]	Tel Aviv district by equivalized per capita wage[a]		
					Up to NIS 2000	NIS 2001–4000	Above NIS 4000
Private or commercial vehicle, incl. motorcycle	69	54	64	62	40	53	72
Public bus or group taxi	18	32	24	24	38	31	17
Train	3	2	4	3	0	3	2
Bicycle or walking	10	12	8	11	22	13	9

[a] Including Petach Tikva and Rishon LeZion.
SOURCE: Central Bureau of Statistics Social Survey for 2014, 2015 and 2016.

[3] This figure is obtained in all sub-districts.

[4] Studies conducted abroad also generally found a negative link between the level of income and the use of public transit to travel to work. However, it is possible that higher wage earners in Israel tend to use a private vehicle more than lower wage earners due to their preference regarding place of residence. If high wage earners tend to live in the suburbs, places with less widespread public transit than in the urban centers, then a significant portion of them will travel to work with a private vehicle.

Public transit in Israel and Europe

Satisfaction with public transit in the three largest cities in Israel is lower than in the main cities in Europe (Figure 4), which supports the argument that public transit in Israel is insufficient. The data were obtained from surveys conducted in Israel and in Europe, and participants were asked identical questions regarding their satisfaction with different aspects of life in the city.[5]

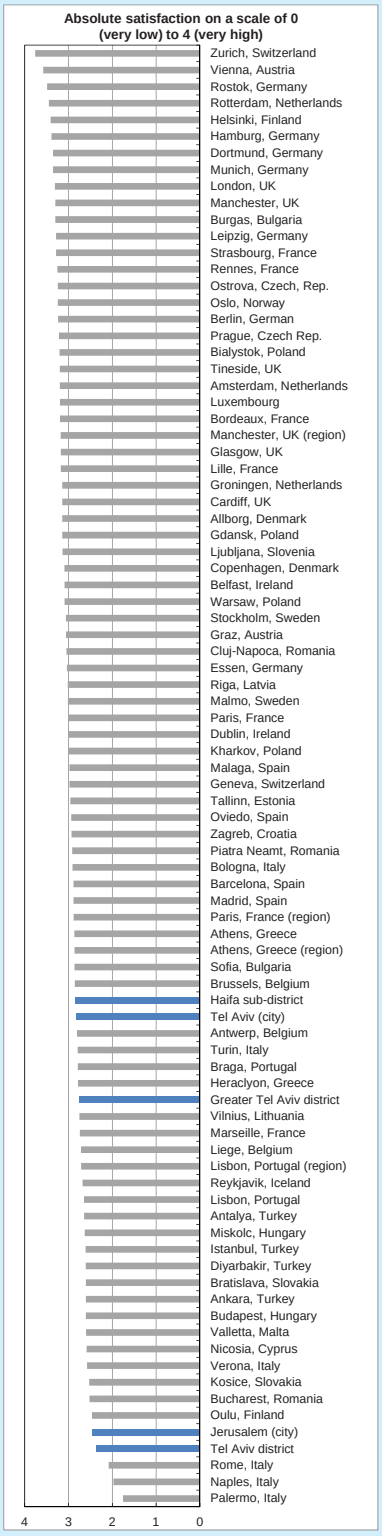
Despite the figure on satisfaction, and even though residents apparently use public transit as a last resort, the raw data on the rates of public transit users do not show a significant difference between the rate of users in the three largest cities in Israel and the average in the large and medium-sized cities in Europe (Figure 5).

However, as we examine the factors that affect the rate of use of public transit, we can build a usage intensity index—an index that is affected by the unique characteristics of each city. The index supports the argument that the intensity of use of public transit in Israel is lower than the average of the large European cities.

The public transit usage intensity index for a city is obtained from the difference between the actual level of use and the expected level according to the socioeconomic characteristics of the city. In order to compare the level of public transit use in large and medium cities, we examined the public transit usage intensity in Tel Aviv and in 56 large and medium cities in nine European countries. We took the data on Israel from the Social Survey conducted by the Central Bureau of Statistics, and we selected the European cities based on data availability in Urban Audit, provided that the population was above

[5] A comparison was also made regarding relative satisfaction, meaning satisfaction with public transit equivalized to satisfaction with other aspects of city live, including residential area and level of cleanliness. The reason for the equivalization has to do with the possibility that the absolute level is also linked to cultural characteristics. Some cultures may be less critical than others, so that satisfaction among them would be higher in the first place. The results obtained are consistent with the belief that satisfaction with public transit in Israel is not high.

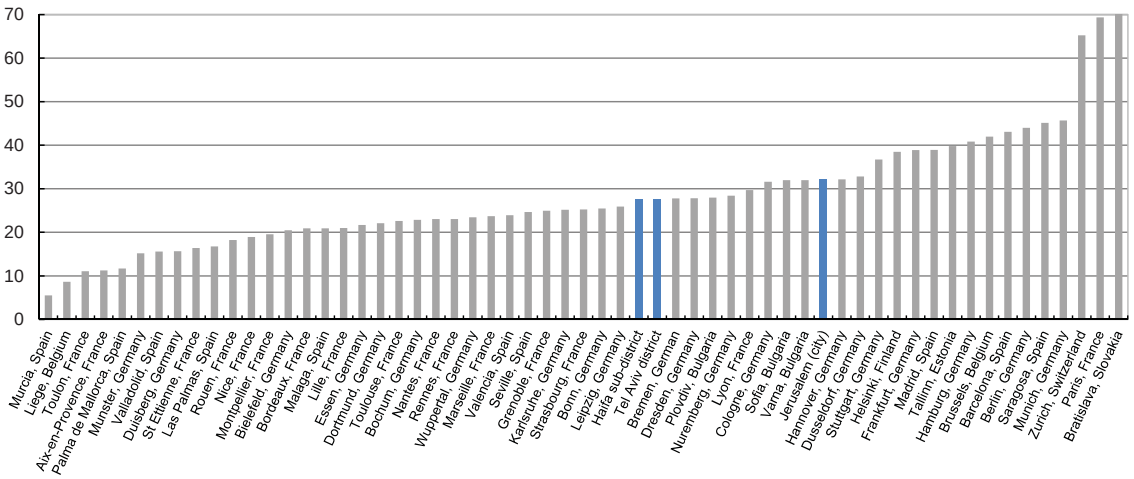
Figure 4
Index of Satisfaction with Public Transit in the Large and Medium Cities in Israel and Europe[a]



[a] Israel—2013–16; Europe—2012 and 2015. To examine the sensitivity of the result to various definitions of "Tel Aviv", we used three components: the city of Tel Aviv, the Tel Aviv district, and the Tel Aviv district plus Petach Tikva and Rishon LeZion.

SOURCE: Europe— Urban Audit, Eurostat; Israel—Based on Central Bureau of Statistics Social Survey.

Figure 5
Rate of People Traveling to Work on Public Transit[a]: Tel Aviv District[b], City of Jerusalem, and Haifa Sub-District, Compared with Large and Medium Cities in Europe, 2015 (percent)



[a] Bus and mass transit systems.
[b] Including Petach Tikva and Rishon LeZion.
SOURCE: Europe— Urban Audit, Eurostat; Israel—Based on Central Bureau of Statistics Social Survey.

300,000 people. We first found the rate of people who travel to work on public transit, based on data from surveys in which participants were asked how they travel to work.[6] In the second stage, we forecast the rate through a regression.[7] We then calculated the residual—the difference between the actual and forecast rates.[8] In cities where the residual is positive, public transit may be characterized by high usage intensity.[9]

The explanatory variables include (1) Demographic effects: The population of the city—its influence on the use of public transit is positive and statistically significant (+); the population of the metropolitan area (+)—the largest city in the metropolitan area provides the other localities in the metropolitan area with various services, particularly public transit; the number of students per thousand residents (+); and the rate of households containing just one person (+); (2) Geographic effects: precipitation (in millimeters) (-); (3) Economic effects: The price of a car relative to GDP (+); and per capita GDP equivalized to purchasing power, a variable that the literature generally finds to have a negative link but that we have found to be statistically insignificant. The model does not contain variables for public transit infrastructure and operation, and we assume that they are not correlated with the variables in the model.[10]

6 Other modalities include private vehicle, walking or bicycle.

7 G. Santos, H. Maoh, D. Potoglou, and T. von Brunn (2013), "Factors Influencing Modal Split of Commuting Journeys in Medium-Size European Cities", *Journal of Transport Geography*, 30, pp. 127–137.

8 The average residual is zero. Studies on productivity (Solow residual) use a similar method to specify productivity.

9 To be more precise, it may show that public transit infrastructure and operation are characterized by high usage intensity relative to other travel modalities. To provide a simple explanation, we look at two cities with similar public transit infrastructure but different bicycle infrastructure—better in one city. In that city, the actual public transit usage rate is lower, so the usage intensity index is lower. Moreover, usage intensity is also influenced by the difference between the price of use of public transit and the price of use of a private vehicle.

10 The model also does not include a fixed effect at the city level, since such an effect may partially capture the level of public transit infrastructure.

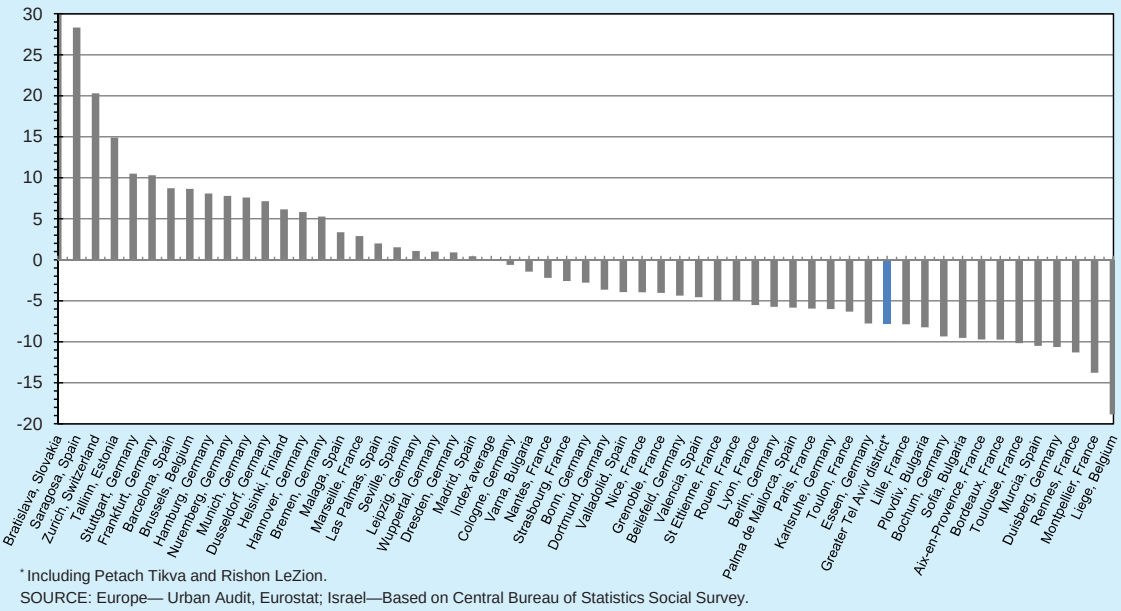
Figure 6 shows the public transit usage intensity index for large cities. It shows that the usage intensity in the Tel Aviv district is lower than average—the actual usage is lower than the forecast value.

What factors affect the forecast rate in the Tel Aviv district? First, the Tel Aviv district is characterized by a large population, and the Tel Aviv metropolitan area is considered large on a European scale (the city is fourth largest out of the 56 cities examined, and the metropolitan area is fifth).[11] These increase the forecast rate considerably—8.5 percent compared with the European average. Second, the price of a vehicle in Israel is higher than the average in the examined cities, which increases the forecast rate by about 1.5 percent relative to the European average. However, the Tel Aviv district includes a very small percent of one-person households—noteworthy consumers of public transit—which lowers the forecast rate by about 6.3 percent compared with the European average.

In order to maintain the Tel Aviv district's position in the usage intensity index, 43 percent of those who become newly employed must travel to work by public transit (compared to 25 percent today). In Israel, and particularly in the Tel Aviv metropolitan area, the number of those becoming newly employed is significant, which makes it necessary to invest in public transit.

The usage intensity index should be treated with caution. First, it basically measures the level of public transit infrastructure and usage relative to the level of infrastructure of other methods of travel.[12] Second,

Figure 6
The Public Transit Usage Intensity Index in Large and Medium Cities, 2009–15 Average (percent)



* Including Petach Tikva and Rishon LeZion.
SOURCE: Europe— Urban Audit, Eurostat; Israel—Based on Central Bureau of Statistics Social Survey.

[11] About 145 of European cities that participated in Urban Audit had a population larger than 300,000 in 2015, and 55 of them had a database that made it possible to run a multi-year regression. Even if we take into account all of the 145 cities, the Tel Aviv metropolitan area is considered very large in European terms.

[12] See note 9.

in order to apply the parameters obtained in the model to Israeli data, we must test whether it is possible to compare the values of the explanatory variables in Israel to those in Europe. For instance, it is not possible to add Jerusalem to the examination, since the values of the demographic variables in that city are materially different than the values in European cities.[13] Third, the estimation is greatly influenced by the size of the city's population, and we set it according to the question of whether the city's margins are contiguous urban areas that are integrated into the city, and not according to the widespread arbitrary definition—an administrative decision on the city's boundaries. For instance, we changed the definition of Tel Aviv and included both the Tel Aviv district and the cities of Petach Tivka and Rishon LeZion.

Conclusion

The box provides an overview of transport in Israel, and finds that the duration of travel to work has grown longer in recent years, an indication that the burden on transport infrastructure has increased. In addition, the box shows that the individuals who use public transit to get to work tend to belong to the lower socioeconomic levels. This finding supports the argument that many individuals in Israel use public transit as a last resort, meaning that they do not have a private vehicle available. Israeli residents are not satisfied with public transit, and the public transit usage intensity index in the Tel Aviv metropolitan area is lower than what is common in Europe. These findings show that in addition to increasing the budget that has been allocated for public transit in recent years, the government must act with greater vigor to improve public transit with the aim of increasing its use at the expense of using private vehicles.

[13] The Haifa sub-district was also deleted, because the data are not available.