# *Chapter 6*
# *The General Government, Its Services and Financing*

- The central government deficit was 2 percent of Gross Domestic Product in 2017, lower than the deficit in 2016 and below the 2.9 percent of GDP ceiling. The deficit was below the ceiling because tax receipts exceeded the budget forecast, mainly due to one-off factors.
- The public-debt-to-GDP ratio continued to decline, to 60.8 percent of GDP at the end of the year. This was lower than the OECD average. Much of the decrease reflects the appreciation of the shekel and the use of a funding surplus from previous years.
- General government expenditure accelerated in the reviewed year, by 6.9 percent compared with the previous year. Primary civilian expenditure increased to 32.5 percent of GDP from 30.8 percent in the previous year, but remains much lower than in most OECD countries.
- Since the government significantly increased expenditure while at the same time lowering statutory taxes, the structural deficit increased by 2 percent of GDP in the past two years.
- Central government revenue increased to 37.8 percent of GDP during the year. Tax revenue increased sharply, to 32.6 percent of GDP, and significantly exceeded the forecast, by about 1.3 percent of GDP. The surplus revenue mainly reflects one-off receipts, and about one-third of it is at the expense of revenue in the coming years.
- The new fiscal tool used this year—the numerator—contributes to transparency regarding the government's future commitments, but its use has been accompanied by the use of a temporary order, legislation that makes it possible to use it to avoid future commitments.
- The government approved the "Net Family" program this year, with the aim of supporting the families of workers with children. The earned income tax credit was increased for those with low wages, and those with relatively high wages were able to take advantage of tax benefits for children under the age of 6. The program improves the state of working families in all income quintiles, and reduces poverty.

## 1. MAIN DEVELOPMENTS

The sharp increase in public expenditure significantly expanded its share of GDP.

The fiscal policy implemented by the government in 2017 led to a sharp increase in public expenditure, of 1.2 percent of GDP—the largest increase in the past decade. The increase in expenditure reflects an increase in primary civilian expenditure alongside stability in defense expenditure and a decline in interest expenditure (in GDP terms). Government revenue increased at a higher rate, to 38.7 percent of GDP, mainly due to one-off tax revenues. The sharp increase in revenue contributed to a reduction of the general government deficit, to 2.2 percent of GDP.[1] The decline in the government deficit, the appreciation of the shekel, and the use of a funding surplus from previous years contributed to a decline in the public debt to GDP ratio to 60.8 percent of GDP—further to the downward trend in previous years.

The central government deficit totaled about 2 percent of GDP, but the increase in expenditures and the decline in statutory taxes significantly expanded the structural deficit.

The central government deficit was 2 percent of GDP, similar to the deficit in 2016 and lower than the 2.9 percent ceiling set by the government. Notwithstanding the sharp increase in government expenditure, the deficit remained lower than the ceiling because tax revenue exceeded the budget forecast by about 1.3 percent of GDP. The government lowered taxes during the year (corporate tax, tax benefits for parents, cancellation of customs duties), and the surplus revenue was mainly a result of one-off factors: a temporary tax incentive for the distribution of dividends, and exceptional transactions such as the sale of a company in the high technology industry ("Mobileye") and the issue of the "Tamar" natural gas reservoir. The increased expenditures and lower taxes led to a significant increase in the structural deficit for the second year in a row. This shows that the non-expansion of the government deficit in those years was due to one-off factors, and that the negative gap between the government's fixed expenditures and revenue did in fact increase. The increase in the structural deficit is characteristic of pro-cyclical accommodative policy, which may lead to pressure to reduce the budget in the future.

In addition to the government's increase in expenditure in 2017, the government announced multi-year expenditure programs in healthcare and education, with the aim of expanding public services and support for weaker population groups—such as disability allowances—against the background of the low civilian expenditure in Israel. Some of the costs of the programs were already recorded in 2017, but most

[1] According to figures from the Central Bureau of Statistics, the deficit totaled about 1.2 percent of GDP. The gap is a result of the fact that the Central Bureau of Statistics subtracts revenue from the sale of land from public investment, according to an interpretation of the international rules that states that the sale of land is a negative investment by the government. An examination of data from the other OECD countries shows that this revenue is very low in most countries (the average in the OECD countries is 0.05 percent of GDP, and the subtraction reflects activity such as the sale of agricultural land that was bettered by the State—for instance in Poland—or the purchase and renovation of homes in public housing, and their subsequent sale to eligible buyers—as in the Netherlands). In contrast, in Israel, the sale is of land that has historically been owned by the State—the realization of assets—which is estimated about 1.0 percent of GDP. Since the realization of assets is in essence a financial activity, and due to the large fluctuations in the volume of sales in recent years, we present public expenditure without this subtraction in order to reflect the macroeconomic effect of the government's activity, and we present the sale of land as a financial item that restrains the increase in debt.

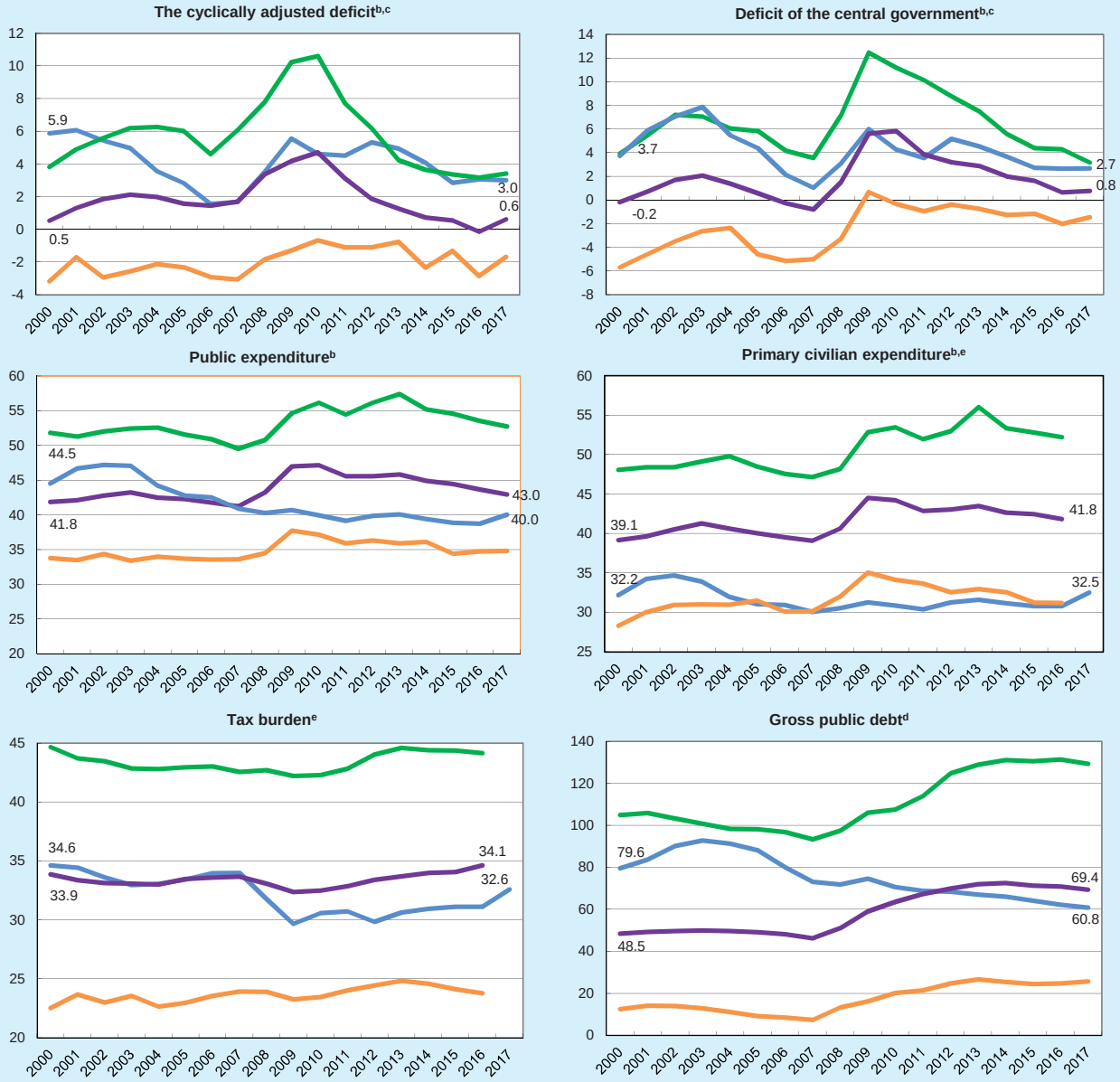
**Table 6.1**
**The main components of the general government's revenue and expenditure, 2003–17**

(percent of GDP)

| | Average 2003-2007 | Average 2008-2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|
| Total public revenue | 41.1 | 36.7 | 36.2 | 36.5 | 36.7 | 36.4 | 37.8 |
| Income from property | 1.3 | 0.9 | 0.7 | 0.6 | 0.7 | 0.5 | 0.7 |
| Total taxes | 33.5 | 30.5 | 30.6 | 30.9 | 31.1 | 31.1 | 32.6 |
| Indirect taxes on domestic production | 11.9 | 11.7 | 12.0 | 12.1 | 12.2 | 11.6 | 12.0 |
| Indirect taxes on civilian imports | 3.8 | 3.8 | 3.4 | 3.7 | 3.4 | 3.9 | 3.1 |
| Direct taxes, fees and levies | 12.4 | 9.9 | 10.2 | 10.0 | 10.3 | 10.4 | 12.1 |
| National Insurance Institute revenue | 5.4 | 5.1 | 5.1 | 5.1 | 5.1 | 5.2 | 5.3 |
| Grants | 2.4 | 1.5 | 1.3 | 1.3 | 1.4 | 1.4 | 1.1 |
| Other[a] | 3.9 | 3.7 | 3.6 | 3.6 | 3.5 | 3.4 | 3.5 |
| Total public expenditure[b] | 43.5 | 40.0 | 40.0 | 39.4 | 38.9 | 38.8 | 40.0 |
| Current expenditure | 39.5 | 36.0 | 35.8 | 35.4 | 35.2 | 34.8 | 35.5 |
| Domestic civilian consumption | 16.9 | 16.6 | 17.1 | 17.0 | 16.9 | 16.9 | 17.4 |
| Domestic defense consumption | 5.6 | 4.9 | 4.5 | 4.5 | 4.4 | 4.4 | 4.4 |
| Defense imports | 1.5 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.7 |
| Direct subsidies | 0.6 | 0.6 | 0.8 | 0.7 | 0.7 | 0.7 | 0.9 |
| Transfer payments on current account | 10.0 | 9.7 | 9.6 | 9.5 | 9.5 | 9.4 | 9.8 |
| Interest payments | 4.8 | 3.2 | 2.9 | 2.7 | 2.7 | 2.6 | 2.3 |
| Transfer payments on capital account[c] | 1.7 | 1.9 | 1.9 | 1.8 | 1.6 | 1.7 | 1.9 |
| Investments of the general government[b] | 2.3 | 2.0 | 2.3 | 2.2 | 2.1 | 2.2 | 2.6 |
| Primary civilian expenditure | 31.6 | 30.9 | 31.6 | 31.2 | 30.8 | 30.8 | 32.5 |
| Total deficit of the general government | 2.4 | 3.3 | 3.8 | 2.9 | 2.1 | 2.3 | 2.2 |
| Deficit using international definition[b,d] | 4.2 | 4.4 | 4.6 | 3.7 | 2.7 | 2.7 | 2.7 |
| Current deficit of the general government | 1.6 | 2.6 | 2.8 | 2.2 | 1.9 | 1.8 | 1.2 |
| Total cyclically adjusted deficit[e] | 0.7 | 2.7 | 4.0 | 3.1 | 1.9 | 2.1 | 2.4 |
| Total cyclically adjusted deficit using international definition[b,d] | 2.9 | 4.7 | 5.0 | 4.1 | 2.9 | 3.1 | 3.0 |
| Net public debt[f,g] | 76.6 | 64.3 | 62.2 | 62.1 | 60.2 | 58.7 | 57.0 |
| Gross public debt[f] | 85.1 | 70.9 | 67.1 | 66.1 | 64.0 | 62.3 | 60.8 |

[a] Includes transfer payments from the public on the current and capital accounts, imputed pensions, depreciation, capital transfers from abroad, and transfers from abroad to National Institutions and nonprofit organizations.
[b] Excludes the reduction in revenues from the sale of state-owned land.
[c] Includes mortgage subsidies and transfers on the capital account to nonprofit organizations and businesses.
[d] SOURCE: OECD.
[e] The calculation the effect of the cycle relative to the potential GDP is derived from the growth rate of the primary working age population (aged 25–64) instead of the growth rate of the entire population. The slowdown in the growth of the working age population in recent years slowed the growth of potential GDP.
[f] Excluding municipalities' debts to the government.
[g] Net public debt equals the gross public debt minus active loans minus government deposits with the Bank of Israel.
SOURCE: Based on Central Bureau of Statistics data.

**Figure 6.1**
**Israel's Fiscal Aggregates Compared with the OECD Average[a], 2000–17** (percent of GDP)




[a] Data for OECD countries are arithmetic averages of all member countries for which there are data.
[b] Deficit, cyclically adjusted deficit, expenditure and civilian expenditure data for Israel are according to the accepted international definition and taken from the OECD systems.
[c] Excluding the reduction of revenue from the sale of state-owned land.
[d] Data on public land are adjusted to the definition used by the International Monetary Fund, and are taken from the IMF systems.
[e] There are still no data for OECD countries for 2017. For a number of countries with missing data, we assumed that defense expenditures in 2016 remained the same as in 2015.

SOURCE: Based on OECD data, Central Bureau of Statistics, OECD Revenue Statistics 2016, and International Monetary Fund.

of the amounts will increase the government's future commitments by about NIS 12 billion per year after the full maturation of the programs in 2022. It is important that the government's increased future allocations be accompanied by complementary measures on the revenue side in order to maintain a future deficit level that will enable the level of public debt to remain stable. Expanding the supply of public services in parallel with a reduction in taxes, while using one-off revenues to maintain the deficit level, means a future increase in the deficit when the temporary factors dissipate. In order to avoid an increase in the deficit, it will be necessary to cut expenditures or increase taxes in the future, under less easy terms for the economy.

## 2. INTERNATIONAL COMPARISON

The general government deficit in Israel is higher than the average deficit in the OECD countries, but the expected dynamic of its development is different than in the OECD because the population in Israel is growing faster and the debt-to-GDP ratio is lower.

Figure 6.1 shows Israel's fiscal aggregates compared to the OECD average. The general government deficit in Israel, in accordance with international definitions, is higher than the average deficit in the OECD, with a gap of about 2 percentage points. The cyclically adjusted deficit is significantly larger than in the other advanced economies, and is close to the 90th percentile in the distribution of countries by size of the cyclically adjusted deficit, in view of the stage in the business cycle at which Israel finds itself, with a lower output gap than the average in the OECD. Due to the lower public debt in Israel and the higher growth rate of the population, the expected dynamic in the development of the deficit differs from that of the OECD. Despite the lower public debt in Israel, the cost of financing it is higher, at 2.3 percent of GDP, compared with an average cost of 1.3 percent of GDP in the OECD. There was a marked decline in the burden of interest payments in recent years due to the persistent decline in public debt, but it remains high by international comparison. One of the factors for this is the security risk in Israel.

The increase in public expenditure in Israel accelerated in 2017, which contributed to the narrowing of the gap in public expenditure relative to GDP between Israel and the OECD. However, public expenditure as a share of GDP is still significantly lower than the OECD average. The level of civilian expenditure as a percentage of GDP is very low, despite the significant increase in 2017, with Israel remaining close to the lowest decile in the distribution of countries by expenditure.

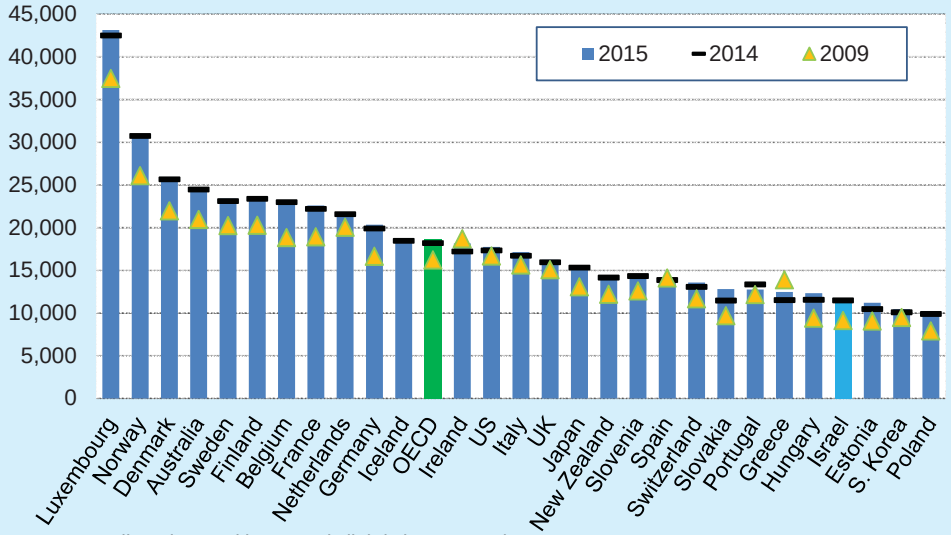
A comparison of public expenditure in GDP terms shows the size of the government in the country. The calculation of per capita expenditure in adjusted prices (in purchasing power parity (PPP) terms) takes into account the size of the population and the level of prices in the country, and enables an international comparison of the volume of per capita expenditure. Per capita civilian expenditure in adjusted prices reflects the size of social expenditure in areas such as healthcare, education, and welfare, and makes it possible to map the various countries by expenditure level.

Figure 6.2 shows that on a per capita basis, primary civilian expenditure in Israel is among the lowest in the OECD. The volume of expenditure in a country depends on the size of the tax burden, which reflects social preferences in the country and the level

Per capita civilian expenditure in Israel is among the lowest in the OECD.

of welfare measured by the size of per capita GDP. In Figure 6.2, Israel is far from other countries with similar social preferences (US, UK, Ireland, Japan—countries with a low tax burden), and is closer to countries where per capita GDP is relatively low: former Soviet bloc countries (Hungary, Estonia and Poland) and countries that were heavily impacted by the Global Financial Crisis in 2009 (Greece and Portugal). Since the social protest of 2011, expenditures have increased, but Israel's relative placing has not changed as a result.

**Figure 6.2**
**Per Capita Primary Civilian Expenditure in OECD Countries, 2009, 2014 and 2015[a]** (USD, PPP)

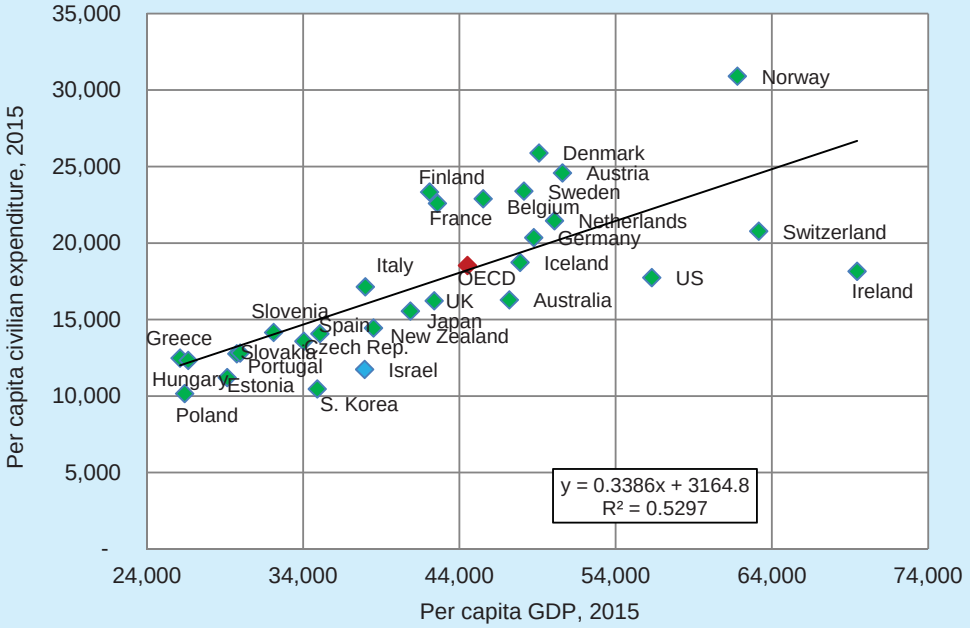



[a] Expenditure in Israel increased slightly in 2016 and 2017.
SOURCE: OECD.

Showing per capita civilian expenditure and per capita GDP in various countries together reflects the correlation between a country's volume of expenditure and its level of economic development. Figure 6.3 shows that Israel is placed relatively low according to standard of living (per capita GDP)—in the bottom third of the distribution of OECD countries. Moreover, the volume of per capita civilian expenditure is significantly lower than the average line of per capita GDP. The distance from the average line is about 25 percent of the current per capita GDP in Israel.

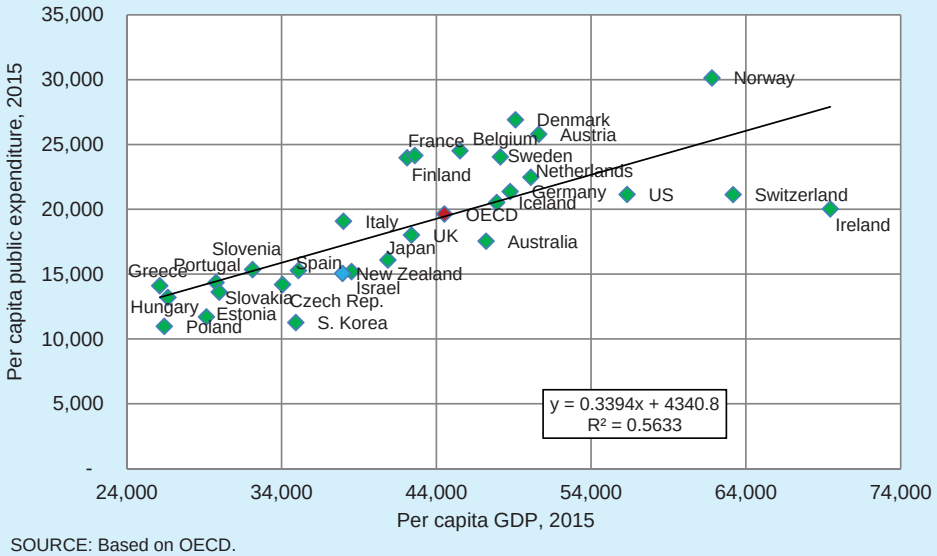
One of the reasons for the low level of civilian expenditure in Israel is its geopolitical situation, which increases defense expenditure and increases the costs of financing the public debt. Figure 6.4 shows the correlation between public expenditure including interest and defense expenses, and per capita GDP, and shows that the gap between Israel's placement and the average line is narrowing, but has not closed. The government size that is consistent with the average line and the level of per capita

**Figure 6.3**
**Per Capita Primary Civilian Expenditure and Per Capita GDP in OECD Countries, 2015** (USD, PPP)




SOURCE: Based on OECD.

**Figure 6.4**
**Per Capita Public Expenditure and Per Capita GDP in OECD Countries, 2015** (USD, PPP)




SOURCE: Based on OECD.

GDP in Israel is about 45 percent of GDP—5 percent of GDP higher than the current size of expenditure. Even approaching this level of public expenditure relative to GDP, primary civilian expenditure remains lower than the international average line.

## 3. GOVERNMENT EXPENDITURE

General government expenditure increased by 6.9 percent in nominal terms in 2017—significantly higher than the growth rate of nominal GDP (3.5 percent, Table 6.2)—with total general government expenditure reaching 40 percent of GDP. Primary civilian expenditure increased even more, by 7.8 percent, due to reduced interest expenses. The sharp increase was further to the acceleration in the growth rate of public expenditure since 2012, following the social protest. This increase slowed in 2014 and 2015 due to the fiscal stabilization program adopted by the government in the 2013–14 budget against the background of the marked increase in the deficit, but resumed its acceleration in the following years. Since 2012, the average annual growth rate of government expenditure increased to 5.5 percent, compared with a rate of 3.7 percent in the preceding decade.

General government expenditure increased by 6.9 percent in nominal terms in 2017—significantly higher than the growth rate of nominal GDP.

The acceleration of public expenditure in 2017 is based on a government decision to increase budgetary expenditure beyond the rate set pursuant to the expenditure rule. As part of the 2017–18 budget, total expenditure for 2017 increased by 6.2 percent in real terms compared with 2016. This is significantly higher than the rate of increase set according to the expenditure rule (2.7 percent), and continues the trend of accelerated government expenditure that began in 2012. The increase in expenditure is based on a government decision to raise expenditure by 2.4 percent beyond the fiscal rule, and to cancel the legal requirement to adjust expenses to price changes, which were lower than forecast in the budget for 2015 and 2016.[2] In order to meet the increase in expenditure in parallel with the tax cut that was planned in the budget, the government raised the deficit ceiling to 2.9 percent of GDP, while the original deficit target according to the deficit reduction outline was 2.5 percent of GDP.

Expenditure increased rapidly in 2017 due to accelerated civilian public consumption, particularly in the areas of healthcare and education.

The rapid growth of expenditure in 2017 reflects the acceleration of civilian consumption—which increased by 6.7 percent—alongside stability in the growth rate of defense consumption. The growth rate of expenditure was accelerated in most areas this year. There was a high rate of expenditure growth in the areas of healthcare and education. Some of the reasons for the growth in expenditure in education include the application of a wage agreement for secondary school teachers, an increase in school construction, and subsidies for after-school care as part of the "Net Family" program. In 2017, there was an acceleration in expenditure on current transfer payments, which was partly the result of the application of the "Savings for Every Child" program.[3] General government investment increased sharply, by 20.7 percent.

[2] For details, see Bank of Israel, *Fiscal Survey and Selected Research Analyses*, 141 (August 2016), pp. 8-9.

[3] For more information on the program, see Chapter 6 of the Bank of Israel Annual Report for 2015.

**Table 6.2**
**Rates of nominal increase of public expenditure in Israel, 2001–17[a]**

| | Average 2001–2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|
| Total public expenditure | 3.8 | 5.1 | 7.9 | 7.0 | 2.8 | 3.9 | 4.6 | 6.9 |
| *of which*: Interest payments | 0.5 | 4.0 | 1.3 | 6.5 | -4.3 | 4.0 | 1.6 | -5.6 |
| Total primary expenditure | 4.3 | 5.2 | 8.5 | 7.0 | 3.3 | 3.9 | 4.9 | 7.8 |
| *of which*: Current primary expenditure | 3.1 | 3.9 | 5.6 | 5.2 | 4.2 | 2.1 | 2.7 | 5.0 |
| Current primary civilian expenditure | 2.4 | 4.3 | 8.4 | 6.3 | 1.8 | 2.5 | 2.9 | 6.6 |
| Per capita expenditure on healthcare | 4.3 | 5.6 | 7.5 | 6.5 | 4.0 | 4.6 | 4.2 | 6.4 |
| Per capita expenditure on education | 4.6 | 6.1 | 7.9 | 7.0 | 3.8 | 5.0 | 4.3 | 7.7 |
| Public consumption | 4.3 | 5.6 | 7.7 | 6.5 | 4.4 | 4.4 | 4.2 | 4.9 |
| Public consumption excluding defense imports | 4.5 | 5.6 | 7.1 | 6.8 | 4.1 | 4.7 | 4.2 | 6.3 |
| Civilian consumption | 4.8 | 6.9 | 8.4 | 7.1 | 4.4 | 4.7 | 4.7 | 6.7 |
| (Per-capita civilian consumption) | 2.8 | 5.0 | 6.4 | 5.1 | 2.4 | 2.6 | 2.6 | 4.6 |
| Domestic defense consumption | 3.5 | 3.2 | 2.7 | 4.8 | 3.9 | 3.5 | 4.1 | 4.2 |
| Transfer payments on the domestic current account | 4.4 | 5.1 | 6.9 | 5.0 | 3.7 | 4.9 | 4.1 | 7.9 |
| (Per-capita transfer payments on the domestic current account) | 2.4 | 3.2 | 5.0 | 3.1 | 1.7 | 2.9 | 2.0 | 5.8 |
| Investments of the general government | 2.1 | 8.4 | 15.6 | 12.9 | -0.9 | 0.7 | 12.0 | 20.7 |
| *of which*: Land transport infrastructure | 13.6 | -0.3 | 17.1 | 25.7 | -11.2 | -14.1 | 18.2 | 14.3 |
| Transfer payments on the capital account | 8.0 | -5.2 | 19.3 | 8.9 | -2.5 | -4.8 | 8.7 | 17.6 |
| Change in the CPI (annual average) | 2.2 | 3.5 | 1.7 | 1.5 | 0.5 | -0.6 | -0.5 | 0.2 |
| Change in the GDP deflator | 1.5 | 1.0 | 3.6 | 2.3 | 0.4 | 3.0 | 0.7 | -0.6 |
| Change in the public consumption price index | 2.2 | 3.3 | 3.8 | 2.8 | 0.8 | 1.2 | 0.2 | 1.6 |
| Change in nominal GDP | 5.0 | 7.2 | 6.0 | 6.5 | 4.5 | 5.4 | 5.0 | 3.5 |

[a] Public expenditure excluding the reduction of revenue from the sale of state-owned land. See footnote 1 in the Chapter.

SOURCE: Based on Central Bureau of Statistics data.

## Budget performance

The government's budget performance was 100.4 percent in 2017 (Table 6.3). The excess reflects overperformance of defense expenditure and civilian expenditure (excluding the Miscellaneous item), which were partly offset by interest expenditures that were lower than the budget, and underperformance of Miscellaneous expenditures. Expenditures of the civilian ministries excluding Miscellaneous expenditures were NIS 1.3 billion higher than the budget. Defense expenditures were NIS 3 billion higher (a nominal excess of about 4.7 percent) than the original budget for 2017—the first year when expenditure was budgeted based on the multi-year defense expenditure outline approved by the government (the Ya'alon-Kahlon agreement). Performance in the Miscellaneous expenditures item was particularly low, at 71 percent.

### Approval of multi-year programs

In 2017, the government decided to expand public services and support of weaker population groups, and to realize its commitments made in coalition agreements. Against the background of the low public expenditure in Israel, the government announced multi-year expenditure programs in various areas. Due to revenue data at the beginning of the year and the increase in forecast tax revenues based on an upward revision of the growth forecast for 2017, the government decided to expand support for parents of young children. The government approved the "Net Family" program, which includes four items: tax benefits through additional tax credit points for parents of children under the age of 6, an increased earned income tax credit for workers with children up to age 18, a differential subsidy for after-school care, and the cancellation of customs duties on various goods (Table 6.4). The budgetary cost of the program

**Table 6.3**
**Components of the deviation from the government's original budget for 2017**

(NIS billion, net, excluding credit, at current prices)

| | Actual performance in 2016 | 2017 | | |
|---|---|---|---|---|
| | | Original budget | Performance | Deviation |
| **Deficit (-)** | -25.5 | -36.6 | -24.8 | 11.8 |
| *of which*: Domestic deficit | -21.7 | -36.3 | -22.0 | 14.3 |
| Deficit abroad | -3.8 | -0.3 | -2.8 | -2.5 |
| **Revenue** | 322.2 | 322.7 | 336.0 | 13.3 |
| *of which*: Domestic revenue | 309.2 | 320.7 | 334.0 | 13.3 |
| Taxes[a] | 284.2 | 296.2 | 307.8 | 11.5 |
| Loan from National Insurance Institute | 23.2 | 20.6 | 21.7 | 1.2 |
| Other revenue[b] | 4.2 | 5.9 | 6.5 | 0.6 |
| Grants from US government | 10.6 | | | |
| **Expenditure** | 347.7 | 359.4 | 360.8 | 1.4 |
| *of which*: Domestic expenditure | 331.0 | 357.0 | 356.0 | -1.0 |
| Expenditure abroad | 16.7 | 2.4 | 4.8 | 2.5 |
| Defense | 73.8 | 63.6 | 66.6 | 3.0 |
| Interest, repayment of principal to National Insurance Institute, and credit subsidy | 48.9 | 50.8 | 49.4 | -1.4 |
| Civilian ministries and transfer payments | 225.0 | 244.9 | 244.8 | -0.1 |
| Civilian ministries and transfer payments excluding miscellaneous | 221.9 | 239.8 | 241.1 | 1.3 |
| Miscellaneous expenditures | 3.1 | 5.2 | 3.7 | -1.4 |

[a] Including VAT on defense imports.
[b] Revenue from interest, royalties, dividends and other sources.
SOURCE: Based on the Accountant General's data on the performance of the 2017 budget.

Against the background of low public expenditure in Israel, the government announced multi-year expenditure programs in various areas.

is about NIS 4.1 billion, and it is mainly directed toward working parents. The main part of the program—tax benefits, subsidized after-school care and the cancellation of customs duties—was approved in a temporary order for the years 2017 and 2018, and came into force in 2017.[4] The budget proposal for 2019 contained the allocation of resources to continue implementation of the program, and an expansion of the earned income tax credit was approved at an annual cost of about NIS 0.6 billion (Table 6.4).[5]

Beyond the "Net Family" program, the government decided in 2017 to expand its services in the areas of healthcare and education, and to increase transfer payments. In the education field, a wage agreement was approved with secondary school teachers, and the "Net Vacations" program was approved, at a total annual cost of about NIS 1 billion. The agreement with the teachers mainly includes a wage increase for new teachers and various additions to salary. According to the "Net Vacations" program, the vacations in the public education system will be shortened by ten days per year.

**Table 6.4**
**The "Net Family" program**

| Item | Cost (NIS billion) | Details | Approval | Applicable |
|---|---|---|---|---|
| Additional tax credit points | 1.8[a] | An additional half point for the mother of a young child, and increasing the number of points for a father to the level of the mother—up to 2.5 points for a child aged 1—5 and 1.5 points for a child up to 1 year old.[b] | Temporary order | 2017 |
| Expanded Earned Income Tax Credit | 0.6 | Increasing the grant for a father by 50 percent to the level of the mother, additiona 30 percent for eligible recipients in a family with two breadwinners, expansion of the range of the wage entitling the person to the maximum grant. | 2019 budget | 2019 |
| Subsidizing after-school care | 0.9 | Differential subsidy according to the socioeconomic ranking of the locality | Temporary order | 2017 |
| Cancellation of customs duties[c] | 0.8 | Baby clothes, cellphones, footwear | Temporary order | 2017 |
| Cost of the program | 4.1 | | | |

[a] Bank of Israel estimate. According to the Ministry of Finance estimate, the budgetary cost of an additional tax credit point totals NIS 1.7 billion.

[b] For details see Table 1 in Box 6.1.

[c] Eighty percent of the amount in this item is not focused on young families.

SOURCE: Based on Ministry of Finance.

[4] The tax benefits were approved at the beginning of May, but were granted retroactively to the beginning of 2017, so that the budgetary cost was already fully recorded in 2017. About half of the cost reduced tax revenue in July, when eligible parents received the benefit for the first half of 2017.

[5] For more information on the "Net Family" program, see Box 6.1 below.

The Ministry of Finance and the Ministry of Health announced a new National Long-Term Care Program in 2017, at a cost of about NIS 1.9 billion, which will reach full maturity within four years. The program contains a number of measures, including a change in the mechanism to determine the level of long-term care payment in accordance with the level of dependence, the development of a program to ease the bureaucratic burden of obtaining support payments for individuals under long-term care, the development of services within the community, dental care for the elderly, and more.[6]

At the beginning of 2018, a law was passed to increase disability benefits, which, when fully mature, is expected to carry a total annual cost of about NIS 4.3 billion. According to the agreement, there will be a differential increase in the disability benefit in accordance with the loss of earning capacity and the percentage of medical disability. The benefit payments will be indexed to the average wage in the economy. In addition, the percentage of salary from which the disability benefit will not be offset will increase gradually.

The "Net Price Reductions" program was approved at the end of the year, and includes the cancellation of customs duties on household electrical appliances at a cost of about NIS 0.8 billion.

The approval of these programs is a reflection of the upward trend in government expenditure in the past two years. The government's total future commitments under these programs is about NIS 12 billion per year at full maturity, with NIS 3.4 billion intended to lower taxes and NIS 8.6 billion added to expenditure.[7] About NIS 2.7 billion (tax benefits for parents, lower customs duties and after-school care subsidies) applied to 2017, with the rest spread out until 2022. The increased commitments in 2017 were offset by revenue from the good state of the economy and one-off events, but the planned increase in commitments in the coming years is not accompanied by a permanent change on the revenue side, which is required in order to maintain a deficit level that enables stability in public debt.

### The numerator

The numerator is a new fiscal tool that restricts the government's ability to accumulate future commitments that are not in line with the fiscal rules.

The numerator is a new fiscal tool, the enforcement of which began in 2017. The numerator restricts the accumulation of future commitments by the government that are not in line with the fiscal rules—the expenditure rule and the deficit rule. While the State Budget Law limits the increase of government expenditure in the fiscal year, the numerator restricts government decisions that increase its commitments in the years following the fiscal year. According to the new rule, any law with budgetary implications when approved must fall within the expenditure ceiling for the next three years for which there is no budget. If the proposed law increases expenditure beyond that, adjustments must be made upon approval by cutting other expenditures. The government must publish its three-year budgetary plan (the numerator) twice a

6 For more information on the National Long-Term Care Program, see Chapter 8 of this report.
7 The increase in expenditure is beyond the natural increase in the population.

year, including aggregate indices that include the expected amount of government expenditure, the permitted expenditure limit, and the permitted deficit.

The use of temporary orders increased this year, in an attempt to avoid creating commitments that would be included in the numerator.

The numerator makes it difficult for the government to increase its future commitments. In order to deal with this difficulty, the government uses temporary orders—legislation for a limited period. In general, this is used when a trial period is required to assess a new law until it becomes permanent, or when there are specific issues that must be dealt with on a temporary basis. The use of temporary orders increased this year because they make it possible to approve a law for a limited period for which there is an approved budget, and the law does not need to meet the numerator requirements in the following years. But since these expenditures are the basis for the government's social policy, they will become routine, and it will be very difficult to cancel them later on. In practice, the government creates a multi-year commitment without presenting it transparently, while negatively impacting long-term planning. For instance, most of the items in the "Net Family" program that was passed this year were approved under temporary orders that are valid for 2017 and 2018, for which there is a budget, at a total annual cost of about NIS 3.5 billion. This expenditure did not meet the numerator requirements at the time of approval, since it exceeded the permitted expenditure ceiling in the years following the 2017–18 budget. As such, it was not passed as normal legislation. However, since it is not likely that these changes—the cancellation of customs duties, subsidized after-school care and tax benefits for working parents—will be cancelled in the years following the approved budget, they are essentially a commitment for the years following the budget years as well, transferring the burden of adjustment to the following budget.

It will be possible to examine the efficiency of the numerator in restraining government commitments over time by analyzing the accumulation of commitments that exceed the ceiling in the future. But we can already say that the numerator increases fiscal transparency by increasing public awareness of the creation of the government's future commitments and of the existence and enforcement of the fiscal rules. It also increases the public's participation in discussion of these issues. Increased fiscal transparency plays an important role, and a study of the OECD countries shows that it is accompanied by lower deficits and public debt.[8]

## 4. GOVERNMENT REVENUE

General government revenue totaled about NIS 477 billion in 2017, an increase of 8.2 percent compared with the previous year. Tax revenue increased by about 8.3 percent compared with the previous year, to NIS 308 billion.[9] Due to the sharp increase in tax revenue, its share of GDP increased by 1.5 percent of GDP, to 32.6 percent of GDP. In terms of tax composition, the increase in total tax revenue reflects rapid growth in

[8] J. Alt and D. Lassen (2006), "Fiscal Transparency, Political Parties, and Debt in OECD Countries", *European Economic Review*, 50(6), pp. 1403–1439.

[9] After a NIS 4.15 billion deduction to the Compensation Fund.

direct tax receipts alongside stability in revenue from indirect taxes. The acceleration in revenue from direct taxes reflects a sharp increase in deductions from capital income as a result of the tax benefit program on dividends, alongside an increase in income tax on companies and the self-employed. Indirect tax revenue remained similar to the previous year. The increase in domestic VAT was offset by the decline in import taxes as a result of a decline in vehicle imports and the cancellation of customs duties.

Net of legislative changes and one-off revenue, tax revenue increased by a nominal rate of 4.7 percent. The Bank of Israel Research Department's tax model[10] shows that other than the increase in GDP, the increase wages beyond the long-term connection between wages and GDP also contributed to the increase in tax revenue. In contrast, the slowdown in the growth rate of imports compared to the previous year, in which there was an increase in vehicle imports due to changes in taxation, lowered the rate of increase of tax revenue.[11]

Tax revenue was NIS 12 billion higher than the original forecast in the budget. The surplus revenue, excluding the exceptional transfer of NIS 4.15 billion to the Compensation Fund at the end of 2017, totaled about NIS 16 billion, constituting about 1.3 percent of GDP. The surplus revenue was a result of receipts due to one-off transactions (the sale of "Mobileye" and the issuance of "Tamar Petroleum" shares) totaling about NIS 5 billion, and due to the tax incentive for dividend distribution, which led to additional revenue estimated at about NIS 11 billion. Figure 6.5 shows how tax revenue deviated from the budget forecast between 2001 and 2017.[12] The deviation is correlated with the GDP change. During slowdowns, revenue is below the forecast, and during growth years, tax revenue is higher than forecast.

Tax revenues exceeded the budget forecast, mainly due to one-off factors including exceptional transactions and a temporary tax incentive to distribute dividends.

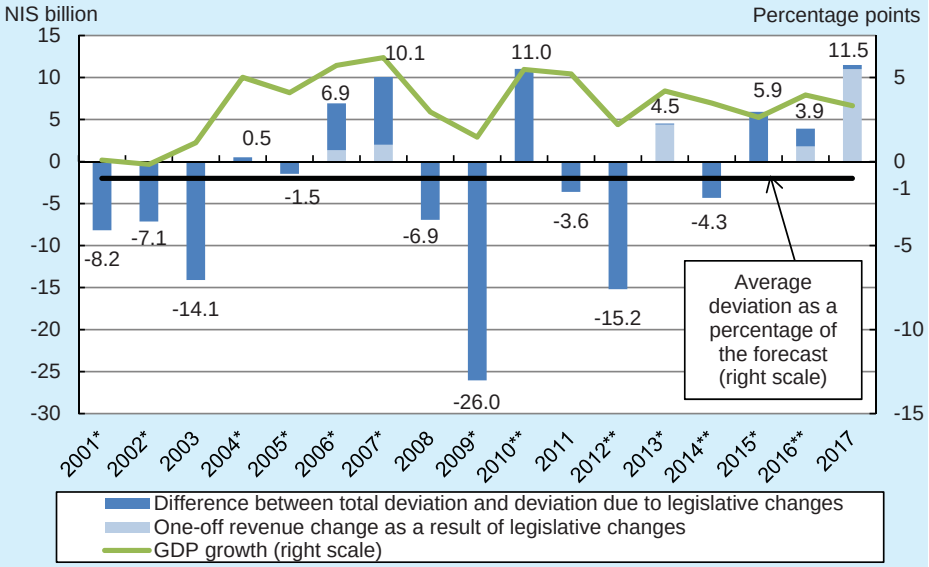
Looking long term, surplus revenue in economic growth years are offset by low revenue during slowdowns, and the average deviation of tax revenue from the forecast between 2001 and 2017 is relatively small. During growth years, the surplus revenue can be explained by cyclical factors (unexpected changes in GDP, in the labor market, or in the capital market), one-off factors such as outlier transactions (the sale of companies such as high-tech companies or Iscar) and the implications of policy changes that are difficult to precisely foresee (changes in green taxation in 2014 and 2016, the Bachar reform in 2006 and 2007, the "Trapped Profits" law in 2013). Due to the cyclical and/or one-off nature of revenue surpluses, it is not desirable to use them for purposes that create permanent commitments (tax reductions or a permanent

[10] Adi Brender and Guy Navon (2008), "A Forecasting Model for Government Tax Revenues in Israel and an Evaluation of the Forecast's Uncertainty" (Hebrew), *Economic Quarterly*, 55(4), December, 489–526.

[11] Vehicle purchases were brought forward toward the end of 2016 due to an expected increase in tax rates in 2017 following an update of the green taxation formula.

[12] The precision of the tax revenue forecast depends partly on the timing of the forecast. The closer it is to the fiscal year, the higher its level of precision. Since in most of the years between 2001 and 2017 the budget was approved late (following the start of the fiscal year: 2001, 2002, 2004, 2005, 2006, 2007, 2009, 2013, 2015) or very early (through two-year budgets: 2010, 2012, and 2014), there are differences in when the forecast for the budget was prepared. Therefore, the deviations in some of the years are partly the result of timing differences in the forecast.

**Figure 6.5**
**The Deviation of Tax Revenue from the Original Budget Forecast[a], and GDP Growth, 2001–17**




[a] The forecast revenue for 2009 was taken from the budget proposal published at the end of 2008 that was not approved. The forecast revenue for 2015 was taken from the budget proposal published at the end of 2014 that was not approved. For 2016, the revised revenue forecast published in the main points of the budget was used.
* Year in which the budget was approved during the fiscal year.
** Year in which the budget was approved particularly early (the second year of a two-year budget).
SOURCE: Based on Ministry of Finance data.

increase in expenditure), since during slowdowns they will be reflected in an increase in the deficit. Unexpected sources should be diverted to reducing public debt or to financing investment projects of a one-off nature.

A long-term examination shows that surplus revenue in years of economic growth are offset by revenue deficits in years of economic slowdown, and that on average, tax revenue deviates to a small extent from the forecasts.

Due to the increase in the tax revenue forecast at the start of the year, the government decided to lower taxes in 2017 by a total of about NIS 2.3 billion (a tax credit point for parents of children under the age of 6 in the "Net Family" program and the relative portion of the cancellation of customs duties on cellular phones, footwear and infant products), further to the tax reduction of NIS 1.2 billion that was included in the 2017 budget. The total tax reduction in 2017 was about NIS 3.5 billion in a static calculation (Table 6.5).[13] In addition, at the end of 2017, the government announced a "Net Price Reductions" program that cancels customs duties on household electric appliances and other goods, totaling NIS 0.8 billion.

[13] Adi Brender and Eran Politzer (2014), "The Effect of Legislated Tax Changes on Tax Revenues in Israel", Bank of Israel Research Department, Discussion Paper 2014.08.

**Table 6.5**
**Tax cuts in 2017**

| Change in taxation | Budgetary cost (NIS billion) | Notes |
|---|---|---|
| Corporate tax | -0.8 | Lowered to 24 percent, 2017–18 budget |
| Tax on intellectual property and on dividends | -0.3 | Changes in the Capital Investment Encouragement Law, 2017–18 budget |
| Income tax | -0.9 | Change in tax brackets and tax rates, 2017–18 budget |
| Tax benefits for working parents | -1.8 | "Net Family" program |
| Cancellation of customs duties | -0.5 | Relative part of the cancellation of customs duties on baby clothes and cellphones in the "Net Family" program |
| Surtax | 0.8 | Increased to 3 percent, 2017–18 budget |
| Total | -3.5 | |

SOURCE: Based on State budget for 2017–18.

**The effect of the dividend distribution incentive on revenue in 2017**

In 2017, changes were made to the law with the aim of increasing the incentive to distribute dividends. As part of the Economic Arrangements Law for 2017–18, legislative changes regarding self-incorporated individuals were approved in order to reduce the incentive for highly-paid workers to self-incorporate. This incentive exists due to the two-stage taxation of the companies: In the first stage, the company pays a 24 percent corporate tax, and in the second stage, when the dividend is withdrawn, the shareholder pays tax on the dividend. When the total tax rate of the companies and the tax rate on the highly-paid employee are similar, the possibility of deferring the tax payment on the dividend for an unlimited time creates a significant advantage for the employee to register as a company. If the profits are not withdrawn, they can be used for purposes that are not connected with the main activity of the company, such as taking interest-free personal loans or investing in securities. A new law implemented

in 2017 provides a clear definition of a sole proprietorship[14], and sets out steps that will make it difficult to self-incorporate in order to reduce tax liability.[15]

As part of the legislative process, it was decided to temporarily lower the tax rate on dividends to all shareholders who own at least 10 percent of a company's shares (material shareholders) from January to the end of September 2017. During that period, the tax on material shareholders was lowered to 25 percent (instead of 30 percent), and income was exempt from the surtax (a 3 percent tax that is applied to those with high incomes—above NIS 53,333 per month). In the end, the reduction amounted to 8 percentage points for individuals subject to the surtax, such that the average discount on the tax payment came to about 22–23 percent of the total tax payment.[16] As a result of the legislative changes, the dividend tax revenue increased from an average of about NIS 4.5 billion in recent years, to about NIS 15.5 billion in 2017—an addition of about NIS 11 billion (about 0.9 percent of GDP, Figure 6.6).

As a result of the temporary incentive for dividend distribution, dividend tax receipts increased by about NIS 11 billion. About half of that amount was at the expense of receipts in the coming six years.

The surplus revenue can be attributed to two factors: 1) The withdrawal of dividends by self-incorporated individuals—dividends that would not have been withdrawn had it not been for the new law, meaning that this is one-off revenue; and 2) the withdrawal of dividends by shareholders—dividends that would have been withdrawn in any case, but the temporary tax reduction provided an incentive to bring forward their distribution so that the shareholders could benefit from the discounted tax rate.

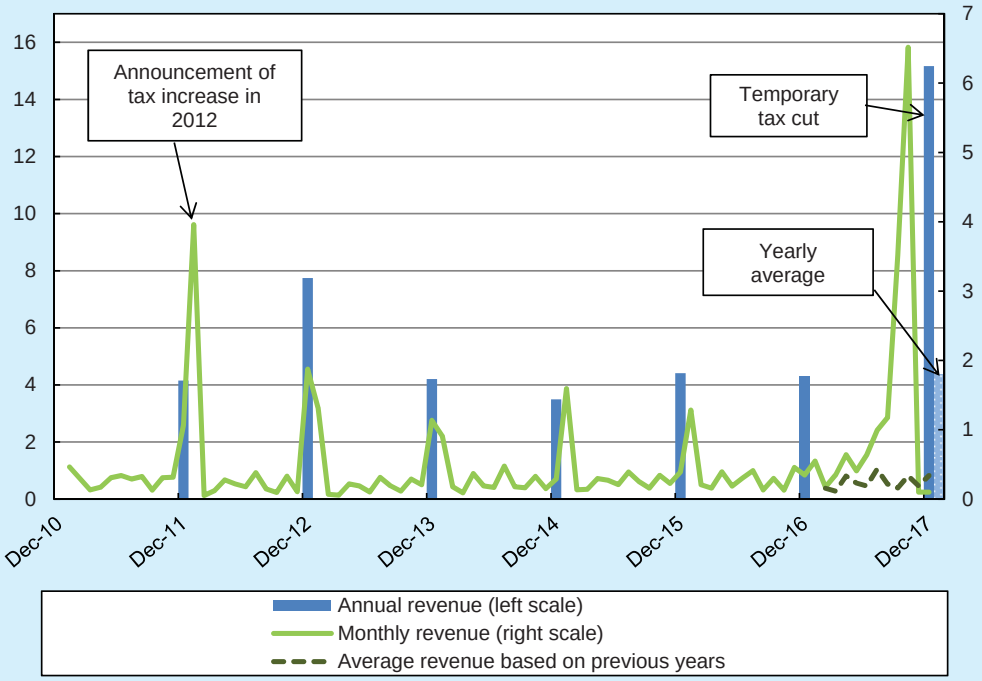
It is important to quantify the second factor in order to forecast the decline in revenue from the law in the coming years. The calculation is based on the elasticity of dividend tax revenue, which is estimated based on the change in the dividend tax in 2011 when the Trajtenberg Committee recommended increasing the tax on dividends by 5 percentage points from 2012. This can be seen as a temporary reduction of the tax until January 2012. During that period before the tax increase, revenue increased by about 88 percent, while the discount totaled about 18 percent—an elasticity of about

[14] The law defines a self-incorporated individual as a closely-held corporation (a company controlled by up to 5 people) where a material shareholder (who holds more than 10 percent of the company's shares) provides services through the company to a main client, the relationship with which can be defined as employer-employee. An example is a physician who provides services to a health fund. Another condition defines the company as a sole proprietorship if it employs up to 4 people, with a restriction on the extent of the job (full-time or part-time).

[15] 1) The Head of the Israel Tax Authority can demand that tax be paid on dividends on the profits the company has accumulated in the past 5 years; 2) Withdrawals by the company owner will be taxed as a dividend at the end of the withdrawal year; 3) The company's owner will be liable for tax as an employee and not as a company if the nature of his activity can be defined as an employee providing a service and if 70 percent of the company's income comes from a particular employer. There are other cases where a closely-held corporation is considered a sole proprietorship.

[16] Assuming that between 50 and 70 percent of shareholders pay the surtax.

**Figure 6.6**
**The Development of Dividend Tax Receipts, 2010–17** (NIS billion)




SOURCE: Based on Ministry of Finance data.

4.8.[17] Taking into account the difference in the interest rate between 2011 and 2017, which intensifies the reaction in 2017, the additional revenue in 2017 due to the decision to bring tax payments forward is estimated at about NIS 5–6 billion—an estimate of accumulated tax advances for the next 6 years.[18] This may be an underestimate due to the difference in the amount of time interested parties had to organize the payment (about 3 months in 2011 compared with about 10 months in 2017).

[17] The Trajtenberg Committee's recommendations were published in September 2011, and included an increase in the tax on dividends from 20 percent to 25 percent for individual shareholders and from 25 percent to 30 percent for material shareholders, beginning in January 2012. The average temporary discount in tax payments totaled about 18 percent of the tax payment. As a result, tax revenue for 2011 totaled about NIS 3.5 billion more than the annual average. The expectation of a tax increase contributed to an increase in dividend tax revenue of about 88 percent (from a yearly average of NIS 4 million to about NIS 7.5 billion)—an elasticity of about 4.8.

[18] The number of years for which tax payments are brought forward depends on the level of the interest rate in the economy. In 2011, at an average interest rate for bank credit of 5.95 percent, and at an average discount of 18 percent in the tax payment, it was worthwhile to bring payments forward up to 3 years. In contrast, in 2017, the interest rate was 60 percent lower, at about 3.5 percent. With an average discount of 22 percent of the total tax payment, it was worthwhile to bring payments forward up to 6 years.

### The capital investment encouragement law

The reduction in corporate tax that began in 2016 continued in 2017. The tax rate declined to 24 percent in 2017, and will decline further to 23 percent in 2018. Beyond that, the tax on income from intellectual property was lowered to 12 percent for export-oriented technology companies[19] (7.5 percent in the periphery), and to 6 percent for large high technology corporations.[20] Additionally, the tax on dividends was reduced for such companies, to 4 percent for foreign companies that hold at least 90 percent of company shares. The objective of the changes is to encourage intellectual property-based activity, and the changes were applied in response to the BEPS tax rules[21] adopted recently by the OECD. The tax reduction increases the worthwhileness of developing and expanding activity in Israel for high technology companies and international corporations. However, at the end of the year, the tax reform in the US was approved, as part of which corporate tax was sharply reduced from 35 percent to 21 percent, and the method of taxing American companies operating abroad was changed. Following the reform in the US, the Israeli tax rate on international corporations and on high technology companies remains lower (5–16 percent), but the taxation gap between Israel and the US narrowed. In order to maintain the attractiveness of investments in Israel in view of the reform in the US, it is worthwhile acting to improve the regulatory environment and to remove bureaucratic barriers.

The presence of high technology and large international companies in Israel is very important. These companies have high labor productivity, and general operate in fields at the forefront of science and technology. Therefore, their location in Israel enables the overflow of broad professional know-how, high-level professional training, and the acquisition of employment experience in an international environment.[22] These companies are given support and tax benefits under the Capital Investment Encouragement Law, the objective of which is to increase Israel's production capacity and to expand employment in the periphery.

The law currently grants tax benefits to about 2000 companies, at an estimated cost of about NIS 7 billion per year in recent years—about one-sixth of total corporate tax payments (Figure 6.7). The law focuses on export-oriented manufacturing companies, and exports must account for a significant portion of sales as a basic condition for receiving the support. However, focusing on export industries along when there is a lack of appropriate manpower (such as engineers) may increase the cost of manpower for domestic industries, distort the price ratio between industries, and impair the

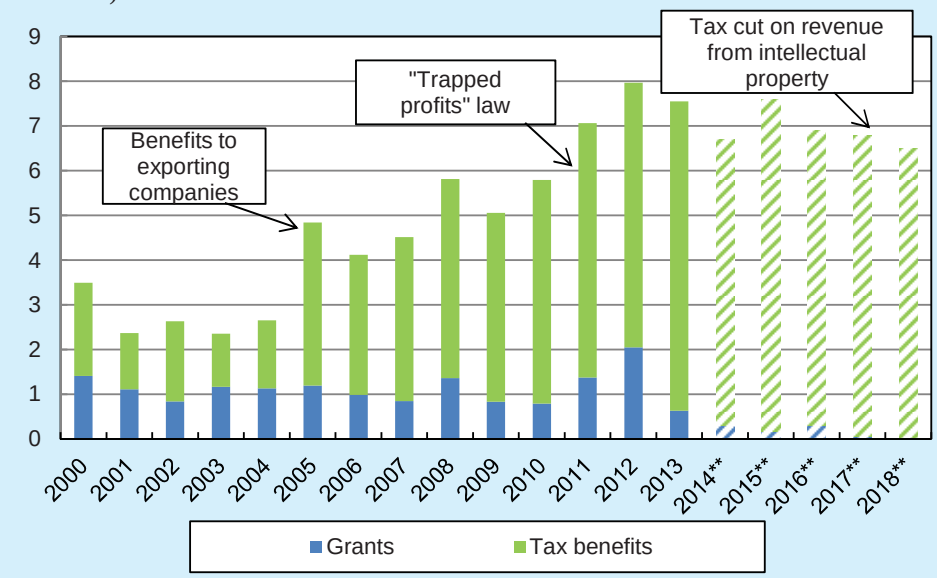
[19] Companies with exports totaling at least 25 percent of their total sales.

[20] A technological enterprise with at least NIS 10 billion in income (such as Intel or Google).

[21] The Base Erosion and Profit Shifting Project. The rules concern taxation of intellectual property with the aim of preventing the shifting of profits from the country in which the intellectual property was developed.

[22] Tatiana Slovodnitsky, Lev Druker and Asaf Geva (2016), "The Contribution of Multinational Corporations to Labor Productivity in Israel", Discussion Papers Series, Ministry of Finance: http://mof.gov.il/ChiefEcon/EconomyAndResearchp/Pages/ArticlesSet.aspx

**Figure 6.7**
**Tax Benefits As Part of the Capital Investment Encouragement Law, 2000–18***
(NIS billion)




* The data on grants from 2000 to 2013 are taken from the State Revenue Report, and the data from 2014 to 2017 are taken from the Ministry of Economy website. The figure for 2017 is partial.
** The volume of the benefit in 2014–18 is taken from the forecast in the state budget.
SOURCE: Based on Ministry of Finance and Ministry of Economy data.

domestic industries from streamlining and shifting to capital and innovation-intensive production.

Reducing the discrimination in support vis-à-vis the domestic manufacturing industries and the trade and services industries will make it possible to reinstill the balance between industries. In the domestic manufacturing industries, support can be given to companies in industries where there is a significant rate of competing imports in order to ensure that the grants support manufacturing that has a high competitive capacity. In the domestic trade and services industries, it is important to build a program of grants that incentivize organizational streamlining and innovation, since these industries are far from the global technological forefront. Innovative technologies and advanced management processes can be used in two ways: designated budgets can be allocated for hiring professionals to assist with innovation in universities and research institutes by distributing “research coupons”, and establishing a “renewal institute”, financed by the government, whose consultants will guide small and medium businesses while examining barriers to the integration of innovation and providing solutions for their removal. This institute will also deal with identifying entry barriers for international competitors into the domestic markets, and developing measures to remove them.

## 5. THE DEFICIT

The general government deficit totaled 2.2 percent of GDP in 2017—0.1 percentage points lower than the previous year, and higher if we exclude one-off revenues.[23] The deficit is high relative to other advanced economies, which generally had a higher output gap than Israel this year as well.

The general government deficit totaled 2.2 percent of GDP in 2017—0.1 percentage points lower than the previous year, and higher if we exclude one-off revenues.

The central government deficit was NIS 24.8 billion in 2017, amounting to 2 percent of GDP (Table 6.6). This is lower than the 2.9 percent deficit ceiling set by law. The government's net expenditures increased sharply in 2017, by 1.0 percent of GDP compared with the previous year, to 28.6 percent of GDP.[24] Maintaining the deficit below the target was made possible due to a sharp increase in net revenue, by 1.1 percent of GDP[25], which came from outlier factors.

Net of the growth effect, the cyclically-adjusted deficit increased by 0.3 percent of GDP in 2017.[26] The structural deficit, which is adjusted for the effect of the

**Table 6.6**
**Central government deficit, revenue and expenditures, 2007–17**

(percent of GDP)

| | Average 2007–2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|
| Total government deficit ceiling excluding credit granted | 3.8 | 2.0 | 4.7 | 3.0 | 2.9 | 2.9 | 2.9 |
| Total actual government deficit excluding credit granted | 2.7 | 3.9 | 3.1 | 2.7 | 2.1 | 2.1 | 2.0 |
| Actual government domestic deficit | 1.4 | 2.9 | 2.2 | 1.8 | 1.2 | 1.6 | 1.6 |
| Total net revenues[a,b] | 25.8 | 24.0 | 24.7 | 24.9 | 25.1 | 25.5 | 26.6 |
| Taxes and imposts | 23.4 | 22.1 | 22.9 | 23.2 | 23.2 | 23.3 | 24.4 |
| Interest, profits, royalties, revenue from land sales | 0.7 | 0.4 | 0.5 | 0.3 | 0.4 | 0.3 | 0.5 |
| Loan from the National Insurance Institute (NII) | 1.7 | 1.4 | 1.3 | 1.3 | 1.4 | 1.9 | 1.7 |
| Total net expenditure[a] | 28.5 | 27.9 | 27.8 | 27.6 | 27.2 | 27.6 | 28.6 |
| Interest, repayment of principal to NII and credit subsidy | 5.1 | 4.7 | 4.5 | 4.5 | 4.2 | 4.0 | 3.9 |
| Net defense expenditure[b,c] | 5.9 | 5.4 | 5.3 | 5.5 | 5.2 | 5.2 | 5.3 |
| Total net primary civilian expenditure | 17.5 | 17.8 | 18.0 | 17.6 | 17.7 | 18.4 | 19.4 |

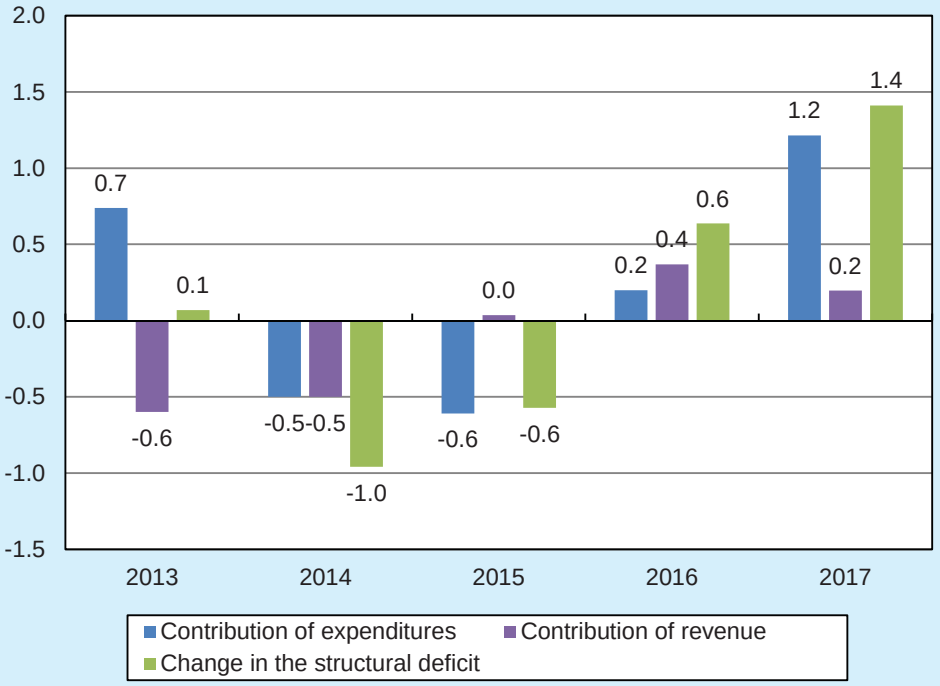
[a] Excluding credit granted by the government and excluding credit repaid to the government.
[b] Excluding grants from the US government.
[c] Defense expenditure in this table is larger than defense consumption shown in Table 6.1 because the Central Bureau of Statistics records pensions and other payments by the defense establishment as transfer payments, while recording an imputation of compulsory service.
SOURCE: Based on the State Budget—Major Provisions of the Budget, Central Bureau of Statistics data, and State of Israel Financial Statements as of December 31, 2017.

[23] The calculation of the deficit includes a correction of the recording of revenue from land. See note 1.
[24] The calculation does not include grants from the US government, which, as of 2017, are defined as designated revenue and are not included in the calculation of the central government deficit.
[25] See note 24.
[26] The cyclically adjusted deficit is calculated based on a comparison of the deviation of potential GDP, which is derived from the growth rate of the primary working age population (25–64) in a given year to the average deviation from the long-term potential GDP, which is about 1.8 percent. For more information, see the Bank of Israel Annual Report for 2016, Chapter 6, note 30.

The structural deficit, which is adjusted for the effect of the business cycle and one-off revenues, increased sharply—by about 1.4 percent of GDP.

business cycle and one-off revenues, increased sharply—by about 1.4 percent of GDP (Figure 6.8).[27,28] The increase in the structural deficit indicates that the government implemented a more accommodative fiscal policy this year than in the previous year, with increased expenditures and lower statutory taxes. The government lowered taxes, including the cancellation of customs duties, which led to enhanced consumption. The government also increased the net income of families with small children (subsidy for after-school care, and tax benefits for parents of children under the age of 6), which are characterized by greater consumption. The temporary reduction of the tax rate on dividends contributed to an increase in revenue, but it is essentially a tax on the property of high income individuals, and therefore apparently did not lower demand. Therefore, the government measures acted to increase demand, making a positive contribution to GDP growth.

**Figure 6.8**
**Change in the Structural Deficit, 2013–17** (percent of GDP)




SOURCE: Bank of Israel.

[27] Yuval Mazar (2014), "Development of the Structural Deficit in Israel, 2000–12", Periodic Papers 2014.02 (in Hebrew).

[28] The structural deficit is calculated as the difference between statutory taxes as a share of GDP and total expenditures as a share of potential GDP. Potential GDP is calculated as actual growth relative to potential real growth, which is determined as the product of the increase in the primary working age population and the increase in average GDP since 1973 per working age person.

Similar to previous years, the source for financing the permanent changes that increase the fixed negative gap between expenditure and revenue (increased expenditure and lower taxes) is a temporary surplus in revenue in a particular market. In 2017, there were outlier revenues in the capital market due to the dividend tax reduction. In the previous two years, the permanent increase in government expenditure was financed by temporary growth in specific markets, such as tax revenue in the real estate market in 2015, and receipts from the vehicle market in 2016. The policy of increasing expenditures without planning permanent adjustments on the taxation side raises the risk of an increased deficit in years that do not have outlier revenues.

Implementing an accommodative policy under the current economic conditions with a low output gap and a full employment environment is pro-cyclical.

Implementing an accommodative policy under the current economic conditions with a low output gap and a full employment environment is pro-cyclical. An accommodative policy is desirable during slowdowns, in order to support expanded economic activity, while during strong economic growth and low unemployment, a restrictive policy is recommended with a low structural deficit in order to create maneuvering space for future slowdowns. The current fiscal challenge is for the government to implement its decision to increase social expenditure while reducing the structural deficit—an anti-cyclical policy that is recommended for times of economic growth. For that purpose, it is important that the increase in social expenditures, which by nature are mainly permanent, during a period of economic growth be accompanied by an outline for increasing taxes and/or cancelling distorting exemptions of a similar extent in order to leave room for maneuvering if the output gap widens. This is particularly true when it is social expenditures and not investments that are increasing future growth.

## 6. THE PUBLIC DEBT AND ITS FINANCING[29]

Public debt as a share of GDP continued to decline in 2017, to 60.8 percent of GDP (about NIS 768 billion)—close to the European Union target of 60 percent, which characterizes fiscal resilience. Public debt as a share of GDP in Israel is lower than the average of the OECD countries, where debt was lower than the target at the beginning of the previous decade, but increased sharply due to the Global Financial Crisis (see Figure 6.1).

The public debt to GDP ratio continued to decline in 2017, totaling 60.8 percent of GDP at the end of the year. This is close to the 60 percent target of the EU countries, which is characteristic of fiscal resilience, and is lower than the OECD average.

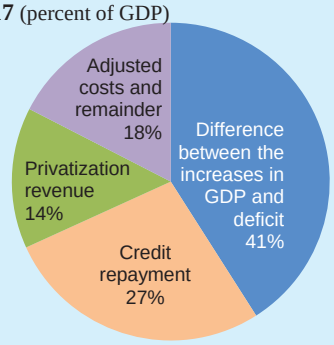
In the past 10 years, public debt has declined from 73.1 percent of GDP to its current level of 60.8 percent. Figure 6.9 shows the factors that acted to lower the debt-to-GDP ratio, and their contribution to the overall decline.[30] The development of the debt-to-GDP ratio depends on the nominal size of the annual government deficit, which acts to increase the debt (the numerator of the ratio) and one the growth of nominal GDP, which acts to lower the debt (the denominator of the ratio). The difference between these two factors contributed about 41 percent of the reduction in the debt relative to GDP in the past ten years, following average growth of GDP in nominal terms of 5.6 percent

[29] In this section, the discussion is of gross public debt excluding local authorities' debt to the government, and public debt is presented as a percentage of GDP. Gross public debt is higher than net public debt by the amount of active loans and deposits by the government with the Bank of Israel.

[30] The comparison is according to GDP data as currently known.

per year during the reviewed period and an annual government deficit (on a cash basis) of 2.9 percent of GDP.[31] The decline in the balance of state assets made an identical contribution to the decline of debt in GDP terms: The decline in financial assets due to repayment of subsidized mortgages by the public contributed 27 percent, and revenue from privatization (the sale of land and others) reduced the debt-to-GDP ratio by an additional 14 percent. Another factor in the decline of debt is the positive gap between the par value of government bonds and the issue price, which reflects a price adjustment to interest rate and indexation differentials. This factor is responsible for about 18 percent of the decline in debt.[32]

**Figure 6.9**
**The Factors Contributing to the Reduction of Public Debt, and their Contribution, 2008–17** (percent of GDP)




SOURCE: Bank of Israel.

A review of the factors in the reduction of public debt as a share of GDP in the past ten years shows that half of the reduction in the debt-to-GDP ratio (excluding cost adjustments and remainders) is due to the gap between GDP growth and the deficit (the role of which is generally regarded as central to the reduction of debt), with the other half of the reduction on account of the realization of state assets (financial and physical). The future contribution of the repayment of the public's debts, which is responsible for 27 percent of the reduction of debt as a share of GDP in the past ten years, will decline over time, due to the decline in the stock of loans issued to the public, a decline of two-thirds in the past 20 years.

The main factors in lowering the debt-to-GDP ratio in 2017 were the revaluation of debt due to the appreciation of the shekel, and the use of surplus financing from previous years. These two factors together contributed to the lowering of the ratio by 1.1 percent of GDP (Table 6.7). The contribution made by the growth of nominal GDP was completely offset by the government deficit against the background of changes of a similar rate in the GDP deflator and in the Consumer Price Index, to which about half of the public debt is indexed. The realization of the government's financial assets, through the repayment of subsidized mortgages that were issued to the public, lowered the debt by just 0.1 percent of GDP this year, following an average contribution of 0.5 percent of GDP per year in the past ten years.

[31] The inflation rate increased during the period by 18 percent, compared with an increase of 22 percent in the GDP deflator.

[32] The gap between the par value of bonds and the issue price may be due to a number of reasons, including: interest rate gaps (where the bond coupon is different than the interest rate in the market, the bond is sold at a discount or at a premium), and the issue of a bond series that is already traded on the market (the issued bond is an expansion of an existing bond, so it encompasses all of the unpaid indexation differentials and interest rate differentials that have accumulated until the date of the additional issuance).

**Table 6.7**
**Components of the increase in the gross public debt, 2012-17**

(percent of GDP)

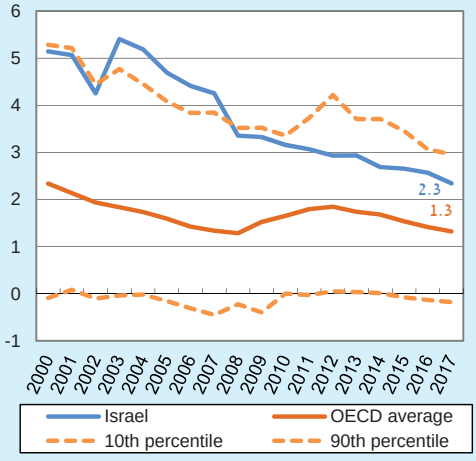
| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|
| Debt at the end of the previous year | 68.8 | 68.4 | 67.1 | 66.1 | 64.0 | 62.3 |
| Nominal growth of GDP | -3.9 | -4.1 | -2.9 | -3.4 | -3.0 | -2.1 |
| Net capital inflow | 3.7 | 3.3 | 1.7 | 1.7 | 1.8 | 1.2 |
| *of which*: Government's cash deficit | 3.9 | 3.1 | 2.7 | 2.1 | 2.1 | 2.0 |
| Net repayment of credit by the public[a] | -0.4 | -0.4 | -0.4 | -0.5 | -0.2 | -0.1 |
| Privatization proceeds | -0.1 | -0.1 | -0.2 | -0.3 | -0.2 | -0.1 |
| Funding beyond the financing deficit[b] | 0.3 | 0.7 | -0.5 | 0.4 | 0.1 | -0.5 |
| Revaluation of shekel-denominated indexed debt[c] | 0.5 | 0.5 | -0.1 | -0.3 | -0.1 | 0.1 |
| Revaluation of foreign currency-denominated debt | -0.2 | -0.6 | 0.9 | -0.1 | -0.2 | -0.6 |
| Adjustment to issuance costs | -0.3 | -0.3 | -0.3 | -0.2 | -0.1 | -0.1 |
| Remainder[d] | -0.1 | -0.1 | -0.4 | 0.2 | -0.2 | 0.0 |
| Debt at year end | 68.4 | 67.1 | 66.1 | 64.0 | 62.3 | 60.8 |

[a] Including the provision of credit and principal collection.
[b] Funding surplus.
[c] Effect of the increase in the Consumer Price Index during the year on indexed debt.
[d] As a result of roundings.
SOURCE: Bank of Israel.

Notwithstanding the decline in public debt and in interest payments, the cost of interest payments in Israel is still significantly higher than the OECD

The volume of interest payments, which reflects the cost of financing the government's debt, continued to decline in 2017, to 2.3 percent of GDP. The persistent decline of the debt-to-GDP ratio contributed to a decline in interest expenditures, but the cost of interest payments remains significantly high when compared to the other OECD countries, where the average interest payment is about 1.3 percent of GDP (Figure 6.10). At the start of the 2000s, the gap in interest expenditures between Israel and the other OECD countries widened, but following the Global Financial Crisis at the end of the last decade, the interest gap narrowed in parallel with the reversal of the development trends in the debt-to-GDP ratios. The high expenditures on interest payments in Israel, against the background of the relatively low debt compared to other advanced economies, reflect the high average debt risk gap in Israel, inter alia due to the defense risk. The yield spread on 10-year government bonds, an indicator of the debt risk gaps and inflation gaps, narrowed over the years, with the yield in Israel reaching 1.8 percent in 2017, compared to an OECD average of 1.5 percent.

**Figure 6.10**
**Burden of Interest Payments on the Public Debt in Israel[a] and in the OECD, 2000–17**
(perecnt of GDP)




[a] Interest payments in Israel are adjusted to the accepted international definition.
SOURCE: OECD.

**Box 6.1**
**Increasing the benefits to working parents as part of the "Net Family" program**

Families with young children have higher expenses than other families. Due to the burden of expenses involved in caring for children, financial gaps between families with young children and other families develop and widen. In many countries, including Israel, there is a policy of supporting parents of young children, with the aim of reducing the gaps according to the principal of horizontal equity. A significant portion of the support payments to working parents is provided through the tax system. During the child-rearing period, the benefits increase the parents' net income, and after the children have grown up, when parental income increases, the parents' payments to the tax system also increase.

Following the social protest in 2011, the tax benefits for parents were increased, and for the first time in Israel, fathers of young children received tax credit points, which until then had only been given to mothers.[1] In addition, due to the protest, the earned income tax credit for working mothers—a credit that constitutes a wage subsidy for working parents with relatively low wages—was increased by 50 percent. Despite these changes, the benefits granted to parents in Israel are lower than those granted in other OECD countries.[2]

In 2017, the government approved an additional increase in support payments for parents as part of the "Net Family" program. Most of the cost of the program was directed to working parents: additional tax credit points for parents of children under the age of 6, an increase to the earned income tax credit for parents of children up to age 18, and a differential subsidy of after-school care.[3] The additional tax credit points improve the situation for parents with relatively high incomes, who reach a tax liability that is equal to or greater than the value of the tax credit points to which they are entitled. Parents whose wages do not reach the tax liability that enables them to utilize the additional tax credit points benefit from an increase to the earned income tax credit, which increases the income of parents with children up to age 18.

**1. Utilization of the tax benefits as part of the "Net Family" program**

As part of the program, the number of tax credit points for parents of children under the age of 6 was increased, to 2.5 tax credit points for children aged 1–5 (Table 1). A tax credit point means a benefit that offsets the amount of income tax the worker must pay by the total number of tax credit points to which the worker is entitled, multiplied by the monetary value of one point (NIS 215 per month in 2017). After offsetting the value of the personal credit points from the worker's total tax liability, the value of the points to which the worker is entitled in respect of children can be used to offset liability if the worker has an outstanding tax balance. The points can be used up if the parent earns a relatively high amount and has a tax liability that reaches the amount of the benefit.

Until 2017, mothers of children under the age of 6 were already entitled to 2 tax credit points for each child in that age range, but due to the relatively low wages actually earned by mothers of young children, only about 20 percent of them utilized the benefit in full. In contrast, the fathers of these children were entitled to a lower number of credit points, and their utilization rate was significantly higher since their wages are higher. The main addition of tax credit points in the "Net Family" program was provided to fathers, in

[1] A broad discussion appears in Box 6.1, entitled "Tax Benefits for Working Families with Children" in Chapter 6 of the Bank of Israel Annual Report for 2011.
[2] A. Brender and M. Strawczynski (2017), "Government Support for Young Families in Israel", *Economic Quarterly*, 61(1-2).
[3] For more information, see the analysis in the "Government Revenue" section of this Chapter.

**Table 1**
**Tax credit points for each child under age 6 under the "Net Family" program**

| Child's age during tax year | Eligibility for tax credit points before the program | | Eligibility for tax credit points after the program | Additional tax credit points | | | |
|---|---|---|---|---|---|---|---|
| | | | | Men | | Women | |
| | Men | Women | Men and women | Tax credit points | Value of additional points (NIS) | Tax credit points | Value of additional points (NIS) |
| Year of birth | | | 1.5 | | | | |
| 1–2 years | 2 | 2 | 2.5 | | | | |
| 3 years | 1 | 2 | 2.5 | 1.5 | 322.5 | 0.5 | 107.5 |
| 4–5 years | 0 | 2 | 2.5 | 2.5 | 537.5 | 0.5 | 107.5 |

SOURCE: Bank of Israel calculations.

order to increase the number of families that could actually utilize the benefit, thereby contributing to a reduction of horizontal inequality. The maximum addition is provided to fathers of children aged 2–5, and totals about NIS 323–538 per month per child. This addition will allow more families to enjoy the benefit in full, so that in about 45 percent of families where a working parent has children below the age of 6, at least one parent will maximize the full value of the credit points—NIS 538 per month per child aged 1–5.

There are about one million working parents with children below the age of 6, of whom about 396,000 benefit from the full amount of the additional tax credit points under the “Net Family” program. Thanks to the program, the number of people paying income tax among parents of children below the age of 6 declined by about one-fifth, from 50 percent to 40 percent. The average additional monthly net income of a parent due to the change among all workers with children under the age of 6 is about NIS 154: about NIS 250 for fathers, and about NIS 41 for mothers. The differences in the average addition are explained by the fact that the additional points were given mainly to men (mothers were already entitled to most of the points), and by the fact that the utilization rate among men is higher due to their higher wages than women.

The lower wage among weaker population groups explains the relatively low additional net income for Arab and ultra-Orthodox parents, a large proportion of whom do not reach the tax threshold. Before the benefit, only about one-third of Arab parents, and about one-fifth of ultra-Orthodox parents paid income tax, compared with 57 percent among the other parents. The average wage of ultra-Orthodox parents with children under the age of 6 is about NIS 6,300, and the average monthly addition for them due to the program is NIS 66 (Table 2). The average wage of Arab parents with children under the age of 6 is higher—about NIS 7,300—so the value of the benefit for them is higher—NIS 98. The amount of the addition is also affected by the gender composition of working parents. Among the Arabs, the proportion of men—for whom the addition is more significant—is higher.

**Table 2**
**Effect of the additional tax credit points on the wages of workers with children under age 6[a]**

| | Arabs | Ultra-Orthodox | Non-ultra-Orthodox Jews | Total |
|---|---|---|---|---|
| Average monthly wage (NIS) | 7,300 | 6,300 | 13,000 | 11,400 |
| Percentage of tax payers before the change | 38 | 18 | 57 | 50 |
| Percentage of tax payers after the change | 19 | 10 | 48 | 40 |
| Average income tax payment before the change (NIS) | 444 | 253 | 1,827 | 1,448 |
| Average income tax payment after the change (NIS) | 346 | 187 | 1,648 | 1,294 |
| Average additional monthly net income (NIS) | 98 | 66 | 178 | 154 |
| Number of workers with children under age 6 | 147,600 | 110,500 | 740,100 | 998,200 |
| As a percentage of all parents | 15 | 11 | 74 | 100 |

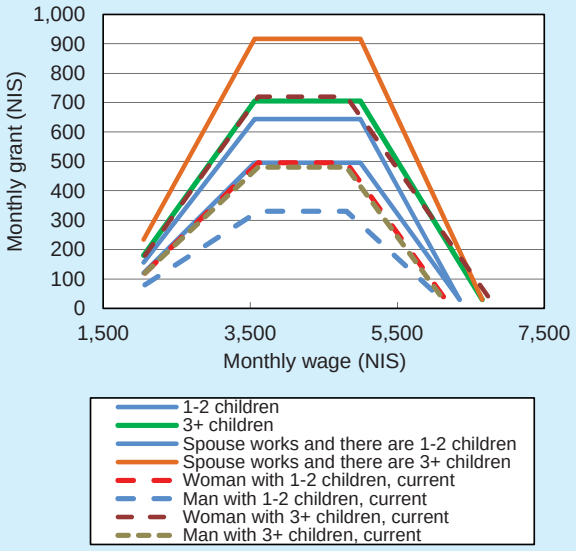
[a] Calculation based on the Household Expenditure Survey, 2015.
SOURCE: Bank of Israel calculations.

**2. Increasing the earned income tax credit under the "Net Family" program**

The increase in the earned income tax credit as part of the program includes three measures: increasing the credit for fathers by 50 percent, which makes it possible to return gender balance to the credit after the credit for mothers was increased by 50 percent in 2013; increasing the grant by 30 percent for eligible grantees with a spouse who is employed to a significant extent[4], which increases the incentive to work for both parents; and increasing the wage range in which a worker is entitled to the maximum credit amount up to NIS 5000 per month (Figure 1).[5]

Table 3 shows the current maximum grant amounts and the maximums after implementation of the "Net Family" program. The largest addition is given to fathers in families where the mother also works. For them, the increase totals more than 90 percent. The maximum grant for a father of one or two children increases from NIS 330 per month to NIS 644 per month, and the grant for a father of three or more children goes up from NIS 480 to NIS 917.[6] The grant for a women goes up by 30 percent

**Figure 1**
**Structure of the Earned Income Tax Credit, Current and Under the "Net Family" Program[a]**




[a] Excluding eligible recipients from single-parent families, for whom there is a separate shape.

4 The additional 30 percent was given to an eligible grantee whose spouse earns at least NIS 3,650 per month.
5 The minimum wage at the time the program was prepared.
6 If the mother earns more than NIS 3,650 per month.

if her spouse earns more than NIS 3,650 per month. The question of the additional 30 percent for eligible grantees in single-parent families is still under discussion, and was not included in the budget for 2019.[7]

The changes in the proposed program will return gender balance to the grant amount, and will raise the average annual grant amount by about 35 percent per eligible grantee—to about NIS 4500. The cost of the expanded credit is about NIS 0.6 billion, and it will improve the situation for workers that have children up to age 18 and have relatively low wages (assuming that 75 percent of those eligible for the grant utilize their eligibility).

**Table 3**
**Expanded earned income tax credit under the "Net Family" program**

| Number of children per eligible recipient | Current maximum grant | | Maximum grant under the "Net Family" program | |
|---|---|---|---|---|
| | | | Spouse not working or earning less than NIS 3,650 per month | Spouse earning more than NIS 3,650 per month |
| | Woman | Man | Man/woman | Man/woman |
| 1–2 | 495 | 330 | 495 | 644 |
| 3+ | 720 | 480 | 720 | 917 |

SOURCE: Ministry of Finance.

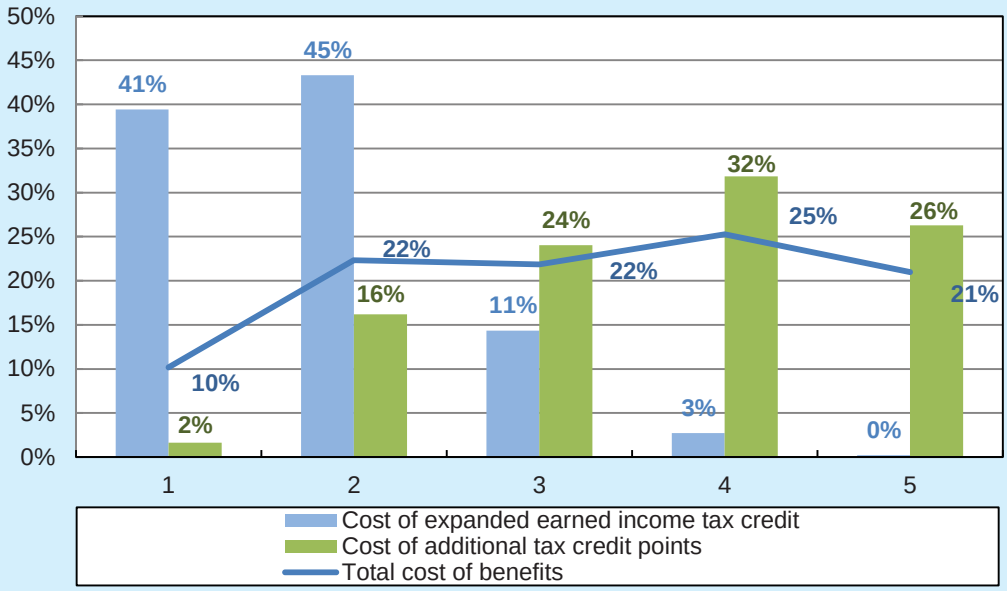
### 3. The effect of the benefits for working parents under the "Net Family" program on the economic well-being of eligible recipients

The benefits for working parents under the program—additional tax credit points and the expanded earned income tax credit—are intended for various groups within the distribution of parents by labor income, and the two measures complement each other. The tax credit points are utilized by those with higher wages, generally within the three highest income quintiles by equivalized labor income in families with working parents. About 82 percent of the budgetary cost of this benefit is directed to them. The addition to the earned income tax credit is given mainly to parents in the lower two quintiles of the distribution, to whom about 86 percent of the budgetary cost of the benefit is directed. Figure 2 shows the distribution of the overall cost of the two policy tools among working families with children under the age of 18—the target population for government support to lower horizontal inequality. The additional tax credit points are given to parents of children under the age of 6, and the earned income tax credit is expanded for parents of children up to the age of 18. The combination of the two policy tools enables a more equal distribution of the cost of the "Net Family" program over the labor quintiles—about 20–25 percent of the overall cost

[7] In 2016, there were changes to the eligibility of single mothers. The wage benchmark was lowered, and the wage ceiling was raised, expanding the wage that entitled them to the grant. The amount of the grant was increased, but it was also decided to offset from it the additional child-care payments given in 2016. This decision had a negative impact on the important principle that the earned income tax credit would only be offset against income replacement benefits.

of the two benefits is directed to each of the quintiles of working parents, except for the lowest quintile, which is allocated about 10 percent of the budget due to the low wages of those in the quintile—which is somewhat a result of the low employment extent (part-time vs. full-time). If we look only at the population group relevant to both benefits—working families with children below the age of 6—the situation is similar, with a slight increase in the budgetary share allocated to the two upper quintiles at the expense of the two lowest quintiles (a change of 2 percentage points in each quintile) because the cost of the earned income tax credit is lowered by about half.

**Figure 2**
**Additional Tax Credit Points and Expanded Earned Income Tax Credit: Distribution of Cost by Equivalized Income Quintile in Working Families with Children up to Age 18**




SOURCE: Based on Household Expenditure Survey, 2015

The two measures will contribute to lowering incidence of poverty among workers with children up to age 6 by 1.2 percentage points. For the weaker population groups, the effect is stronger. Among ultra-Orthodox families, poverty declined by 3.1 percentage points, and for immigrant families it declined by about 2.7 percentage points. About three-quarters of the reduction is a result of the expanded earned income tax credit, which particularly affects ultra-Orthodox and immigrant parents and contributes to a reduction of 2.7 percentage points in the poverty rate in each of the groups. Among Arab parents, the main factor in reduced poverty is the additional tax credit points, which contributed to a reduction of poverty by 1.2 percentage points. An analysis by the number of children in the family shows that the reduction in poverty is greater among families with three children, where the incidence of poverty declined by 2.1 percentage points.

The “Net Family” program contributes to improved economic well-being among working families with children. The main part of the program is directed to parents with children up to age 6, since childcare expenses up to that age are the highest. The support for the families is provided through policy tools that maintain the incentive to work: wage subsidies, tax benefits on labor income, and subsidized after-school care. The combination of policy tools adjusted to the parent’s level of income (earned income tax credit for those with relatively low wages and tax credit points for those with higher wages) enables support for families with children at all income levels, thereby supporting the principle of horizontal justice. The program contributes to lower incidence of poverty among working families with young children, and particularly among weaker population groups.

**Table 4**
**Contribution of tax benefits and earned income tax credit under the "Net Family" program to reducing poverty among working families with children under age 6**

| | Tax credit points | Earned income tax credit | Total | Budgetary cost (NIS billion) |
|---|---|---|---|---|
| Reduction of poverty | 0.4 | 0.9 | 1.2 | 2.2 |
| By population group | | | | |
| Arabs | 1.2 | 0.2 | 1.2 | 0.3 |
| Ultra-Orthodox | 0.4 | 2.7 | 3.1 | 0.2 |
| Immigrants | 0.4 | 2.7 | 2.7 | 0.3 |
| By number of children | | | | |
| Families with 1 child | 0.5 | 0.9 | 1.1 | 1 |
| Families with 2 children | 0.3 | 0.6 | 0.9 | 0.9 |
| Families with 3 children | 0.3 | 1.8 | 2.1 | 0.3 |
| Families with 4 or more children | 0.0 | 1.5 | 1.5 | 0.05 |

SOURCE: Based on Household Expenditure Survey, 2015.

**Box 6.2**
**Payment for single-use shopping bags at Israeli grocery stores**

- Since the beginning of 2017, the large grocery store chains have been imposing a small charge for single-use shopping bags, as a result of which the consumption of such bags has declined by about 80 percent compared with the previous year.
- The restraint in the use of these bags is a result of the halt in their free distribution, as well as public support for the environmental goals of the charge.
- In view of the success of the program, it is worth examining an expansion of the charge, and the use of similar methods, for handling other environmental problems.

At the beginning of 2017, a law came into effect—with an environmental purpose—that obligates the large grocery store chains to collect a 10-agora charge for each single-use shopping bag consumers receive at check-out.[1] Data from the Ministry of Environmental Protection show that as a result, the consumption of bags at these stores has declined by about 80 percent.[2] This box outlines the background to the law, uses a dedicated survey to analyze its effect on consumer behavior, and points to initial lessons that can be learned from it.[3]

**Background**

Single-use shopping bags (hereinafter: the bags) are made of plastic, a material that does not decompose for hundreds of years. Until 2017, more than 2 billion bags (about 275 per person) had been distributed per year.[4] These numbers were high relative to what is common around the world, which indicated that they could be lowered. The method of action that was chosen was relatively moderate: The law does not prohibit the distribution of the bags, but rather requires a small charge to be collected for each bag distributed at the grocery stores belonging to the 21 largest retail chains. The market share of these chains was estimated at about 57 percent of total grocery store sales in Israel, and the estimation is that they distributed about 57 percent of the bags.[5] The law further sets out that the bags shall not be less than 20 microns in thickness, while beforehand, a significant portion of them were thinner, making them cheaper to manufacture, but less helpful for repeat use. The beginning of the charge was accompanied by two measures: an advertising campaign that showed the environmental damage caused by the bags, and subsidizing the free distribution of multi-use shopping bags.

From a customer standpoint, the payment for the bags exposes their cost, whereas it had been hidden beforehand and paid for indirectly. The money collected for the bags is transferred to a designated fund

1 The Reduction of the Use of Single-Use Shopping Bags Law, 5776–2016. The law does not apply to bags used for products that are sold in bulk.

2 http://www.sviva.org.il/infoservices/newsandevents/messagedoverandnews/pages/2017/september2017/decrease-in-plastic-bags-use.aspx

3 We thank Yair Mishmor and Noa Shpitzer-Mizrahi from the Ministry of Environmental Protection, who provided aggregate data on the bags at the grocery stores, and Galit Paltzur from the Ministry for important insights. The survey was conducted by "Rushinek Marketing Studies and Strategic Consulting".

4 Initial results of the waste survey, in Ministry of Environmental Protection (2013), "The Handling of Shopping Bags as an Educational Tool for Changing the Public's Perception of Packaging Waste (August 2013)".

5 ibid.

operated by the Ministry of Environmental Protection, so the cost of the bags to the grocery stores remains in place.

Charging for shopping bags has been common for quite a while in many advanced economies, with others imposing it more recently, while yet others have gone so far as to prohibit their use outright. The cases of the UK and Ireland are of particular interest. The laws adopted in those countries regarding the charge for shopping bags are similar to the law in Israel, with the result that shopping bag consumption there dropped by about 80 percent.[6] Ireland applied the law in 2002, becoming one of the first countries to apply such a law, with a charge of between 50 and 70 agorot (in shekel terms). Similar laws were later applied in Wales (2011), Northern Ireland (2013), Scotland (2014), and England (2015). The charge in all cases was set at the equivalent of about 25 agorot. It seems that the increased environmental awareness in the UK in recent years has made it possible to achieve results similar to those achieved in Ireland, but with a lower charge.

**The effect of the payment for bags on the volume of their use**

The new law required the large grocery store chains to report to the Ministry of Environmental Protection on (a) the number of bags they provided to each of their branches from the second quarter of 2016 until the end of that year, and (b) the number of bags sold at each branch since they began charging for them (the start of 2017). A simple comparison of the data before and after the start of the charge shows that the number of bags taken by customers at those chains declined by about 80 percent.[7] A more careful examination carried out by the Bank of Israel (Figure 1a) shows the same result.[8]

Figure 1b shows the change in the use of bags by the socioeconomic cluster of the locality in which the store is located.[9] The differences between the clusters are not large, and there is no systematic connection between the changes in consumption of the bags and the cluster's rating. The fact that the decline in the number of bags was most moderate in the two clusters with the lowest rating hints that the monetary burden of the charge on the consumer did not play a major role in the reduction of their consumption.

[6] https://ieep.eu/uploads/articles/attachments/7f91cb97-8cb7-49c3-9cf0-d34062a9192e/IE%20Plastic%20Bag%20Levy%20conference%20draft.pdf?v=63673818840;
https://www.daera-ni.gov.uk/articles/northern-ireland-carrier-bag-levy-statistics/england-charge-summary-of-data-in-publications/carrier-bag/https://www.gov.uk/government/lang=en&results+http://gov.wales/?view=Search/bags-of-success/https://beta.gov.scot/news

[7] The 2016 data reflect the number of bags provided to the branches and not the number actually taken by consumers. The 2017 data reflect the number of bags sold.

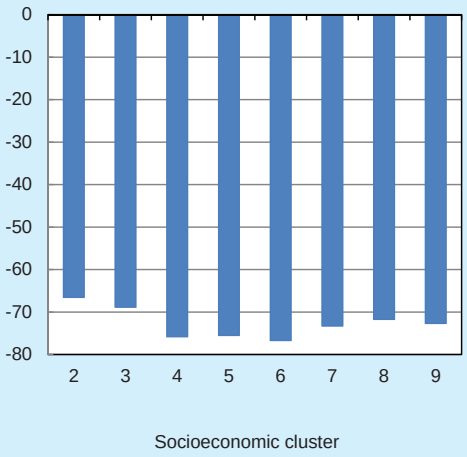
[8] The number of bags in each quarter is adjusted by the sales value index of the grocery chain stores, which is published by the Central Bureau of Statistics. The decline at the end of 2016 is apparently a result of the supermarket chains beginning to reduce their inventory of bags. However, it may be that consumers began adjusting their behavior, due to the advertising campaign.

[9] We deleted clusters 1 and 10 due to data limitations.

**Figure 1**
**Bags Provided to Branches (2016) and Bags Sold at the Branches (2017)**

**a. Number of bags adjusted for the sales value index of the grocery store chains**
(Index: 2016:Q2 = 100; quarterly data)


**b. Rate of change in the number of bags by socioeconomic cluster of the grocery store's locality, 2017:Q2 and Q3 compared with 2016:Q2 and Q3** (percent)

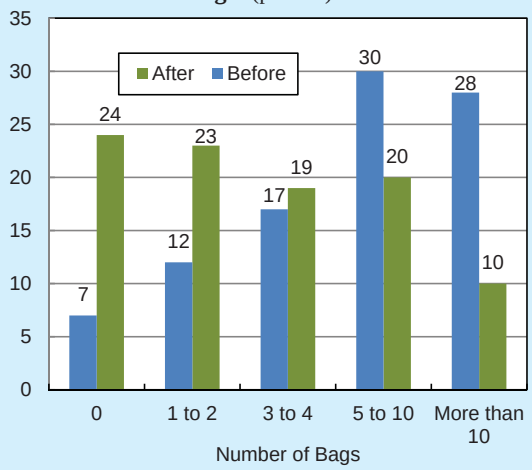



SOURCE: Ministry of Environmental Protection data and Bank of Israel caluclations.

## Public perceptions regarding the restraint of use of the bags, and policy implications

The sharp decline in the consumption of bags at the grocery store chains following the imposition of the payment raises two important questions for future policymaking. First, why does such a low payment cause such a deep change in behavior? Second, does the decline in consumption of bags that are subject to charge reflect an over-estimation of the success of the program because consumers increased their use of other bags? The discussion of these questions will be based on the results of a survey conducted in January 2018, a year after the shopping bag law went into effect.[10]

**Figure 2**
**Distribution of Respondents to the Survey by Number of Bags They Took per Week Before and After the Charge**[a] (percent)




[a] 6 percent of surveyed individuals responded that they were not sure or didn't remember how many bags they took before the charge, and 4 percent responded the same regarding the number of bags since the charge.

SOURCE: Consumer survey.

[10] The survey was conducted among 1200 people comprising a representative sample of the population aged 18–74.

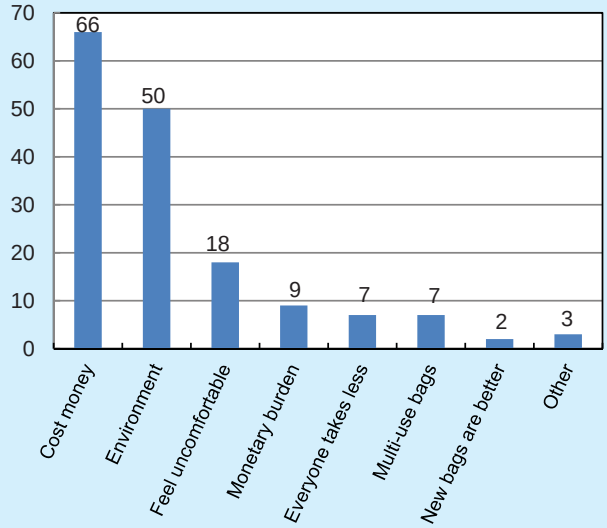
Even though the law applies only to the large grocery store chains, it affects almost the entire population. Ninety-four percent of those surveyed responded that they generally shop at grocery stores that collect payment for bags. The rate of those who take five or more bags every week declined from 58 percent to 30 percent, and the rate of those who do not take any bags increased from 7 percent to 24 percent (Figure 2).

In terms of the connection between the low charge and the deep behavioral change, a number of findings of the survey show that the decline in consumption of the bags is not a result of the hit to consumers' wallets. First, only 9 percent of respondents noted that they reduced their consumption of the bags because the payment imposed too large a financial expense on them, while two-thirds noted that it was the very fact of the payment that led them to reduce that consumption (Figure 3).[11] Second, the decline in the percentage of consumers taking many bags (5 more or, or above 10) is similar in all income groups.[12] Had the financial burden been significant, we would have expected a sharper decline among those with low incomes. Third, two-thirds of the respondents reported that when the bags were given out for free, they would take up to 10 bags per week. This shows that the maximum cost the law would have imposed on them is one shekel per week.

These findings show that the transition from free distribution to a minor charge—which does not materially change the economic incentive—played a major role in changing consumer behavior.[13] This is in line with the use of a nudge to affect the behavior of individuals.[14]

The survey indicates other factors, aside from the payment, that contributed to the decline in consumption of the bags (Figure 3): (a) identification with the aims of the law. Fifty percent of those questioned noted that environmental considerations caused them to reduce the number of bags they took; (b) social pressure. Twenty-five percent noted that they took fewer bags "because I don't feel comfortable taking them any more"

**Figure 3**
**The Factors in Reducing the Number of Bags Taken by Consumers (Percentage of Respondents that Stated Each Factor)[a]** (percent)




[a] The sum is higher than 100 percent because respondents were allowed to state more than one cause.

SOURCE: Consumer survey.

[11] This rate cannot be attributed to an underestimation of the price of the bags. Eighty-seven percent knew it exactly, and the rest cited a higher price.

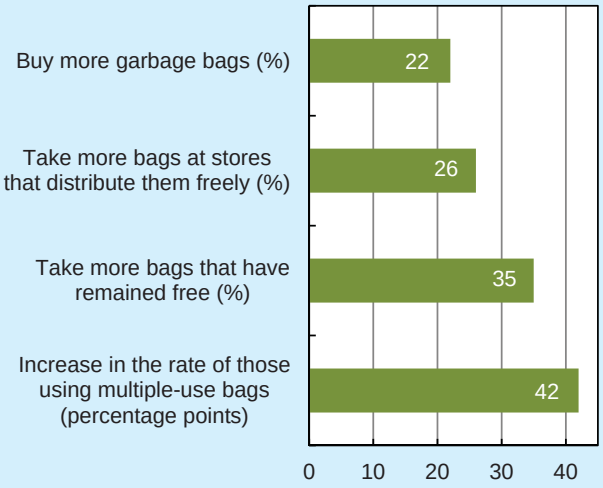
[12] Three groups, according to the respondents' answer to the question of whether household income is lower than, close to, or higher than the average income.

[13] For a discussion of the zero-price effect on consumers and possible explanations for it, see for instance Kristina Shampanier, Nina Mazar and Dan Ariely (2007), "Zero as a Special Price: The True Value of Free Products", *Marketing Science* 26(6): 742–757.

[14] A nudge affects people's choice between possibilities without prohibiting any of the possibilities and without imposing a high cost on them should they choose a certain possibility. See Richard H. Thaler and Cass R. Sunstein (2008), "Nudge, Improving Decisions About Health, Health, and Happiness", Yale University Press, New Haven. We did not find evidence that the concept of nudge was behind the setting of the charge for bags at the grocery stores in Israel.

or "because everyone is taking less". Hence, the success of the law (or the publicity campaign) is self-reinforcing, and may also affect consumers who do not respond directly to the payment; (c) effective alternative. A great many consumers adopted the alternative that was offered—multi-use bags that were distributed for free when the law came into effect. According to the survey, the percentage of those using such bags increased from 28 to 70 (Figure 4).

**Figure 4**
**Effect of the Law on the Use of Alternatives to Bags Subject to Charge[a]**




[a] The rate of those that responded they had reacted this way. The responses are neither exclusive nor exhaustive, so the rates do not need to total 100%.

SOURCE: Consumer survey.

The law was intended to lower the quantity of plastic refuse, and the extent of its success thus depends partly on the question of whether consumers increased their use of other plastic bags. The survey shows that some actually did behave this way (apparently intending to reuse the bags), which partially offsets the reduction in the number of bags that are subject to the charge. Some of the respondents reported that the payment led them to take more bags with no handles, which remained free, or to take more shopping bags at stores that still distribute them for free. In addition, some of the consumers increased the number of garbage bags they purchase (Figure 4). However, the increase in the use of garbage bags purchased for money is preferable to taking free bags, since it brings with it the internalization of some of the costs of using the bags.

## Conclusions

The charge reduced the use of shopping bags. Its success raises the possibility that in other environmental areas as well, significant behavioral changes can be brought about through policy measures that have a small monetary effect on consumers, particularly in terms of the transition from free distribution to the collection of a minor charge. A combination of such measures with effective publicity regarding their goals strengthens their effect on consumer behavior.

In terms of the shopping bags themselves, the charge currently applies only to the large retail chains, but stores that do not belong to those chains were responsible for a significant share of the bags that were distributed for free even before the law was applied. Our findings show that it is worth considering the expansion of the law to other chains that distribute bags for free, even though it might be somewhat more difficult to implement. Anecdotal evidence that some of the small grocery store chains charge 10 agorot per bag even though the law does not require them to do so supports the expansion of the law's applicability.