

Chapter 6

The Public Sector and its Financing

- In 2022, the general government¹ deficit declined sharply to 1.6 percent of GDP, from 5.5 percent of GDP in 2021. The central government² had a budget surplus of 0.6 percent of GDP.
- The surplus in central government operations, along with higher GDP and higher inflation, resulted in a sharp decline in public debt in 2022, by 7.2 percent of GDP, to 60.7 percent of GDP, similar to its pre-COVID-19 level.
- The decrease in the broad government deficit this year primarily reflects a sharp decrease, by 3.2 percent of GDP, in the weight of public expenditure as a percentage of GDP, which primarily reflects a decline in the COVID-19-related support required last year. Primary civilian expenditure, as percentage of GDP, fell to below its pre-COVID-19 level, and is among the lowest in the advanced economies.
- Public revenues increased by 0.7 percent of GDP this year, primarily due to sharply higher direct tax revenue. Some of the causes for this rapid growth are of a temporary nature, such as unusual income tax revenues and higher real estate tax revenues.
- One of the causes for the moderate growth in public expenditure in recent years (excluding COVID-19-related expenses) is the slow increase in wages in the public sector, due to the freeze imposed on negotiations for a new framework wage agreement during COVID-19. The new agreement, signed in March 2023, should gradually increase public expenditure.
- The wage agreement with the Teachers Union, signed in October, improved employment terms for new teachers, added incentives in the wage system, and somewhat increased schools' administrative flexibility. The cost of this agreement is NIS 4.9 billion per year, mostly applicable as early as the 2023 budget. However, this agreement provides only a limited resolution for key structural issues that may have an impact on the education system's achievements.
- During the COVID-19 pandemic, digitalization of government services was accelerated, in order to expand and improve the quality of such services. Improvements in Israel were more significant than in some other advanced economies, primarily reflected in the expansion of the range of online services. However, significant investment is still required to improve the public's technology literacy, in order to make these digital services also accessible to population groups that currently have difficulty using them.

¹ The general government consists of the government itself, the National Insurance Institute (NII), local authorities, nonprofits (HMOs, universities, *Yeshivot*, and so forth) that derive most of their revenues from the government, and national institutions (the Jewish Agency, the Jewish National Fund, and the World Zionist Organization). Its operations are measured in line with national accounting definitions, which differ from those used in the State budget. The difference in deficit between the general government and the central government mostly reflects different accounting definitions, rather than deficit of other general government entities.

² The surplus/deficit of the central government is the budget surplus/deficit – the difference between government cash revenues and expenses, in line with the definitions in the State budget.

1. MAIN DEVELOPMENTS

The overall deficit of the general government declined to 1.6 percent of GDP, primarily due to a sharp decline in public expenditure as percentage of GDP, along with increase in revenues as percentage of GDP.

The decrease in public expenditure as percentage of GDP was mostly due to a decline in direct subsidies with the end of the COVID-19 pandemic.

Tax revenues increased due to rapid GDP growth, the rally in high-tech, and anomalous and one-off factors, including real estate taxes.

In 2022, the overall deficit of the general government declined sharply by 3.9 percent of GDP, reaching 1.6 percent of GDP, following unusually high deficits in the previous two years due to the COVID-19 pandemic (Table 6.1).³ The decline in the general government deficit is primarily due to the sharp decrease in public expenditure, by 3.2 percent of GDP compared to 2021, along with higher revenues as a share of GDP compared to previous years. The deficit reduction, rapid GDP growth, higher inflation, revenues from privatization, and funds raised in previous years, all contributed to the reduction of public debt by more than 7 percent of GDP. At end of 2022, the debt to GDP ratio reached 60.7 percent of GDP, close to its pre-COVID-19 level.

The sharp decline in public expenditure as a share of GDP was primarily due to a decline in direct support payments to businesses and employees (furlough payments), which returned to their normal level (1 percent of GDP), with the conclusion of support payments from the COVID-19 pandemic period. However, total expenditure in 2022 (31 percent of GDP) was lower than its pre-COVID-19 level (an average of 40 percent of GDP in 2018 and 2019). The decrease in regular (non-COVID-19) expenses started in 2021, and was practically unchanged in 2022. The moderate expenditure was affected by high uncertainty regarding the macroeconomic and epidemiological situation when preparing the 2021–2022 budget, as well as by the government having no approved budget for most of 2021.

Public revenues as a share of GDP increased further this year, following a sharp increase in 2021—due to the exit from the COVID-19 crisis and return to normal—thanks to increased tax revenues as a share of GDP, which reached a 15-year record level. Higher tax revenues were mostly due to direct taxes, with the increase ascribed to rapid GDP growth, the rally in high-tech, and unusual and nonrecurring factors, including real estate taxes which increased extraordinarily due to the housing market rally in 2021–2022.

³ According to publications by the Central Bureau of Statistics, general government operations resulted in a surplus of 0.6 percent of GDP. The reason for the difference lies in fact that the Central Bureau of Statistics deducts the revenues from land sales from public investment, because the interpretation of international accounting rules regards the sale of land as a negative investment by the government. In most OECD countries, this deduction reflects activities such as sale of agricultural land improved by the government, or the purchase and refurbishment of public housing dwellings sold to eligible buyers. In Israel, by contrast, these are revenues from sale of land historically owned by the State, i.e. asset realization, which, in 2022, amounted to 1.9 percent of GDP. Given that asset realization is, in essence, a financing transaction, and in recent years these revenues increased significantly, we present public expenditure excluding this deduction, in order to reflect the macroeconomic effect of government activity, and we present the sale of land as a financing item that curbs the growth in debt.

Central government operations resulted in a budget surplus (0.6 percent of GDP⁴), compared to a planned deficit of 3.9 percent of GDP. The difference is mostly accounted for by tax revenues which were much higher than forecast in the budget, along with a lower than planned increase in government expenses. This was due to expenses under the economic assistance program, designed to address the ramifications of the COVID-19 crisis, being much lower than forecast in the budget, due to fading of the pandemic and its effects, as well as due to a slight under-performance in current expenses.

Central government operations resulted in a budget surplus of 0.6 percent of GDP, due to high tax revenue.

Table 6.1
The main components of the general government's revenue and expenditures, 2016–2021

(percent of GDP)

	2016	2017	2018	2019	2020	2021	2022
Total public revenue	36.5	37.5	35.9	35.0	34.4	36.8	37.5
<i>of which</i> : Income from property	0.5	0.5	0.5	0.5	0.4	0.5	0.5
Total taxes	30.8	32.0	30.5	29.8	29.4	32.1	32.8
Indirect taxes on domestic production	12.1	12.2	12.0	11.7	11.4	11.9	11.8
Indirect taxes on civilian imports	3.3	2.7	2.9	2.7	2.6	3.1	3.2
Direct taxes, fees and levies	10.2	11.9	10.4	10.2	10.2	12.0	12.7
National Insurance Institute revenue	5.1	5.2	5.2	5.2	5.1	5.0	5.1
Grants	1.5	1.2	1.2	1.1	1.1	1.0	1.1
Other ^a	3.7	3.8	3.7	3.6	3.5	3.3	3.2
Total public expenditure^b	38.8	39.8	40.3	39.6	45.9	42.3	39.1
Current expenditure	36.1	36.9	37.3	36.8	42.4	39.4	36.1
Civilian expenditure on services and in-kind transfers	19.1	19.5	19.7	19.5	20.5	19.4	18.4
Domestic defense consumption	4.7	4.6	4.6	4.4	4.4	4.2	4.0
Defense imports	0.4	0.3	0.3	0.3	0.3	0.4	0.3
Direct subsidies	0.7	0.8	0.9	1.0	4.1	3.1	1.0
Transfer payments on current account	9.2	9.6	9.5	9.5	11.1	9.6	9.1
Interest payments ^c	2.1	2.1	2.4	2.1	1.9	2.8	3.3
Transfer payments on capital account ^d	0.5	0.6	0.6	0.5	0.5	0.6	0.8
Investments of the general government including investment grants ^b	2.1	2.2	2.4	2.3	2.9	2.3	2.2
<i>of which</i> : Net civilian investment	1.9	2.1	2.1	2.1	2.8	2.2	2.0
Primary civilian expenditure^b	31.4	32.6	32.8	32.7	39.0	34.8	31.3
Total deficit of the general government^b	2.3	2.3	4.4	4.6	11.5	5.5	1.6
Central government deficit (excluding provision of credit) ^e	2.1	1.9	2.9	3.6	11.3	4.4	-0.6
Current deficit of the general government	1.0	0.8	2.8	3.1	9.5	4.5	0.5
Total cyclically adjusted deficit using international definition ^{b,f}	2.1	2.3	4.7	5.0	9.1	5.7	2.9
Net public debt ^{g,h}	58.4	56.6	57.1	56.8	66.6	64.2	58.5
Gross public debt ^g	61.4	59.7	59.9	58.8	70.6	67.9	60.7

^a Includes transfer payments from the public on the current and capital accounts, imputed pensions, civilian sales, capital transfers from abroad, and transfers from abroad to National Institutions and nonprofit organizations.

^b Excludes the reduction of expenses financed by the sale of land. Beginning with the 2022 statement, the recording of defense investments was moved from defense consumption and imports to government investments. Depreciation of defense fixed capital is recorded in domestic defense consumption.

^c In 2018, the Central Bureau of Statistics revised the calculation for interest expenses from 1995 onward, and they are now calculated on a cumulative nominal basis plus indexation differentials on the public debt.

^d Includes mortgage subsidies and transfers on the capital account to nonprofit organizations and businesses.

^e The central government deficit is calculated based on various definitions.

^f Based on the OECD estimate, adjusted to revised Central Bureau of Statistics Data. For more information see footnote d in Figure 6.3.

^g Excluding municipalities' debts to the government.

^h 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.

⁴ As noted, the difference in deficit between the general government and the central government mostly reflects different accounting definitions rather than deficit of other general government entities.

One of the reasons for the moderate increase in public expenditure excluding COVID-19-related expenses in recent years compared to the pre-COVID-19 years is the slow increase in wages in the public sector. This resulted from lack of a current framework wage agreement, mostly due to the negotiation freeze during COVID-19. The annual financial value of the gap created between wages in the private sector and in the government sector is estimated at 1.4 percent of GDP. In March 2023, a new public sector wage agreement was announced, which is expected to gradually increase public expenditure.

The wage agreement signed with the Teachers' Union improved employment terms for new teachers, added incentives to the payroll system, and somewhat improved schools' management flexibility.

In 2022, an agreement was signed with the Teachers Union, valued at NIS 4.9 billion per year, fully vesting in 2026, with most of this amount—NIS 4.5 billion per year—payable from 2023. This agreement improves employment terms for new teachers, adds incentives to the wage system and somewhat increases the administrative flexibility of school principals. However, the contribution of this agreement to aligning school schedules with work schedules is fairly minimal. Moreover, some issues such as increased remuneration for teachers of subjects in short supply, and for teachers employed by weaker schools and schools in outlying areas, were only partially resolved by adding an option for a limited number of individual employment contracts.

Comparing the evolution of the fiscal indices in the periods before and after COVID-19 shows that after the economy recovered from the COVID-19 crisis, these indices did not return to their precrisis levels (Figure 6.1). In 2022, public expenditure declined by 0.8 percent of GDP compared to the pre-COVID-19 period, while public revenue increased by 2.1 percent of GDP, resulting in a sharp decrease of 2.9 percent of GDP in the deficit.

Reduced public expenditures in 2022, reflected in the decrease in government deficit even net of the effect of the business cycle, brought about a fiscal tightening which counteracted the recovery as the pandemic subsided. Fiscal tightening has a cooling effect on aggregate demand in the economy, moderates inflationary pressures, and complements the restrictive monetary measures applied by the central bank in raising interest rates in order to curb inflation.^{5,6} A low deficit also reduces the public debt to GDP ratio and its associated risk, helping to moderate interest expenses.

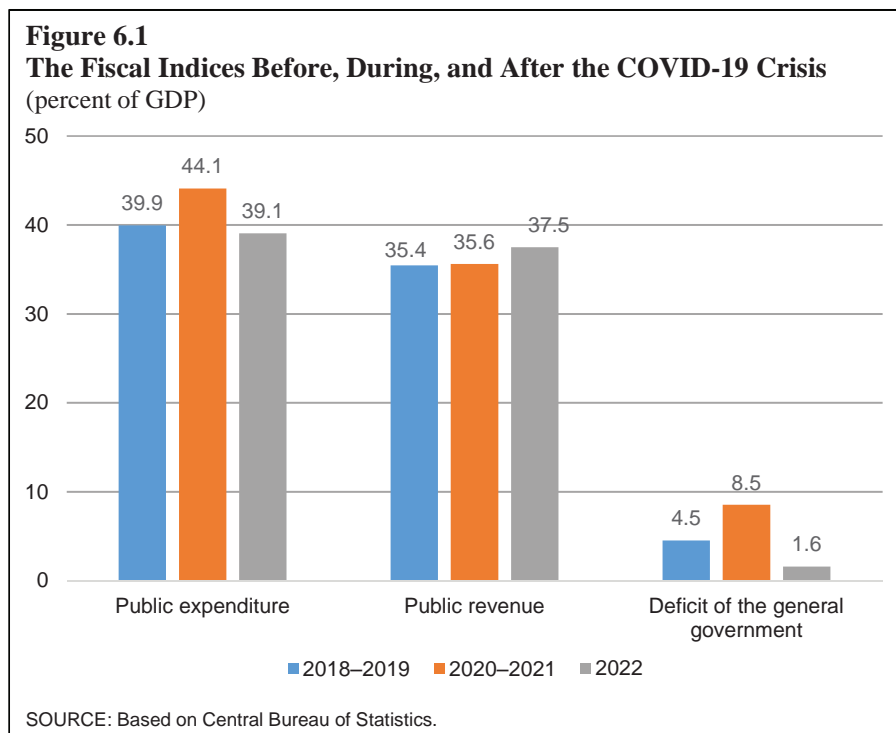
In 2022, the government applied direct and indirect measures to support the population, at a total cost of 0.5 percent of GDP.

In 2022, as the pace of inflation increased, the government applied direct and indirect measures to support the population. In the energy field, these measures included reducing the excise tax on fuel and coal (used to generate electricity). The government also reduced customs duties, and increased support for working parents by increasing the earned income tax credit and

⁵ See Adrian Tobias, Vitor Gaspar, and Francis Vitek (2022), "A Medium-Scale DSGE Model for the Integrated Policy Framework", International Monetary Fund.

⁶ Conversely, an expansionary policy in a period of rising prices would require more aggressive interest rate increases to avoid accelerating inflation.

adding tax credit points for working fathers of children aged 6–12. The total cost of these measures amounted to 0.5 percent of GDP.



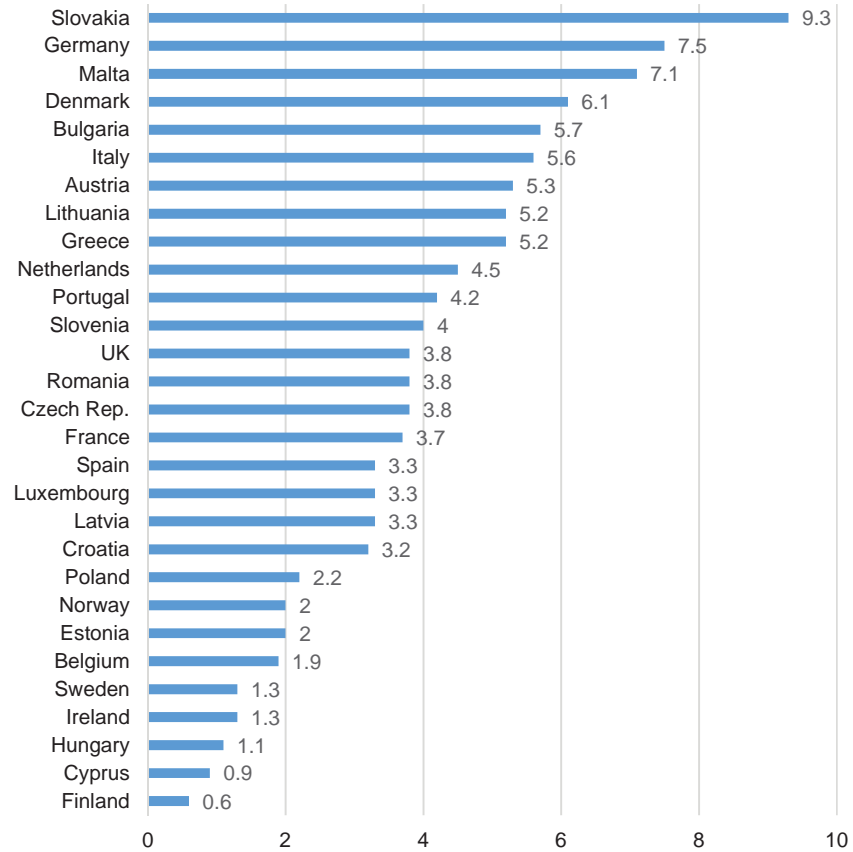
Measures for supporting the population and businesses were also applied by many countries in Europe, due to the sharply higher inflation in those countries that was partly the result of the sharp increase in energy prices.⁷ In almost all of these countries, support payments are made to weaker population groups to compensate for higher prices. In addition, taxes have been reduced and caps have been placed on electricity and gas prices. Support measures for businesses have been applied in 79 percent of EU countries and in the UK.

To fund these measures, countries allocated significant resources (an average of 3.8 percent of GDP, Figure 6.2). The cost of these measures was partially funded by taxation of the surplus profits of energy companies which, due to higher prices, benefited from higher-than-normal revenues (such as in Spain, the UK, and Italy). In Israel, such intervention was applied to a lesser extent, because the economy has been relatively immune to the energy crisis.⁸ (The reasons for this are described in Section D of Chapter 1 of this report).

⁷ For more information about global energy prices, see Chapter 1 of this report.

⁸ The Israeli definitions are not identical to those of the European Union, but an examination of policy measures that are similar to those used in calculations for those countries shows that budgetary assistance in Israel was about 0.5 percent of GDP.

Figure 6.2
Budget Allocations to Measures Supporting Households and Business Due to the Energy Crisis*, EU Countries and UK (percent of GDP)



* Including support of businesses and weaker population groups, price interventions, and tax reductions.
 SOURCE: bruegel.org

2. FISCAL AGGREGATES IN ISRAEL FROM AN INTERNATIONAL PERSPECTIVE

Due to the sharp decline in deficit, for the first time in recent decades, Israel's deficit is now below the OECD median.

Thanks to the sharp decrease in the general government deficit, Israel's relative position compared to other advanced economies improved, when for the first time in decades, Israel's deficit (1.6 percent of GDP) dropped below the OECD median (3.5 percent of GDP; Figure 6.3). Concurrently, the deficit net of cyclical factors also dropped sharply in Israel, approaching the OECD median for the first time in recent years.

The low government deficit further reduced the public debt, following the sharp increase in debt during the COVID-19 outbreak, and the debt to GDP ratio in Israel reached the median for advanced economies. Public expenditure

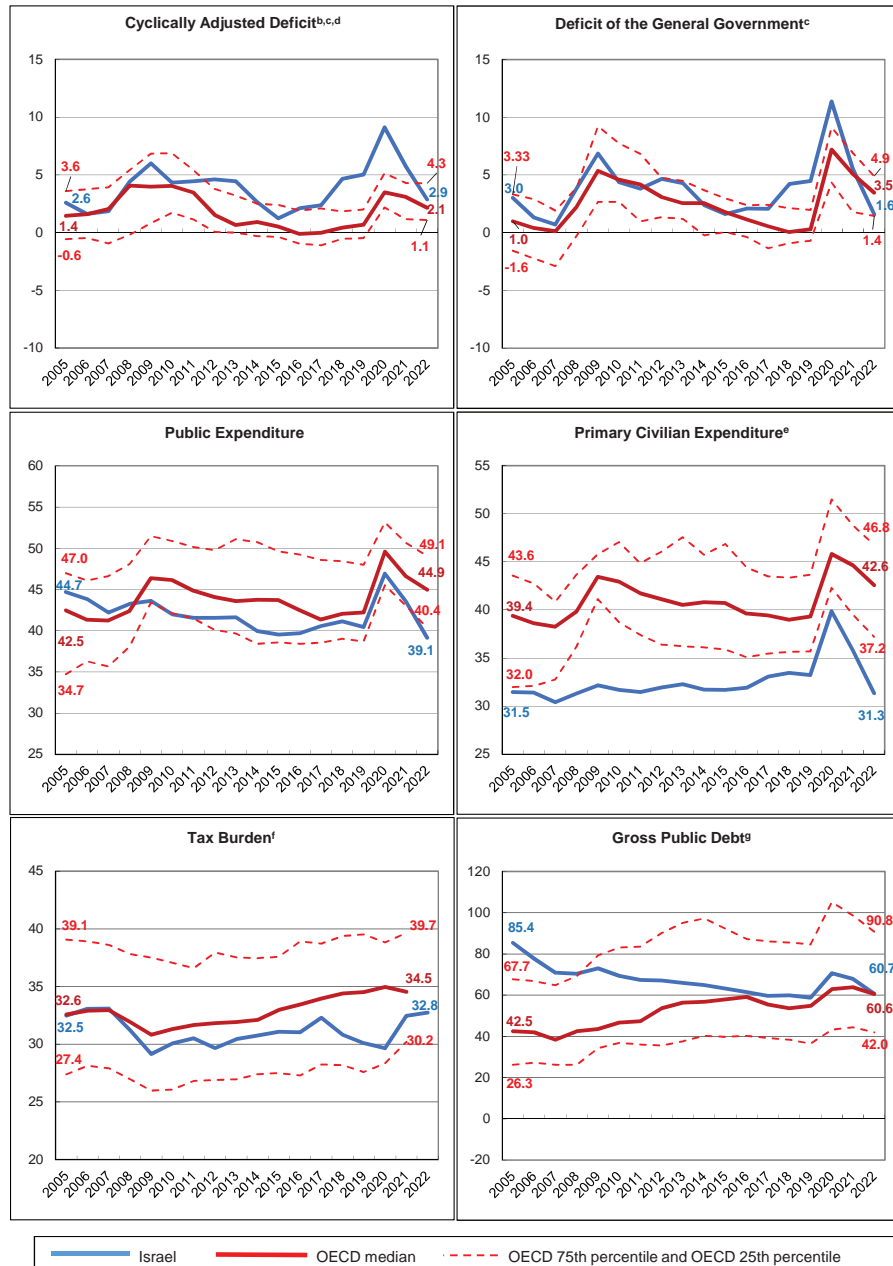
in most OECD countries declined this year, but the median remained higher than before the crisis, due partly to support provided with respect to the energy crisis. In Israel, the decrease in expenditure this year was even sharper, with expenditure (as a share of GDP) dropping even lower than the pre-COVID-19 level. Consequently, the gap in public expenditure between Israel and the OECD median increased to 5.8 percent of GDP. In particular, primary civilian expenditure in Israel declined, and was among the lowest for advanced economies in 2022.

The development of fiscal aggregates in Israel following the pandemic, compared to the precrisis level, differs from evolution in other OECD countries. Figure 6.4a shows public expenditure as a share of GDP in 2022, compared to the precrisis average (for 2018–2019) in Israel and in OECD countries. Countries on the red line, which divides the chart into two halves (the 45° line) maintained expenditure as a share of GDP at the precrisis level. The light blue line, describing the correlation of public expenditure between these two periods, is above the 45° line, indicating that in most countries, expenditure after the pandemic remained higher than in the precrisis period. Compared to this trend, Israel is slightly below the red line, indicating that expenditure in 2022 was lower than in the precrisis period. Other than Israel, only three other countries have not returned to their precrisis expenditure level: Norway, Turkey and Ireland. A partial explanation for this phenomenon is that advanced economies were affected by the energy crisis. Energy prices in those countries rose sharply due to the war in Ukraine, and those countries increased expenditure, whereas the crisis had a more moderate impact in Israel. While the weight of public expenditures remains high in most countries, the weight of public revenues in those countries is very similar to its precrisis level, and most of them are on or close to the red line (Figure 6.4b). Israel is above the red line, indicating that public revenues in Israel increased beyond their precrisis level. With public expenditure higher than its precrisis level in most countries, and stable revenue weight, deficits and public debt to GDP ratios in developed nations increased relative to their 2018–2019 levels.⁹ In Israel, the increase in the debt ratio was lower than in other countries, and it is below the correlation line (Figure 6.4c).

The difference in public expenditure between Israel and the OECD median increased this year. Primary civilian expenditure in Israel is among the lowest for advanced economies.

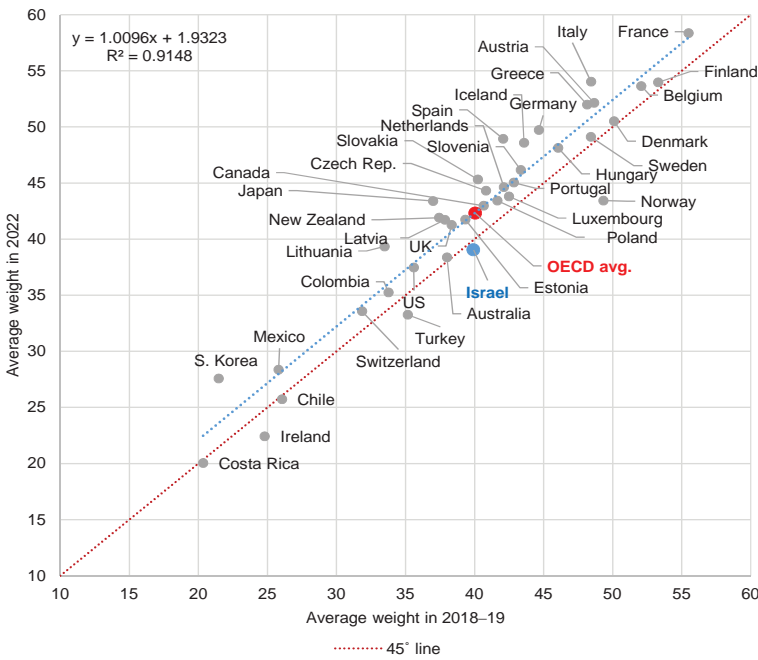
⁹ In Figure 6.4c, the line denoting the correlation between public debt in 2022 and the 2018–2019 average is above the 45° line.

Figure 6.3
Israel's Fiscal Aggregates Compared to the OECD Countries^a, 2005–2022 (percent of GDP)



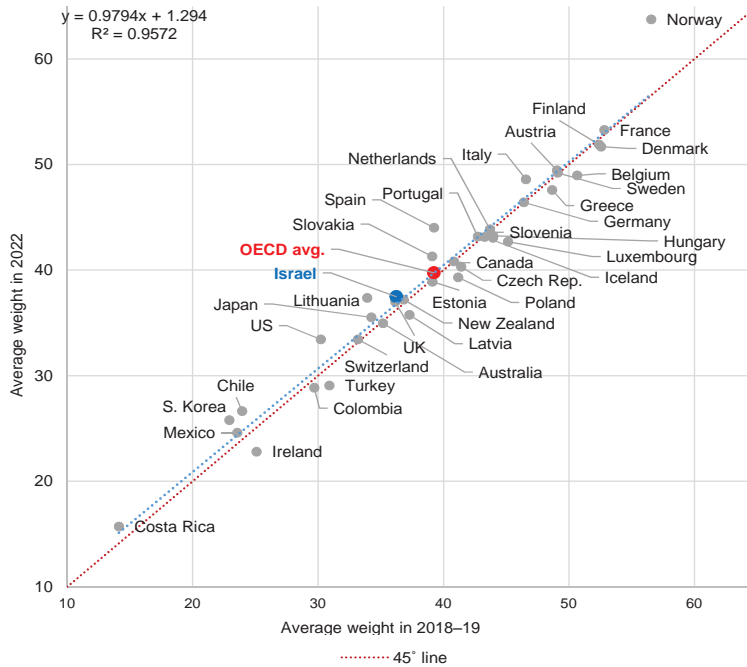
^a Data for OECD countries are based on all member countries for which there are data.
^b Cyclically adjusted deficit data for Israel are according to the accepted international definition and taken from the OECD systems.
^c According to international definitions, excluding revenue from the sale of land. See discussion in Footnote 3 of this Chapter.
^d The OECD estimates are as of March. In order to adjust the Israeli figure to the revised Central Bureau of Statistics estimates, the gap between the overall deficit according to the OECD estimate and the overall deficit calculated by the Bank of Israel was deducted from Israel's cyclically adjusted deficit. This gap amounts to 1.3 percent of GDP.
^e Due to a lack of up-to-date data, defense expenditures in 2021 and 2022 are equal to defense expenditures in 2020 for all countries except Israel.
^f The graphs are presented up to the last year for which there are data in the OECD systems.
^g Data are in line with the International Monetary Fund's definition, and are taken from the IMF systems.
 SOURCE: Based on Central Bureau of Statistics data, and OECD data (*Economic Outlook* 112, Nov. 2022, and Revenue Statistics, 2022) and International Monetary Fund.

Figure 6.4a
Weight of Public Expenditure Before and After COVID-19, OECD Countries, 2022 Compared with 2018–19 (percent of GDP)



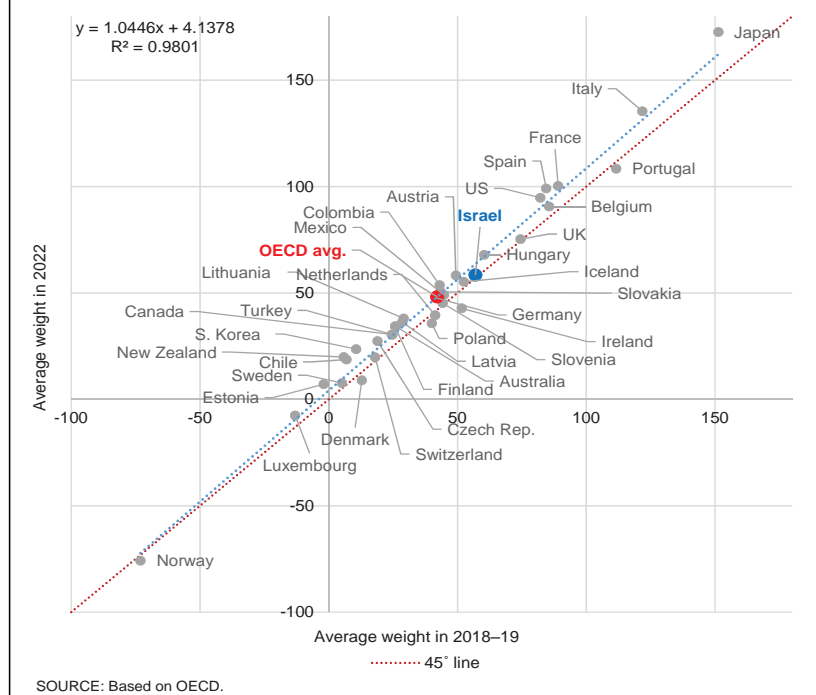
SOURCE: Based on OECD.

Figure 6.4b
Weight of Public Revenue Before and After COVID-19, OECD Countries, 2022 Compared with 2018–19 (percent of GDP)



SOURCE: Based on OECD.

Figure 6.4c
Weight of Net Public Debt Before and After COVID-19, OECD Countries, 2022
Compared with 2018–19 (percent of GDP)



3. GOVERNMENT EXPENDITURES

Public expenditure as a percentage of GDP declined sharply this year, to its lowest level in five years.

Public expenditure as a share of GDP decreased sharply this year, by 3.2 percent of GDP, to 39.1 percent of GDP—its lowest level in five years. There was a similarly low level in 2014–2016 following implementation of the deficit reduction plan included in the 2013–2014 budget, but from 2017, public expenditure resumed its upward trend, to reach about 40 percent of GDP in the precrisis years.

In 2022, public expenditure amounted to NIS 687 billion—a nominal increase of 2.8 percent over the previous year, while nominal GDP increased by 11.3 percent, so that expenditure as a share of GDP declined (Table 6.2). In 2022, interest payments increased in particular, by 33 percent, because more than half of the public debt is indexed to the Consumer Price Index, and due to devaluation of the shekel.¹⁰ Excluding interest expenses, total public expenditure increased by only 0.7 percent in nominal terms.

Expenditure attributed to dealing with the ramifications of COVID-19 in 2020–2022 amounted to 10 percent of GDP.

In 2022, expenses of the general government declined by 4.7 percent, primarily due to a decline in expenses on support programs to deal with the ramifications of COVID-19 (Table 6.3). Expenditures attributed to decline with

¹⁰ The main reason for the increase in interest expenses on public debt in 2022 is the sharp increase (about two-fold) in indexation differentials on debt that is indexed to the CPI, which accounted for about half of all interest expenses on debt in this year.

Table 6.2
Nominal growth of public expenditure in Israel, 2016–2022^a

	2016	2017	2018	2019	2020	2021	2022	2022
	percent							NIS million
Total public expenditures	5.6	6.9	6.2	4.4	14.8	2.4	2.8	687,046
<i>of which</i> : Interest payments	6.1	7.8	15.7	-7.3	-6.7	58.0	33.3	58,338
Total public expenditures excluding interest payments	5.6	6.9	5.6	5.1	16.0	-0.1	0.7	628,708
<i>of which</i> : Current expenditures excluding interest	4.8	6.3	5.4	5.4	15.7	0.4	-0.4	575,758
Primary civilian expenditure	5.2	8.1	5.7	5.8	18.7	-0.6	-1.6	492,711
Per-capita healthcare expenditures	6.0	4.3	3.3	4.2	14.0	1.3	-1.2	10
Per-capita education expenditures	3.3	4.7	4.3	2.5	-1.9	15.3	5.9	13
Public consumption	5.1	4.5	5.9	4.8	4.3	5.5	5.5	352,684
Public consumption excl. defense imports	5.0	5.5	6.3	4.7	4.6	4.8	5.3	360,004
Civilian consumption	5.6	6.6	6.5	4.9	5.9	4.8	5.3	287,669
Per-capita civilian consumption	3.6	4.5	4.5	2.9	4.0	3.1	3.3	30
Domestic defense consumption	3.0	1.3	4.9	3.0	-0.8	5.2	5.7	70,249
Transfer payments on the current account	3.8	8.5	4.1	6.1	15.8	-4.5	5.4	159,496
Per-capita transfer payments on the current account	1.8	6.4	2.1	4.1	13.8	-6.1	3.4	17
Investments of the general government including investment grants	8.8	3.8	7.8	2.6	12.6	-2.9	7.9	90,979
<i>of which</i> : Land transport infrastructure	13.2	14.0	4.6	5.5	25.1	0.7	7.1	15,048
Change in the CPI (annual average change)	-0.5	0.2	0.8	0.8	-0.6	1.5	4.4	
Change in the business output price index	-0.1	-0.8	0.4	1.6	0.6	3.2	5.1	
Change in the public consumption price index	0.5	1.4	2.2	1.7	1.9	1.0	4.3	
Change in nominal GDP	4.9	4.2	4.9	6.1	-0.8	10.9	11.3	1,755,965

^a Excludes the reduction of expenses financed by the sale of land. Beginning with the 2022 statement, the recording of defense investments was moved from defense consumption and imports to government investments. Depreciation of defense fixed capital is recorded in domestic defense consumption.
 SOURCE: Based on Central Bureau of Statistics data.

the ramifications COVID-19 in 2020–2022 amounted to 10 percent of GDP. More than half of the total expenditure (5.6 percent of GDP¹¹) was incurred during the first year of the pandemic, about one third (3.6% of GDP) was incurred in the second year, and only 0.4 percent of GDP was spent in 2022. Excluding COVID-19-related expenses, government expenditures increased by 5.7 percent in nominal terms, slightly lower than the planned increase in the budgeted (6 percent). The economic and administrative ministries recorded expenditures below budget.¹²

A breakdown of total public expenditure into regular expenses and COVID-19-related expenses shows that regular expenses dropped below their precrisis levels in 2021, and remained stable in 2022 (Figure 6.5). The reasons for this include the restraining effect of economic and epidemiological uncertainty during preparation of the 2021–2022 budget, alongside the lack of an approved budget. The 2020 budget was never approved, and the 2021 budget was only approved in November 2021. Furthermore, the low expenses were also due to the wage freeze in the public sector, where wages are determined based on a set of framework wage agreements that apply to most public sector entities. These wage agreements expired in 2018, and due to the pandemic, negotiations

Normal expenditure (excluding COVID expenditure) dropped to pre-pandemic levels back in 2021, and remained stable in 2022.

¹¹ Based on data from the Ministry of Finance. The Bank of Israel *Annual Report* for 2021 included an international comparison of COVID-related expenses, which showed a slightly different estimate for 2020, as the calculation also included adjustments for international comparison.

¹² The administrative ministries include the following: President of Israel, Knesset, Prime Minister's Office, Ministry of Finance, Ministry of the Interior, Ministry of Internal Security, Ministry of Justice, Ministry of Foreign Affairs, State Comptroller's Office, pension and severance payments, Ministry of Science, Culture and Sports, and Ministry of Environmental Protection. The economic ministries include the following: Ministry of Agriculture, Ministry of Energy and Water, Ministry of Economy and Industry, Ministry of Tourism, Ministry of Communications, and Ministry of Transportation.

between the State and the Histadrut regarding a renewal of these agreements were frozen, which significantly moderated wage increases.

Table 6.3
Components of the net deviation from the original government budget for 2022

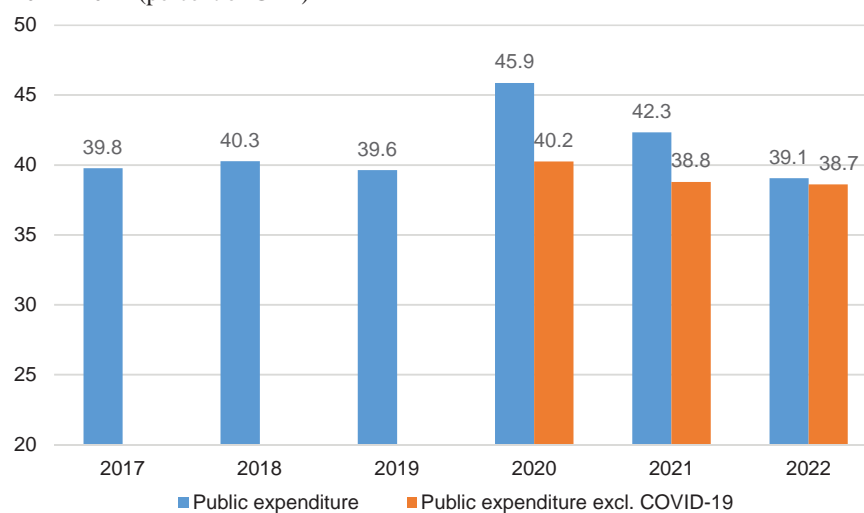
	(excluding conditional expenditures, current prices)			
	2022			Difference between budget and performance
	2021 performance	Original budget	Performance	
(NIS billion, net, excluding credit)				
Deficit (-)	-68.7	-64.6	9.8	74.4
<i>of which</i> : Domestic deficit	-60.7	-66.7	14.0	80.7
Deficit abroad	-8.0	2.1	-4.2	-6.3
Revenue	412.9	396.9	468.5	71.7
<i>of which</i> : Domestic revenue	410.7	395.3	465.4	70.1
Taxes ^a	384.8	372.4	437.2	64.7
Loan from the National Insurance Institute	20.8	19.2	22.4	3.2
Other revenue ^b	7.3	5.2	8.9	3.7
Expenditures^a	481.6	461.5	458.8	-2.7
<i>of which</i> : Excluding COVID-19 expenditures	426.0	451.5	450.1	-1.4
Domestic expenditures	471.4	462.0	451.4	-10.6
COVID-19 expenditures	55.6	10.0	8.7	-1.3
Domestic expenditures excluding COVID-19	415.8	452.0	442.7	-9.3
Expenditures abroad	10.2	-0.5	7.4	7.9
Defense	75.1	84.0	75.2	-8.7
Interest, repayment of principal to NII, and credit subsidies	55.2	57.7	57.6	-0.1
Civilian ministries and transfer payments	351.4	319.8	325.9	6.1

^a Including VAT on defense imports.

^b Revenue from interest, royalties and dividends, and other revenue.

SOURCE: Based on Accountant General, 2019 budget performance.

Figure 6.5
Public Expenditures Including and Excluding COVID-19 Expenditures,
2017–2022 (percent of GDP)



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

a. Expansion of the gap between government sector and private sector wages¹³

For most advanced economies, the literature has found a long-term link between business sector and public sector¹⁴ wages, as these two sectors compete for employees with similar skills in the country (Lamo et al., 2008).¹⁵ For Israel, Mazar (2022) found that this link grew stronger from 1999, and the government and private sector wage trends were similar through 2017.¹⁶ Figure 6.6 shows the evolution of wages per employee post in these two sectors over the past decade. After evolving with similar dynamics between 2012 and 2016, a gap has developed between the wage indices since 2017, due to more rapid wage increases in the private sector. The gap between these wage indices “artificially” soared in the COVID-19 outbreak year, because the average wage measured in the private sector increased sharply due to a change in employment composition, as employees with relatively low wages were terminated or put on furlough. However, the composition effect dissipated in 2022.¹⁷

Even after the economy returned to full employment, the gap between the wage indices in these sectors continued to grow wider. In 2022, as the pace of inflation increased, real wages in the private sector declined by 2 percent. The real wage in the government sector has been declining for two years in a row, for a total decline by 4 percent. Since 2017, when the gap in wages between these sectors emerged, real wages in the private sector increased by an annual average of 3.6 percent, compared to 0.5 percent in the government sector. One of the factors for the higher pace of wage increases in the private sector is the rapid development of the high-tech sector, particularly during the COVID-19 period, with growing demand for digital products and services. However, even excluding the high-tech sector, in recent years the pace of wage increases in the private sector has been significantly faster than in the government sector.

The gap created in Israel is wide by international comparison as well. Figure 6.7 compares the pace of increase in wages of employees in business sectors and in public service sectors in 2022 and in 2019, showing the gap between

Between 2017 and 2022, real wages in the private sector increased by 3.6 percent annually, compared to just 0.5 percent in the government sector.

¹³ The government sector includes government ministries, the National Insurance Institute, the local authorities, the national institutions, and nonprofit organizations that have most of their expenses financed by government agencies. The private sector includes all entities that do not belong to the government sector.

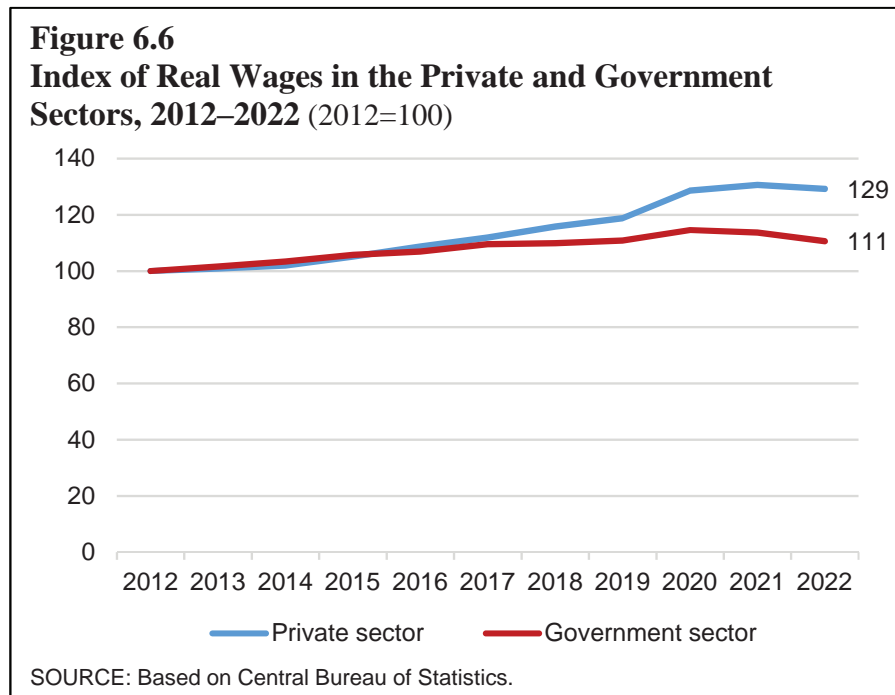
¹⁴ The public sector includes the government sector and other organizations that employ their staff in conformity with civil service laws.

¹⁵ Ana Lamo, Javier J. Perez, and Ludger Schuknecht (2008). “Public and Private Sector Wages: Comovement and Causality”, ECB Working Paper Series No 963.

¹⁶ Yuval Mazar (2022), “Evolution of Public Sector Wages and the Links Between them and Business Sector Wages” (in Hebrew), in A. Yaron and M. Strawczynski (eds.) *Monetary Policy in a Period of Price Stability*, Bank of Israel.

¹⁷ For more information please see the box in Chapter 2 of the Bank of Israel *Annual Report* for 2021.

them.¹⁸ In Israel, the erosion of wages in the public sector, relative to the business sector, was greater than in most OECD countries.



In most advanced economies, business sector wages lead the change, and public sector wages react to them (Lamo et al., 2008) by way of wage agreements between labor unions and the State.¹⁹ In Israel, the most recent “framework agreement” between the Histadrut and the State was signed in April 2016. It included an aggregate 7.9 percent increase over three years, as well as compensation for the 2013–2017 period.²⁰ The public sector wage agreement has not been updated since 2018—which explains the change in trend in wage gaps between the sectors. During the COVID-19 pandemic, special agreements were signed that mostly governed the employment of State employees and sought to limit the crisis’s impact on their employment, with agreement to freeze discussions of wage increases. After the new government

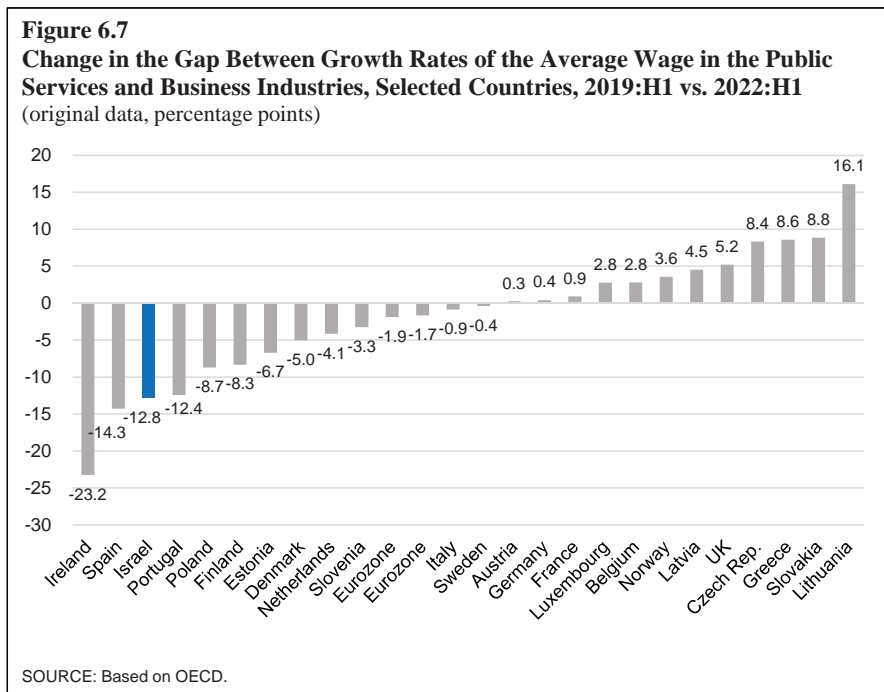
¹⁸ Due to data limitations, the comparison in this figure is between public service sectors and all other sectors. Public sector employees account for two-thirds of all employees in the public service industries.

¹⁹ Mazar (2022) showed that the framework agreements accounted for one-third of the total wage increase for public sector employees, and wages in the public sector were therefore aligned over time with wages in the business sector. The remainder of the wage increase for public sector employees is due to wage creep—promotion and seniority increments for long-standing employees.

²⁰ The framework agreement for 2013–2017 was signed in 2016 and was amended in August 2016, in January 2018, and in June 2018. The amendments refer to pay scheduling and amounts, with no change to the period for which wage increases were granted (2013–2017).

was formed, discussions started with regard to the new framework agreement, as well as to other agreements (with the high school teachers union, and with the defense establishment).²¹ A simple calculation shows that had wages in the public sector increased over the years as they did in the private sector, the government’s payroll expenses in 2022 would have been NIS 24 billion (1.7 percent of GDP) higher than they actually were.²² In early March 2023, a new framework agreement was signed. It is expected to reduce the gap, while gradually increasing public expenditure. The moderate agreement gives the government more leeway in avoiding fiscal expansion that would increase inflationary pressures in the economy, while supporting partial elimination of the wage gap.

In early March 2023, a new framework agreement was signed. It is expected to reduce the gap in wage dynamics between the private and government sectors.

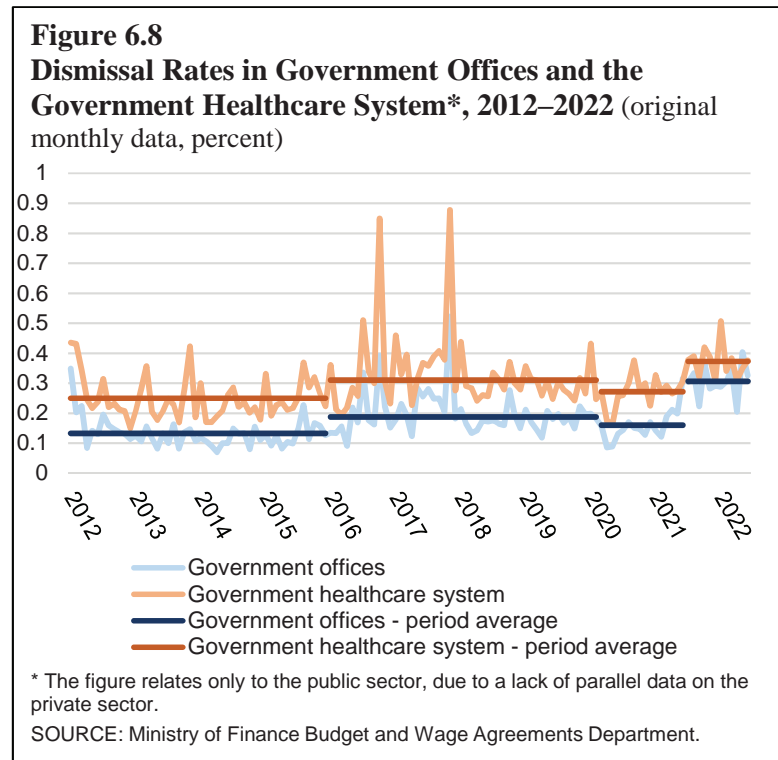


However, it should be taken into account that continued wage gaps may result, over time, in gradual erosion of the quality of employees who would join and/or remain in the public sector. Some indication of this, although by no means definitive proof, may be seen in the higher numbers of employees leaving the public sector in recent years, particularly in the government sector

²¹ See discussion below in this chapter on the agreement with the teachers union, which represents elementary school teachers, some middle school teachers, and kindergarten teachers.

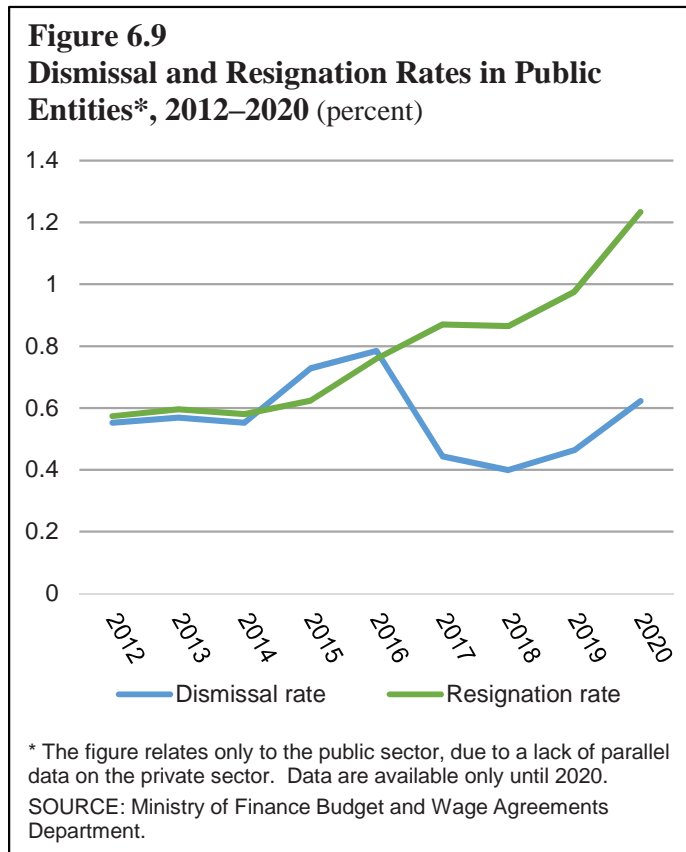
²² The calculation of the annual cost for 2022 is as follows: increase in the average monthly wage in the government sector to the average ratio between 2007–2016, multiplied by 12 months, multiplied by the number of positions in the government sector.

(Figure 6.8) and in public entities (Figure 6.9).²³ In order to balance more moderate wage increases and preservation of the quality of labor in the public sector, it is important for the government to focus as much of the wage increase as possible in areas where challenges exist in high-quality staffing of positions, or where there is strong competition with the business sector.



Wage agreements provide an opportunity to make structural changes, designed to align public sector employment with the new world of labor. Such changes—for example, transition to individual employment contracts, increased mobility, and easier dismissal of employees in some cases—should contribute to increased efficiency in the public sector, but also reduce the nonmonetary benefits of working in the public sector, such as employment stability. This drives labor unions (in Israel and worldwide) to demand compensation for such changes. Therefore, wage agreements enable setting such changes in motion, along with compensation for employees. In recent years, wage agreements have tended to include agreements by both government and labor unions to make adjustments to government work in areas such as the adoption of technology and employee mobility. This is an important process, the success of which may contribute significantly to enhanced productivity in the economy.

²³ Due to a lack of suitable data, it is not possible to consider whether a similar trend also developed in the private sector.



b. Wage agreement with teachers

In October 2022, the government and the Teachers' Union signed an agreement that significantly improves teachers' employment terms. The total cost of this agreement involves a permanent additional expense of NIS 4.9 billion per year, fully vesting in 2026, with most of this amount—NIS 4.5 billion per year—payable from 2023. Implementation of this agreement in 2022 required an across-the-board budget cut in order to comply with the numerator—a budget feature that limits future government commitments in order to comply with fiscal rules.

A significant part of this cost is earmarked for improvement in employment terms of new teachers, whose wages are significantly lower than those of veteran teachers. This disparity results in one in five new teachers leaving the education system within the first 3 years. In recent years indices used to assess the quality of new teachers joining the education system have also trended downwards.²⁴

In 2022, the government and the Teachers' Union signed an agreement that significantly improves teachers' employment terms. The total annual cost of this agreement will reach NIS 4.9 billion when fully vested in 2026.

²⁴ Based on grades on various tests, such as grades on matriculation tests and the SAT score. For more information about trends in new teacher quality and how teacher quality is measured, see: Bank of Israel (2019), "Government services: Evolution of the education budget and teaching quality in recent years", Bank of Israel report for 2018; Bank of Israel (2022), "Gaps between the Jewish and Arab education systems in scope and quality of educational inputs", Bank of Israel 2021 Report.

At the same time, there is higher demand for teachers, due to demographic changes and the reform designed to reduce the number of students per class. According to the new agreement, the base wage would be raised by 30 percent, to NIS 9,000 per month, starting in 2023²⁵, and after three years' work, teachers would be paid a retention bonus of NIS 10,000. Furthermore, the agreement enhances incentives by increasing the remuneration for educational roles and by providing bonuses for outstanding teachers. In order to reduce the shortage in teachers, the agreement stipulates that new teachers shall be employed at 80-percent scope of employment or higher.²⁶ Veteran teachers were given a monthly wage increase of NIS 500. This agreement improved the employment terms of management staff in educational institutions, by increasing the part of their wages that is based on the institution's size and reducing the number of hours they are required to teach in classrooms.

From the management aspect, the parties agreed to increase employment flexibility by employing specialists under individual employment contracts that are not subject to collective bargaining agreements. School principals were given management flexibility in approving positions with over 100 percent scope of employment, when deciding how to apply school activity hours (the agreement also increased the number of such activity hours by 4 hours per year). However, the agreement provides only a limited response to key structural issues which, if addressed, could help improve the education system's achievements. In particular, the agreement does not promote the creation of a teacher assessment system that would help promote the employment of outstanding teachers in return for financial remuneration. The agreement provides only a limited response for the need to enhance teacher remuneration in order to promote the employment of teachers in subjects where they are in short supply (math, English, and science), in weaker schools, and in schools in outlying areas. In the agreement no significant change was made to aligning vacation days in the education system with those of other employees, even though this gap is significantly greater in Israel than in other countries.²⁷

This gap has a negative impact on parents' work routine, which in turn affects their labor productivity.²⁸ In Israel, the total number of school days is similar to that in other advanced economies, but they differ in their placement throughout the year. While the school week in Israel is six days long, in the great majority of advanced economies, children study five days a week (with

²⁵ Prior to this agreement, the base wage for a full-time position was NIS 6,900.

²⁶ As from September 2024. As from September 2023, a minimum of 70% would be required.

²⁷ Yossi Margoninski and Guy Segal, "Attributes of student vacation in Israel – economic cost and alternative policies", Research Department, Bank of Israel, November 2019; Kobi Braude and Yossi Margoninski, "Student vacation in Israel and its implications for the labor market", Bank of Israel, December 2020.

²⁸ "Raising the standard of living in Israel through increased work productivity", Research Department, Bank of Israel, August 2019.

Saturdays and Sundays excluded).²⁹ However, there are many vacations on holidays and during the summer months, on regular work days. Eliminating school on Fridays (which are only partial work days in Israel, while Sundays are normal work days) and adding other school days throughout the year would improve the alignment of school days in the education system with work days in general. The agreement only shortened the school vacation by two days (for which teachers were given two days off during the school year), and only slightly modified the vacation schedule (instead of three days' vacation for the days following major Jewish holidays, a "bridging vacation" was added between Yom Kippur and Sukkot eve).

c. Digital transformation in the public sector

One way to improve public sector operations is by through digital transformation—the increased use of computerization (computers, smart phones, Internet) and innovative technology in government entities. In recent decades, digital transformation in the public sector has been advanced in many countries under the title "E-Government". The digital transformation of the public sector includes the use of digital tools and data in order to make it more open, proactive, and focused on public needs.³⁰ It enables the public sector to better meet public needs, provide more diverse services, and enhance public satisfaction with the government, which may also have a positive effect on public trust in the government.³¹ E-Government allows for improvement in resource allocation in the public sector through process automation, savings on work inputs, and the creation information repositories and using them for management. Digital transformation provides the conditions for improved quality of public services, service expansion, and transparency in government operations, all of which contribute to improved public sector efficiency.³²

The digital transformation of the government sector provides for improved quality, expansion, and transparency of public services in government activity.

²⁹ The reason for this is a historical one – back in the day, the work week in Israel was six days long, and the education system was aligned with this.

³⁰ OECD (2020), "The OECD Digital Government Policy Framework", OECD Public Governance Policy Papers, No. 2, OECD Publishing, Paris.

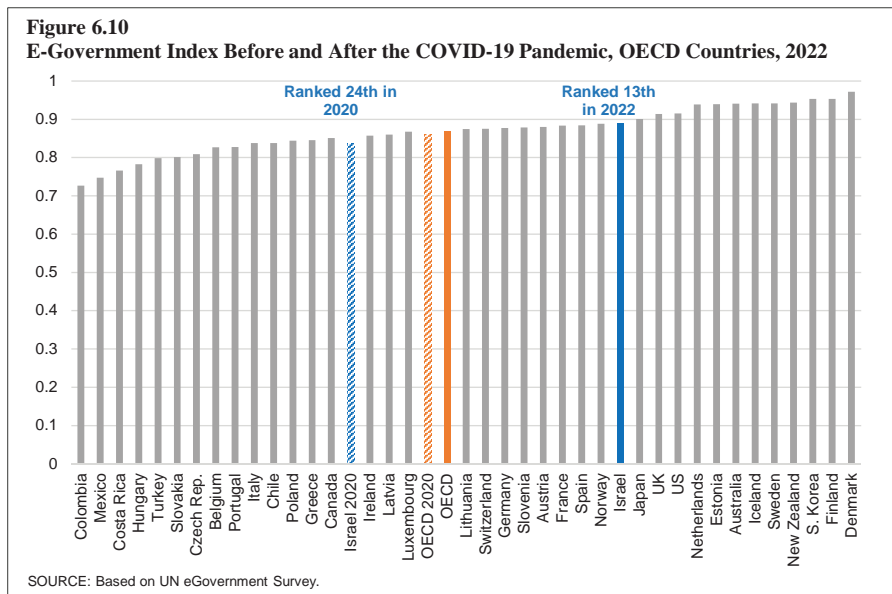
³¹ OECD (2020), "Digital Government Index: 2019 Results", OECD Public Governance Policy Papers, No. 03, OECD Publishing, Paris.

³² Findings in economic literature confirm that digital transformation processes contribute to improved provision of public services, improve the quality of such services, and enhance transparency and trust in the government. See, for example: Eyob, 2004; Bertot et al., 2012; Reddick, 2006, 2009; and Lindgren and Jansson, 2013. One current claim is that digitalization improves the efficiency of the public sector, but this claim is hard to empirically validate. Typically, the topic of efficiency is studied by estimating the effect of various factors on efficiency of the public sector. Research is primarily focused on analysis of indices for public sector operations, by international comparison. However, given the considerable variance between countries (in cultural norms, policy measures, and so forth), the literature has yet to provide a definitive answer, other than the conclusion that a smaller public sector is correlated with greater efficiency. (Tanzi et al., 2007; Haner and Kyobe, 2010).

In Israel, the development of E-Government has been prioritized in the past decade when, in 2017, the government approved the National Digitalization Program. During the COVID-19 period, the digital transformation process was accelerated in order to mitigate the impact of pandemic-related restrictions on the provision of government services and public services. A similar process took place in most advanced economies. The E-Government Index, developed by the UN and published once every two years, offers insight into the extent of development of digital processes advanced by the government in Israel, compared to other advanced economies. During the pandemic in Israel, the use of new technologies was expanded in many areas, including education, healthcare, and government services.³³ A comparison of the E-Government Index over time—before and after the pandemic—makes it possible to compare the pace of progress in the development of digital tools during COVID-19 in Israel to the pace of progress in development of digital tools in other countries.

The digital transformation of government services was accelerated during the pandemic, and its advancement in Israel was more pronounced than in some other advanced economies.

According to the E-Government Index for 2020 (the index year is the year in which it was published by the UN, but in fact the index was created prior to COVID-19), Israel was ranked fairly low prior to COVID-19—24th of 35 OECD countries.³⁴ During the pandemic, Israel made significant progress in development of digital tools, at a faster pace than in some other advanced economies. Thus, in 2022 Israel was ranked 13th on this Index (Figure 6.10).



³³ For more information about the use of online technology in select areas during the COVID-19 pandemic, see: Bank of Israel (2022), “Indications of COVID-19’s Technological Footprint in 2021”, Bank of Israel *Annual Report* for 2021, Chapter 1, pp. 21–38.

³⁴ For a comprehensive overview of Israel’s relative ranking prior to COVID-19, see Ehud Beker, “Aspects of Promoting E-Government: A Comparative Overview”, Knesset Research and Information Center, February 2020.

The index combines three sub-indices, each of which measures key components and use of digital tools: the Online Services Index (OSI), measuring accessibility of government services online (payment for services, submitting documents and forms, obtaining education- and employment-related services and so forth); the Telecommunication Infrastructure Index (TII), primarily measuring accessibility of broadband Internet and use of smart phones by the population; and the Human Capital Index (HCI), measuring the competency of the population in using digital tools (measured by the education level of the population, the percentage of young persons, and literacy of the population).

A review of the changes in these sub-indices shows that the impressive improvement in Israel's E-Government Index rating during COVID-19 mostly reflects a marked improvement in the development of online services provided by government websites. In this index, Israel advanced from being ranked 30th prior to the pandemic to being ranked 15th (Figure 6.11a). During COVID-19, Israel invested in the development of infrastructure to allow the population to use the Internet (broadband Internet) and indeed, the number of Internet users, including on mobile phones, increased.³⁵ This improvement was large relative to some other countries, as reflected by Israel's higher rank in the TII, from 18th prior to COVID-19 to 15th (Figure 6.11b).

Using digital technology requires technological literacy. Israel's ranking on the third sub-index of the E-Government Index, the HCI, was low prior to the pandemic (24th) and dropped even further to 25th (Figure 6.11c). Evidence of Israel's relatively low ranking in knowledge of how to use a technological environment was also found in the PIAAC survey of adult skills, particularly in weaker population groups such as Arabs³⁶ and *Haredim* (the ultra-Orthodox).³⁷ In order to make digital public services accessible to the general population, it is important to allocate resources to digital education and to formulate a plan to support the use of digital tools by older demographics, those with low Hebrew fluency, and by disabled persons. Investment in improved usability of digital tools would enhance the citizens' capacity to engage with the authorities, as well as support for the digital transformation process.

Improvements in digital government were primarily reflected in expansion of the range of online services.

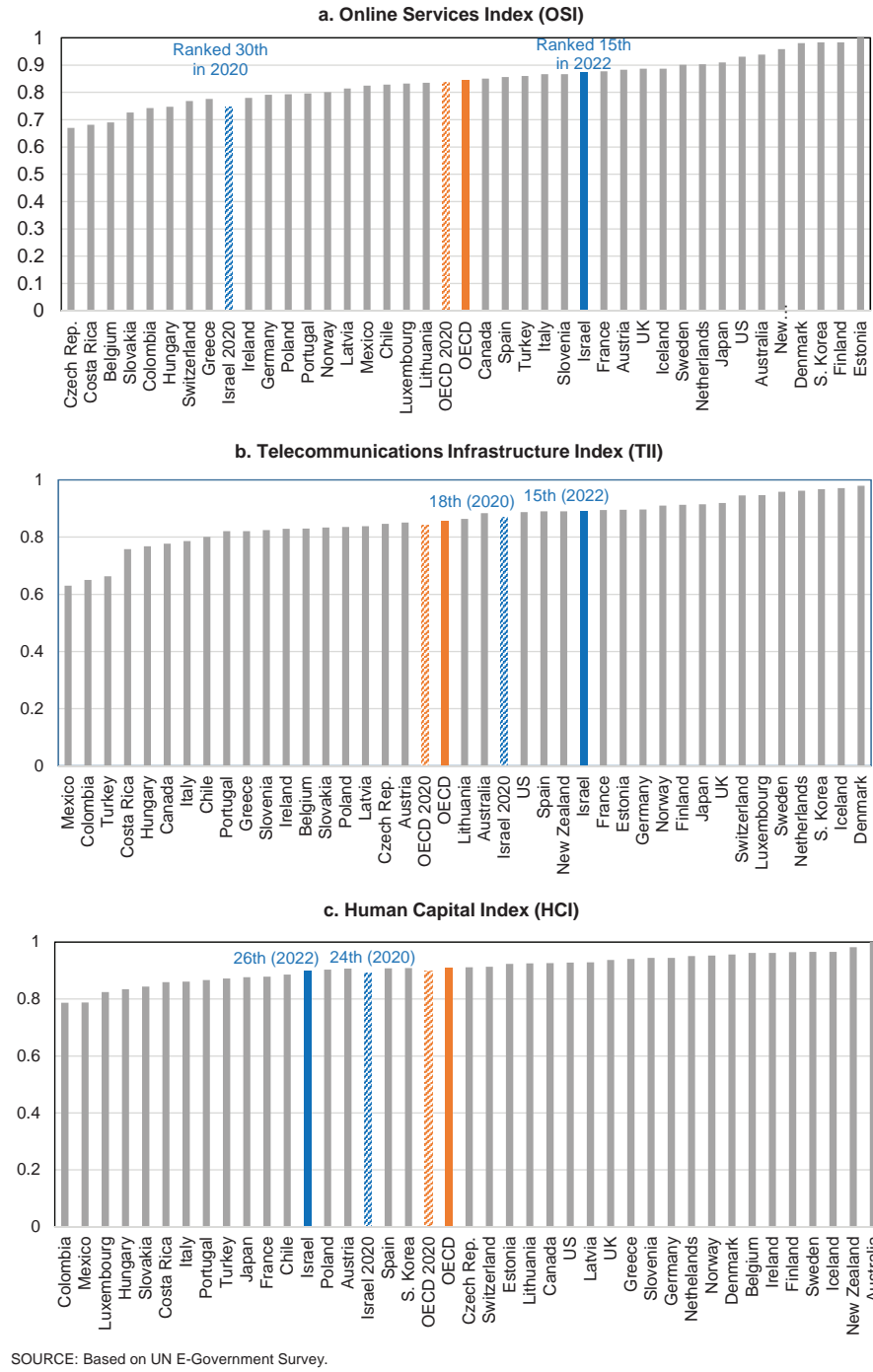
Significant investment is required to improve the public's technological literacy, in order to make these digital services accessible to population groups that currently have difficulty using them.

³⁵ See Footnote 33.

³⁶ See publications on this topic: Marian Tehawkho, Hila Axelrod, and Chanin Matar (2021), "The Digital challenge Facing Arab Society in Israel", Aaron Institute for Economic Policy, Reichman University; Sefi Bachar (2021), "Readiness for Remote Schooling at the Student and School Level: Insights from PISA 2018 and Household Expenditure Survey", Bank of Israel Research Department.

³⁷ "Instilling Digital Literacy Over a Lifetime", Office of the State Comptroller, Annual Report 71B, 2021.

Figure 6.11
Sub-Indices of the E-Government Index: OECD Countries, 2022



4. GOVERNMENT REVENUES

In 2022, the general government's revenues totaled NIS 659 billion. As a share of GDP, total public revenues this year increased by 0.7 percent of GDP, reaching 37.5 percent of GDP—2.5 percent of GDP higher than immediately prior to the pandemic. This increase reflects a higher weight of taxes, which this year reached its higher level in 15 years. This year, revenue from direct taxes continued to increase, and the share of indirect taxes was stable.

In 2022, tax revenues amounted to NIS 437 billion—a 9 percent increase, net of inflation. Direct taxes increased by 11 percent in real terms, and accounted for three quarters of the increase in total taxes. In 2022, indirect taxes increased by 4 percent in real terms, and accounted for one-quarter of the increase in tax collection, due to higher collection of domestic VAT. The sharp increase in direct taxes primarily reflects an increase in corporate tax revenue, which was sharply higher than the previous year. One of the reasons for the increase in tax revenues this year is further growth in activity of the high-tech sector, which is tax-intensive. The growth was reflected in a higher number of employees and in a higher average wage, although the pace of growth was more moderate than in 2021.³⁸ In general, tax revenues from wages increased this year, in view of the tight labor market. Some of the increase in taxes in 2022 can be attributed to revenues with respect to activity in previous years and to nonrecurring revenues.

This year, real estate taxes also contributed significantly to tax revenue growth. The number of residential transactions declined sharply in 2022, but prices continued to rise rapidly, by 17 percent.³⁹ The continued effect of the higher number of transactions in 2021, and of higher prices in 2022, jointly contributed to further growth in real estate tax revenues. Land tax revenue in 2022 totaled NIS 25 billion, compared to NIS 21 billion in 2021. These amounts reflect significant growth from a stable NIS 11 billion in the previous two years (Figure 6.12). In 2022, real estate revenues, including VAT payments for new dwellings, totaled 2.2 percent of GDP—0.8 percent of GDP higher than 2019. Real estate market activity in 2021 and in 2022 will continue to contribute to tax revenue in 2023 as well, because VAT payments for new homes depend on the payment schedule for the dwelling, based on construction progress, and the average duration of construction is about 3 years. However, due to the sharp decline in number of transactions in 2022 and early 2023, more moderate increases in home prices, and even the start of a decline in new home prices, this effect should be reduced.

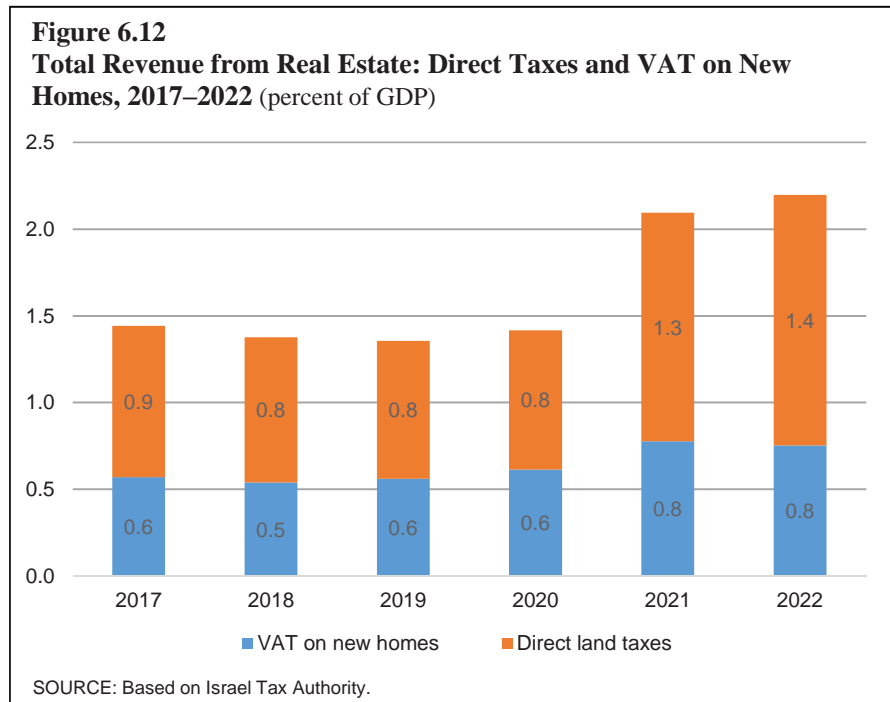
Total public revenues increased by 0.7 percent of GDP this year, reaching 37.5 percent of GDP—2.5 percent of GDP higher than the prepandemic level.

The reason for the increase in revenues this year is a sharp increase in direct tax revenue, partially explained by factors of a temporary nature.

This year, real estate taxes also contributed significantly to tax revenue growth.

³⁸ For more information about developments in the high-tech sector, see Chapter 1 of this report.

³⁹ For more information about developments in the housing market, see Chapter 8 of this report.



Excluding legislative changes, timing differentials, and anomalous revenues, total tax revenue increased by 7 percent in 2022. In order to explain the sources for tax growth this year, we divide this growth into several components: (1) the forecasted increase based on the tax model⁴⁰ under a “business as usual” scenario—in which the macroeconomic variables included in the model would have evolved in 2020–2022 in conformity with the multiyear trend of these variables between 2015 and 2019⁴¹; (2) the increase explained by deviation of the model variables that are usually correlated with the business cycle, from their multiyear trend⁴²; (3) revenues due to unusual fluctuation in asset markets (equity markets, including the high-tech sector, and land), which may not necessarily be correlated with the business cycle; (4) legislative changes that increase or decrease total revenue for a given tax base, and nonrecurring revenues not related to economic activity (such as: an increase in payment of

⁴⁰ A. Brender and G. Navon (2010), “Predicting Government Tax Revenues and Analyzing Forecast Uncertainty”, *Israel Economic Review*, 7(2): 81–111

⁴¹ The explanatory variables in the model are: Nominal GDP net of the Consumer Price Index, in arrears by one quarter and five quarters; GDP growth rate, in arrears by two quarters; deviation of wages and consumer good imports from their long-term correlation with GDP; Bank of Israel interest rate; Tel Aviv General Equity Index in the same quarter and in arrears by one quarter; and the number of transactions involving new apartments, in arrears by three quarters.

⁴² This factor is estimated by the difference between the model forecast based on actual data, and the model forecast based on data in the “business as usual” scenario. For more information about this calculation method, see Box 6.2 in Chapter 6 of the Bank of Israel 2021 Report.

corporate tax due to the trapped earnings program, or accounting adjustments to the budget with respect to diversion of part of the purchase tax to the Property Tax Fund); and (5) nominal increase in the tax base, correlated with revenue at current prices.⁴³

Table 6.4 shows the nominal increase in actual tax revenue (based on definitions in the State budget) in 2022 compared to 2019, divided into the aforementioned components. Out of the NIS 119 million nominal increase in tax revenue in 2022 compared to 2019, NIS 21 million is explained by price increases from 2019 to 2022, with the remainder explained by real factors (Column 1). Some 40 percent of the increase in revenues is explained by the multiyear trend of macroeconomic developments; some 33 percent is due to deviation of macroeconomic factors from the business cycle (in particular, GDP growth beyond the expected trajectory and increase in imports of cars and other consumer goods); and 9 percent is due to the rally in asset markets. The cumulative effect of legislative changes and nonrecurring revenues is negligible compared to the increase in tax revenues, and the estimated effect of price increases explains 18 percent of the increased revenue (Column 2).

Dividing this period in two (2021 compared to 2019⁴⁴ and 2022 compared to 2021) shows that 55 percent of the increase in tax revenues, relative to 2019, occurred through 2021, and the remaining 45 percent occurred in 2022. In the first subperiod, deviation of economic activity from the multiyear trend accounted for 57 percent of the increase in revenue, whereas in the second subperiod, the share of this factor fell to 24 percent (Rows 2 and 3).⁴⁵ Conversely, in the first subperiod, the overall effect of legislative changes, nonrecurring revenues, and price increases was negligible, whereas in 2022, 9 percent of the increase in revenue was due to legislative changes (nonrecurring revenues that were more than offset by net tax reductions)⁴⁶ (Row 4), and 35 percent is explained by higher inflation between 2021 and 2022 (Row 5). Comparing the contribution of the different factors shows that the deviation of the macro variables from their multiyear trend continued to increase in 2022, and that revenues explained by the rally in asset markets remained near their high level of the first subperiod.

⁴³ The tax model is based on real variables, and therefore only includes the increase in revenue due, for example, to increase in real GDP, or in the number of transactions in the real estate market. The effect of price increases is estimated outside of the model, by multiplying actual revenue in the previous year by the average inflation rate for the current year (and not by the CPI at end of year, as is often presented). This estimate excludes the non-linear effects of the high inflation on actual revenue.

⁴⁴ Some of the increase in tax revenue in 2021 was a correction from the slow-down in economic activity and the sharp loss of revenues in 2020, due to the COVID-19 pandemic. We therefore present these two years as a single subperiod.

⁴⁵ Over the long term, the average contribution of these factors should be zero.

⁴⁶ In 2022, the government increased some taxes and reduced others. The total cost of these reductions was higher than the additional revenue from the increases, so the net result of legislative changes was lower tax revenues.

Table 6.4
Components of the increase in tax revenue, 2022 compared to 2019

	2022 compared to 2019		<i>of which : 2021 compared to 2019</i>		2022 compared to 2021	
	NIS billion	percent	NIS billion	percent	NIS billion	percent
	(1)	(2)	(3)	(4)	(5)	(6)
(1) Expected growth according to the multiyear trend of the variables included in the model	48	40	31	46	17	33
(2) Growth explained by deviation of the macro variables from the multiyear trend: GDP level, GDP growth, wages, import of consumer goods, Bank of Israel interest rate	39	33	25	38	14	26
(3) Growth explained by anomalous volatility in the asset markets: Tel Aviv index and new home sales	11	9	12	19	-1	-2
(4) Legislative changes and one-off revenues	1	0	-4	-6	5	9
(5) Nominal change in the tax base	21	18	3	5	18	35
(6) Unexplained remainder	-1	-1	-1	-1	0	0
Total growth in taxes	119	100	66	100	52	100

5. THE DEFICIT

The overall deficit of the general government declined to 1.6 percent of GDP, compared to very high deficits during the pandemic years.

Central government activity resulted in a budget surplus of 0.6 percent of GDP, compared to a planned deficit of 3.9 percent of GDP. The difference is mostly explained by tax revenues, which were higher than forecasted in the budget.

In 2022, the overall the general government deficit declined to 1.6 percent of GDP, compared to the unusually high deficit during the COVID-19 pandemic years (5.5 percent of GDP in 2021 and 11.5 percent of GDP in 2020, Table 6.1). This low deficit resulted from a sharp decrease in expenditure as a share of GDP, which was even lower than before the pandemic, and from higher revenues as a share of GDP. Net of the effect of growth, the cyclically adjusted deficit also declined, to 2.9 percent of GDP this year, compared to 5.7 percent of GDP in 2021. The structural deficit, composed of the deficit adjusted for the effect of the business cycle and the effect of noncyclical anomalous factors, increased by 0.2 percent of GDP compared to 2019. Operations of the general government resulted in a budget surplus of NIS 10 billion, or 0.6 percent of GDP (Table 6.5). This compares to the planned deficit of 3.9 percent of GDP (NIS 65 billion) in the original budget. The great majority of this difference is due to tax revenues that were NIS 67 billion over the original budget estimate, and to expenses that were NIS 8 billion lower than budgeted (Table 6.3), such that the difference between the planned and actual deficit was NIS 75 billion.

The reasons for these large differences include macroeconomic developments that differed from original budget estimates, including GDP growth of 6.5 percent compared to forecast GDP growth of 4.7 percent, and inflation of 5.3 percent compared to a forecast of 2.0 percent. In its early stages, inflation typically reduces the deficit as a share of GDP. In early 2022, the estimated deficit was revised to 3.4 percent of GDP, and the difference between the revised estimate and the actual deficit was 4 percent of GDP. This difference is explained by excess revenues totaling 3.3 percent of GDP, COVID-19-related expenses that were 0.5 percent of GDP lower than budgeted, and nominal GDP that was 0.2 percent of GDP higher than expected.

Table 6.5
Central government deficit, revenue and expenditures, 2016–2022

(percent of GDP)

	2016	2017	2018	2019	2020	2021	2022
Total government deficit ceiling excluding credit granted	2.9	2.9	2.9	2.9			
Total actual government deficit excluding credit granted	2.1	1.9	2.9	3.6	11.3	4.4	-0.6
Actual government domestic deficit	1.6	1.6	2.6	3.3	10.9	3.8	-0.8
Total net revenues^{a,b}	25.2	26.1	25.0	24.2	22.4	26.2	26.7
Taxes and imposts	23.0	23.9	22.8	22.2	21.9	24.4	24.9
Interest, profits, royalties, revenue from land sales	0.3	0.5	0.5	0.5	0.3	0.5	0.5
Loan from the National Insurance Institute (NII)	1.9	1.7	1.7	1.6	0.1	1.3	1.3
Total net expenditure^a	27.2	28.0	27.9	27.9	33.6	30.5	26.1
Interest, repayment of principal to NII and credit subsidy	4.0	3.8	3.7	3.6	3.6	3.5	3.3
Net defense expenditure ^{b,c}	5.1	5.2	5.0	4.9	5.0	4.8	4.3
Total net primary civilian expenditure	18.2	19.0	19.2	19.4	25.0	22.3	18.6

^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, 2022.

6. PUBLIC DEBT AND ITS FINANCING

In 2022, the debt to GDP ratio declined sharply, to 60.7 percent of GDP, similar to the median ratio for advanced economies (Table 6.1, Figure 6.4). The debt to GDP ratio essentially returned to its prepandemic level, after soaring in 2020, to over 70 percent of GDP and then falling back to 67.9 percent of GDP in 2021.

The sharp decline in the debt to GDP ratio this year—7.2 percent of GDP—reflects both the budget surplus, which reduced debt by 0.6 percent of GDP, and the higher inflation (Table 6.6). As only part of the debt is indexed to the CPI (more than half), which increased by a rate similar to the Output Price Index, shekel-denominated debt was eroded relative to nominal GDP.⁴⁷ Revenues from privatization and outstanding issuances from previous years, which reduced the need for financing this year, together contributed 2.1 percent of GDP to debt reduction. The ratio of net debt⁴⁸ to GDP also declined, to 58.5 percent of GDP at end of the year.

In the past two years, the interest on public debt increased to 3.3 percent of GDP, whereas the average cost for advanced economies increased slightly (Figure 6.13). The increase in the burden of interest payments in Israel is explained by the higher inflation, because interest expenses include indexation to the CPI for the linked portion of debt (as opposed to the budget definition, which only includes actual interest payments). In Israel, about half of the public debt is indexed to the CPI, whereas in other advanced economies, such

The debt to GDP ratio returned almost to its prepandemic level, and this year it was similar to the median ratio for advanced economies.

Interest on public debt increased due to higher inflation, since interest expenses include partial indexation of the debt to the Consumer Price Index.

⁴⁷ In 2022, the Business Output Price Index increased by 5.1 percent, and the Consumer Price Index increased by 5.3 percent.

⁴⁸ Net public debt is the difference between gross public debt and active government loans and deposits with the Bank of Israel.

indexation is very limited. For example, in the USA, tradable indexed debt accounts for 6 percent of public debt. Of the twenty countries that issue CPI-indexed tradable bonds, in only four do those bonds account for a higher share of public debt than in Israel (South Africa, Chile, Brazil, and the UK).^{49,50}

Table 6.6
Components of the increase in the gross public debt, 2017–2022

	(percent of GDP)					
	2017	2018	2019	2020	2021	2022
Debt at the end of the previous year	61.4	59.7	59.9	58.8	70.6	67.9
Nominal growth of GDP	-2.5	-2.8	-3.4	0.5	-7.0	-6.9
Net capital inflow	1.1	2.5	3.1	12.8	3.8	-2.7
<i>of which</i> : Government's cash deficit (excluding credit)	1.9	2.9	3.6	11.3	4.4	-0.6
Net repayment of credit by the public ^a	-0.1	-0.1	0.0	0.0	0.0	0.0
Privatization proceeds	-0.1	-0.2	-0.1	0.0	-0.9	-0.9
Funding beyond the financing deficit ^b	-0.5	-0.1	-0.4	1.6	0.4	-1.2
Revaluation of shekel-denominated indexed debt ^c	0.1	0.2	0.2	-0.2	0.8	1.6
Revaluation of foreign currency-denominated debt	-0.6	0.5	-0.6	-0.4	-0.4	1.0
Adjustment to issuance costs	0.0	-0.1	-0.2	-0.4	-0.2	0.1
Remainder ^d	0.1	-0.2	-0.1	-0.4	0.3	-0.3
Debt at year end	59.7	59.9	58.8	70.6	67.9	60.7

^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.

In 2022, as the pace of inflation increased in Israel, capital raising by the government changed. The CPI-indexed portion of capital raised was reduced to 35 percent, compared to 45 percent in 2021. In particular, the nontradable indexed portion (Figure 6.14) was reduced, due to the cancellation of the issuance of earmarked bonds.⁵¹ Along with the reduction in CPI-indexed borrowing, the government expanded its borrowing overseas, so that the portion of debt indexed to foreign currency grew to 16 percent of total borrowing this year, after declining sharply in 2021. The share of borrowing in foreign currency was relatively stable prior to the COVID-19 years, and it would appear that

⁴⁹ Velandia-Rubiano, David-Pur, and Cabral (2022). “What is the Role of Inflation-Linked Bonds for Sovereigns?”, World Bank Group.

⁵⁰ There are available statistics only for tradable indexed debt, probably because nontradable indexed debt is not very common in other countries.

⁵¹ The issuance of nontradable bonds ceased in October 2022, and was replaced by a government undertaking to ensure an indexed return of 5.15 percent for that share of the pension fund portfolio (30 percent) that until now had benefited from earmarked bonds. Should the fund's average annual return be lower than 5.15 percent (indexed to the CPI) over five years, a nonbudget fund would make up the annual return to 5.15 percent (indexed to the CPI), and in case of higher returns, the excess would be transferred to the fund.

after massive borrowing in 2020 and a sharp decline in 2021, the share of overseas borrowing returned to its precrisis level.

The composition of borrowing this year had a slight effect on the stock of government debt. Total government debt declined, with reductions in all borrowing channels (other than foreign currency), with the most significant reduction being in the unindexed fixed interest portion (Figure 6.15). About half of the public debt consists of CPI-indexed bonds, which makes it more costly to maintain this debt in periods of high inflation.

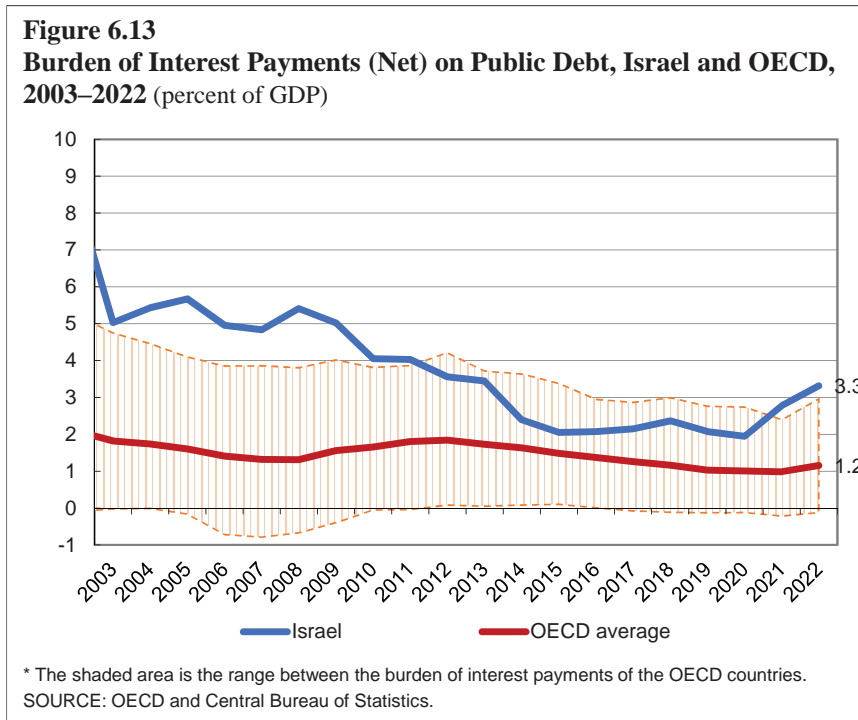
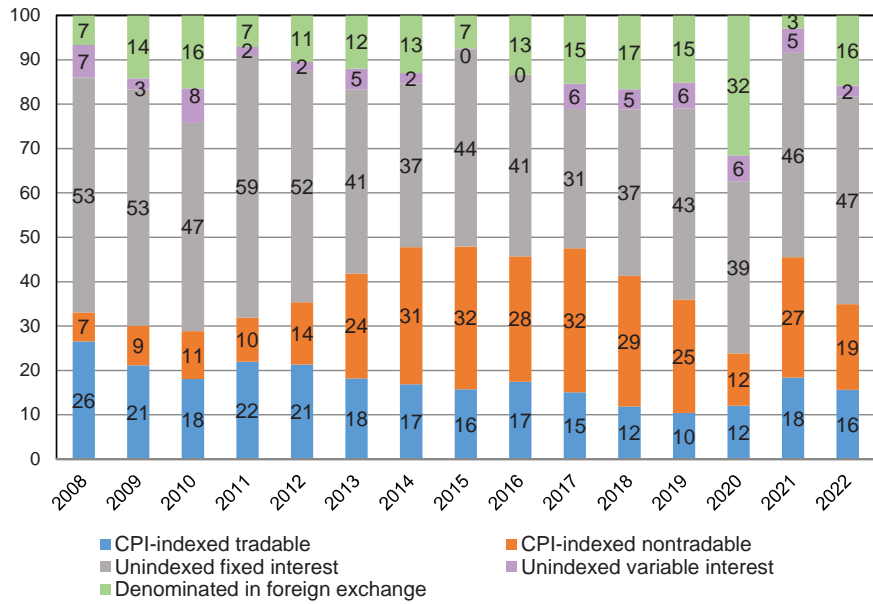
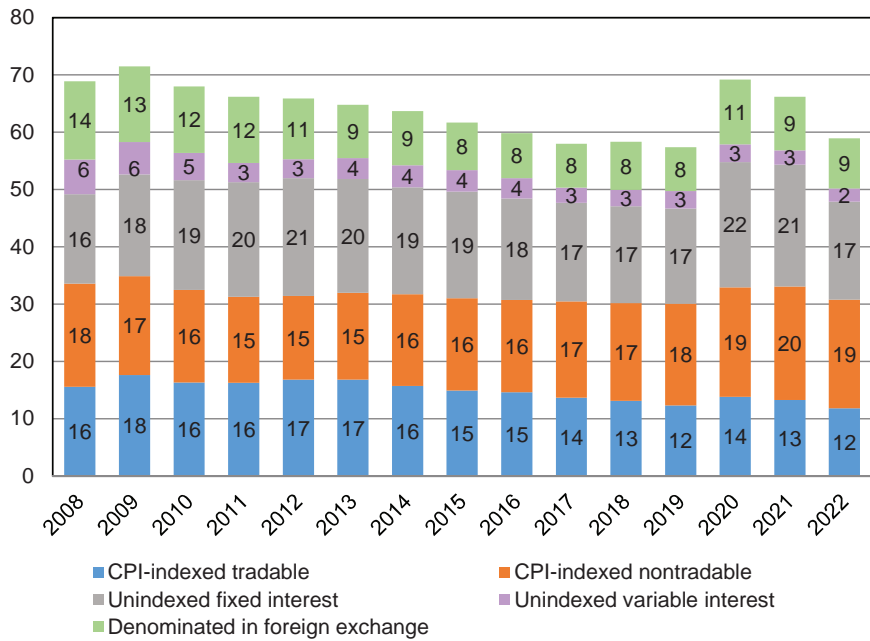


Figure 6.14
Composition of Capital Raised by the Gov't, 2008–2022 (share of total capital raised)



SOURCE: Based on Ministry of Finance.

Figure 6.15
Outstanding Gov't Debt by Component, 2008–2022 (percentage of GDP)



SOURCE: Based on Ministry of Finance.

BOX 6.1: LANDFILL LEVY AND CLEANUP FUND AS ECONOMIC TOOLS FOR HANDLING MUNICIPAL WASTE IN ISRAEL

- The percentage of total municipal waste in Israel that is sent to landfills—treatment resulting in local and global environmental hazards—is very high, and the percentage of advanced waste treatment is very low compared to other advanced economies.
- Since 2007, when the landfill levy was applied to municipal waste in Israel, the percentage of waste sent to landfills has declined very slightly. It would appear that in the absence of advanced alternatives for waste treatment, the levy by itself does not bring about a significant reduction in landfill use.
- There is a noticeable lack of incentives to residents to reduce waste as much as possible, whether by transition to direct payment by waste volume, or by requiring residents to separate waste into categories.

Reducing the volume of municipal waste and improving waste treatment methods are key environmental objectives. Achieving these targets involves the use of economic tools, as well as the use and enforcement of regulations. The importance of regulatory tools, as shown by experience from other advanced economies, is highly significant, and reflects social norms. However, this box is focused on economic tools alone.

In Israel, a levy of NIS 108 per ton is applied to municipal waste sent to designated landfills. This levy is paid by local authorities, which are in charge of waste disposal, and is the primary economic tool for internalizing the external impact of municipal waste in Israel. Revenues from this landfill levy are transferred to a cleanup fund at the Ministry of Environmental Protection (hereinafter: “MEP”). This fund is designated to serve as a source for financing the development of landfill alternatives.

This box provides an international perspective over time of how municipal waste is treated in Israel, in view of the landfill levy application since 2007.¹

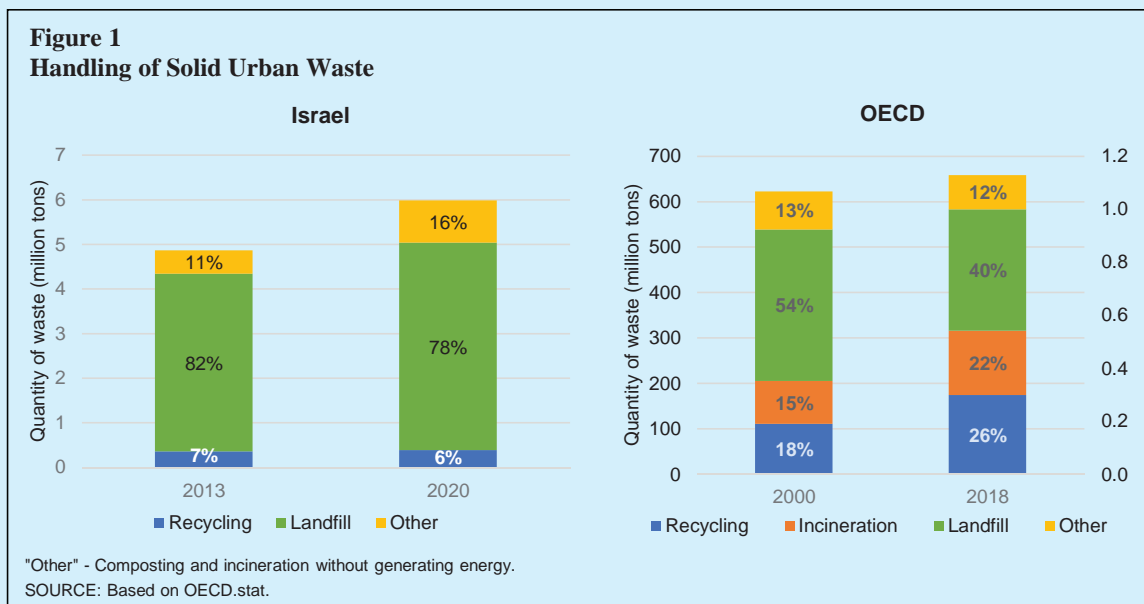
International overview

In the early 1980s, countries started to realize that environmental policy should focus on reducing the damage caused by municipal waste, in addition to encouraging and incentivizing a reduction in the production of such waste. This meant transition (to a varying degree from country to country) from burying waste in landfills to recycling and controlled incineration of

¹ The Bank of Israel *Annual Report* has addressed waste treatment policy in Israel on two occasions: in 2009, in the context of the application of the landfill levy in 2007 (Waste Disposal and the Landfill Tax, Bank of Israel *Annual Report* for 2009, pp. 360–365), and from a wider perspective in 2019 (Municipal Solid Waste: The Problem and Economic Tools to Deal with It, Bank of Israel *Annual Report* for 2019, Selected Issues, pp. 26–37). For analysis from a different perspective, see: S. Daskel and A. Ayalon (2020), “Treatment of Solid Municipal Waste in Israel: Roadblocks, Removing Them and Means of Acceleration”, *Ecology and Environment* (4)11.

waste, generating energy from such incineration.² Thus, for example, the volume of municipal waste per capita in EU countries was practically unchanged from 1995 to 2020, while total waste continued to increase due to population growth. Waste sent to landfills, as percentage of total municipal waste, decreased in this period from 61 percent to 23 percent.

The volume of municipal waste treated at incineration plants doubled, while the volume of waste treated at recycling plants tripled.³ The same essentially applies to the wider group of OECD countries: stable volume of municipal waste per capita, despite growth in per-capita GDP; a slight increase in total waste volume due to population growth; a decrease in waste sent to landfill, and increases in recycling and incineration to generate energy (Figure 1).



There are no “generally accepted” quantitative estimates of the financial cost of waste treatment by landfill, incineration with energy recovery⁴, and recycling. The range of reported prices is fairly wide and dependent on the country, timing, type of technology, degree of economic development, and so forth, but it is possible to discern a ranking of costs. The cost of capital required for setting up waste treatment plants (per ton of waste) is lowest for landfill, higher for recycling plants, and highest for incineration plants.⁵ The willingness of rich countries to bear the increased financial cost of municipal waste treatment due to the transition to recycling

² Mazzanti and Zoboli (2008). “Waste Generation, Waste Disposal and Policy Effectiveness”, *Resources Conservation and Recycling*, 15: 1231–1234.

³ Municipal waste statistics data from Eurostat.

⁴ The MEP uses the term “energy recovery from waste”.

⁵ Silpa Kaza, Lisa Yao, Perinaz Bhada-Tata, and Frank Van Woerden (2018). “What a Waste 2.0: A Global Snapshot of Solid Waste Management to 2050”, Urban Development Series. World Bank.

and incineration, reflects the realization of the external cost of waste treatment, particularly the environmental damage caused by the use of landfills. Previously, local environmental impact has played a key role in motivating the reduction of waste sent to landfills, but currently, the key rationale for the transition to incineration or recycling of waste is the reduction of greenhouse gas emissions compared to sending waste to landfills. First, direct emissions generated due to the use of landfill are avoided. Second, waste incineration in facilities where energy is generated from waste saves on the greenhouse gas emissions that would have resulted from the use of fossil fuels (such as gas or coal) to generate the same energy. Furthermore, the recycling of waste components eliminates the need to manufacture such components, including the greenhouse gas emissions involved. In addition to these, transporting waste to landfills often involves long trips by heavy vehicles, which also result in greenhouse gas emissions. In fact, between 1995 and 2020, green gas emissions generated by waste in the EU declined by more than one-third, due to treatment of municipal waste.⁶ A major milestone in the transition from using landfills to recycling in Europe was the EU Landfill Directive of 1999, which required EU members to gradually reduce waste disposal using landfills.⁷ This and subsequent directives resulted from a conceptual change among EU policy makers.

The implementation of EU directives, i.e. how to reduce the use of landfills and expand advanced treatment, is country-specific and does not offer a common pattern. An analysis of municipal waste treatment policy across 32 European countries, for example, shows that nearly one-third of these have a nation-wide provision for collecting payment from residents based on waste volume and type; nearly one-third have such provisions in some areas of the country; and in the remaining countries, residents do not pay directly for waste treatment. The difficulty in pinpointing the common traits for countries in each group is shown by the fact that Ireland is in the first group of countries, but the UK, its neighbor, is in the third group. The same goes for Scandinavian countries, where Finland and Sweden are in the first group, Denmark is in the second, and Norway is in the third group. Another example has to do with the scope of upgrades to treatment of municipal waste. In most countries, the upgrades are nation-wide, but in seven countries (some small and some large), treatment upgrades only apply to some areas and are not nation-wide. The same is true for a range of criteria.⁸ In general, the reduction in the use of landfills is attributed to a combination of prohibitions on using landfills, setting of recycling targets and standards, mandatory separation at source, taxation applied to the use of landfills, expansion of manufacturer warranty laws to packaging, and so forth.⁹

A study of payment arrangements for waste disposal and treatment in advanced economies and in emerging markets found many significant differences in such arrangements between countries (and often within the same country as well), with only partial linkage between the state of development of the country and collection of payment by waste volume and type. However,

⁶ Municipal waste statistics data from Eurostat.

⁷ Council Directive 1999/31/EC of 26 April 1999.

⁸ “Municipal Waste Management Across European Countries” (2016, updated 2022), European Environmental Agency.

⁹ “Waste Management and the Circular Economy in Selected OECD countries”, OECD, 2019.

even in advanced economies, most often a uniform payment is collected from residents, rather than variable payment by waste volume and type.¹⁰

Israel

As noted, sending municipal waste to landfills is generally understood to be the worst solution in environmental terms.¹¹ At the national level, landfills take up land and cause damage to the outdoors, result in aesthetic and odor hazards, pollute soil and water reservoirs, and lead to air pollution due to the transport of waste to the landfill. At the international level, it involves significant greenhouse gas emissions (mostly methane): Methane accounts for 9 percent of all greenhouse gas emissions in Israel (in CO₂ emission equivalent terms), mostly (77 percent) originating from municipal waste landfills.¹² Moreover, such damage is permanent, or at least continues for many years after landfill operations have been completed. Therefore, using landfills as the primary waste treatment solution is considered non-normative in advanced economies.¹³ In similar fashion, the percentage of waste sent to landfills in the country is considered a key criteria with respect to the country's environmental performance. In this regard, Israel is ranked very low (Figure 2), because the share of recycling in Israel is one of the lowest among advanced economies, and Israel has no waste incineration facilities for energy production (Figure 1).

The hierarchy of methods that are preferable, from an environmental perspective, to the use of landfills is: (1) Reduce the volume of raw waste at the source; (2) Separate organic waste from dry matter, including separation of paper, plastics, glass, etc. and recycling these as much as possible; and (3) Incinerate nonrecyclable waste while using the energy generated from such incineration. Landfills should be used only for the remaining waste. As noted, these methods are more costly over the short term—i.e. in direct monetary terms—than direct use of landfills.

In Israel, the primary tool used to reflect the cost of waste treatment and the cost of external impact of waste generation and use of landfills is the landfill levy. This levy is paid by local authorities, based on the volume of waste they send to landfills. Such a levy may result in realization of the overall cost of waste generation and use of landfills and in reducing the use of the landfills. This may come about either through reducing waste volume in the first place (such as reduced use of packaging if authorities impose the levy payment directly on businesses / manufacturers) and/or by separating waste (by residents) into different components and recycling them as appropriate. However, local authorities in Israel do not impose the landfill levy directly on residents and businesses based on the volume of waste they generate. Instead, the levy is included within the local authorities' general expenses, which are financed by property tax and other municipal taxes. This indirect application of the levy does not create a direct incentive

¹⁰ Bruno Ribas Alzamora and Raphael Tobias de V. Barros (2020). "Review of Municipal Waste Management Charging Methods in Different Countries", *Waste Management*, 115: 47–55.

¹¹ Directive 2008/98/EC of the European Parliament and of the Council on Waste.

¹² Central Bureau of Statistics, Israel National GHG Inventory, 2021.

¹³ When Israel joined the OECD, it undertook to promote environmental management of waste treatment facilities. Doron Lavie, 2020, p. 294.

for residents to reduce the volume of waste.¹⁴ Apparently, a combination of the difficulty in enforcing restrictions on throwing away waste, especially in dense urban areas, and the low cost of this levy compared to alternatives to landfill, reduces the incentive for local authorities to act more diligently in this matter.

By law, the landfill levy payments are transferred to a cleanup fund for development of environmentally friendly alternatives to landfills.

Landfill levy—economic aspects

The rationale behind the landfill levy is obvious: internalizing the cost of the external impact of waste treatment, by those who generate it.¹⁵ Channeling the levy proceeds directly to waste treatment is also based, apparently, on sound economic logic: remedying this external impact. The levy amount was gradually increased, and is currently about 10 times higher than it was in 2007, but is still low compared to the levy in other OECD countries (Figure 2).¹⁶

In terms of the levy's success rate in achieving its objectives, waste sent to landfills as percentage of total waste decreased by only five percentage points (from 82 percent to 77 percent) from 2014 to 2019, and it remained nearly double the OECD average percentage. Moreover, Figure 2 depicts the cost of using landfills vs. rate of landfill use in European countries and in Israel, and the trend line reflecting the link between the cost of using landfills and the percentage of waste sent to landfills.¹⁷

An examination of this trend line reveals that for the cost of using landfills in Israel, the percentage of waste sent to landfills is higher than “predicted” by the trend line. That is to say, the actual percentage of waste sent to landfills is far higher than expected based on the cost of using landfills. Moreover, the cost of using landfills is just one component of the cost of waste treatment for local authorities. Additional costs include collection and transportation to landfills, among others. This also explains the partial link between the levy amount and the percentage of waste sent to landfills. This examination supports the impression that the relatively low cost of using landfills in Israel is not the primary reason why the percentage of waste sent to landfills remains high in Israel. Therefore, apparently raising the landfill levy in the absence of advanced alternatives for waste treatment would not significantly reduce the use of landfills.¹⁸

¹⁴ An analysis of the important interface between government and local authorities with regard to the treatment of municipal waste is beyond the scope of this box.

¹⁵ Calculating the external impact of landfills is highly complex. Therefore, the levy amount in different countries primarily reflects the environmental perceptions and political forces in each country. See: “Strategy for a Sustainable Waste Economy, 2021–2030, 2020”, Ministry of Environmental Protection, p. 94.

¹⁶ OECD (2019). “Waste Management and the Circular Economy in Selected OECD Countries”.

¹⁷ Cost of landfill use for the landfill user = landfill levy + gate fee. The landfill levy is charged by weight, collected by the landfill site operators, and transferred to the Ministry of Environmental Protection. The gate fee reflects the cost of operation and profit for the landfill site.

¹⁸ See Ministry of Environmental Protection (2020), “Strategy for A Sustainable Waste Economy, 2021–2030”, p. 128, which contains a recommendation to increase the levy to NIS 173 per ton or higher, since this is the external cost of greenhouse gas emissions from landfill use. For an international overview of waste taxation based on the volume of waste produced, see *ibid*, pp. 97–98.

The failure of the pricing mechanism to reduce the volume of waste is due to the fact that waste producers—businesses and residents—do not pay by the volume of waste they generate, as the levy that municipalities pay to landfill operators is absorbed among all of the payments made by businesses and residents to the municipality. As there is no link between the waste volume and the amount of the levy imposed, one cannot expect a change in behavior that would reduce the volume of waste. From the economic aspect, what is called for is in fact a stronger link between the volume of waste generated by residents and the burden of treating this waste, whether by charging a payment or by requiring residents to separate the waste into different containers.¹⁹

The cleanup fund – economic aspects

The cleanup fund was established in 1986 and is administered by the Ministry of Environmental Protection. Its stated objective is to pool money to be used for waste treatment and for other targets. Some 90 percent of fund revenues are derived from the landfill levy.²⁰ The fund does not follow a predefined plan for use of this money, but rather works through ad-hoc transfers of funds to government ministries and by issuing tenders and calls for action.²¹

Since inception of the fund, only one-third of its revenues was used to upgrade waste treatment. This is due to existing barriers in planning, land allocation, and financing mechanisms, as well as the NIMBY²² effect—all of which hamper the creation of waste treatment facilities. The mirror image of the use of the fund's money is the surplus accumulated in the fund – NIS 3.2 billion in 2020.

These emerging challenges to the operation of the cleanup fund are not unique. Global experience with dedicated taxation and dedicated funds shows that a precondition for the success of these funds is advance planning with regard to the timing of fund revenues and expenditures. Correct planning would allow, for example, the accumulation of money in a dedicated fund already in the project planning stage and prior to execution, so that the start of execution would not be delayed due to budgetary constraints. Moreover, accumulating money in the fund with no detailed plans as to its use may be wasteful and may unnecessarily make the budget limitation for other government actions more rigid. It is therefore important that further operations of the cleanup fund in Israel—and similar funds—be based on a clear and feasible multiyear work plan regarding the use of the revenues in accordance with the fund's specified objectives.²³

¹⁹ Furthermore, the high use of landfills may also reflect differences in the importance attributed to environmental protection by residents in Israel and elsewhere.

²⁰ These payments are managed in the landfill levy account. In addition to this account, there are also the general account, deposit account, and plastic bag account.

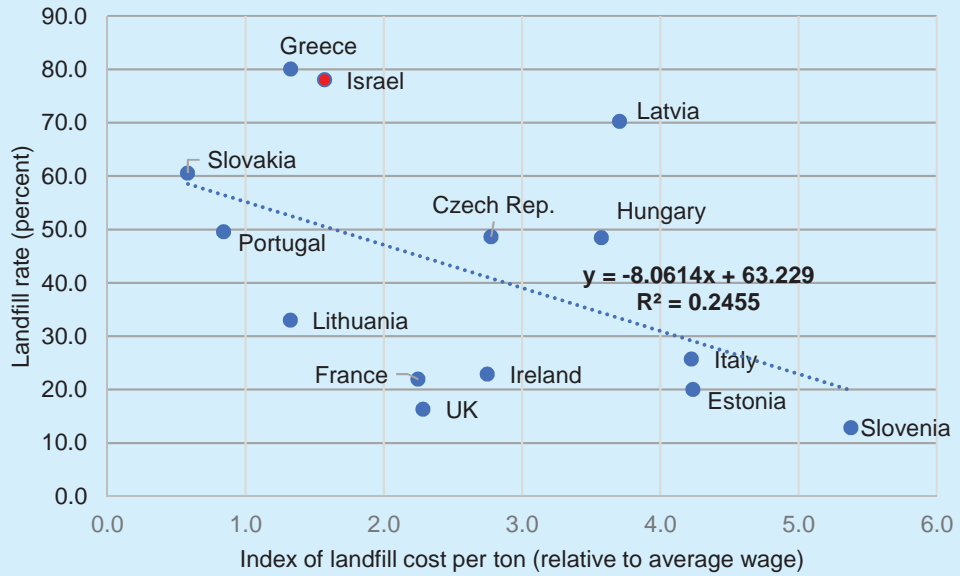
²¹ For a detailed analysis of the fund's operations, see: "The Cleanup Fund—Financial Aspects", State Comptroller's Report, May 2022.

²² Acronym: Not In My Back Yard, meaning objection by residents to having a public facility established near their residence.

²³ See Ministry of Environmental Protection (2020), "Strategy for A Sustainable Waste Economy, 2021–2030", p. 128, which contains a recommendation to establish a new fund to finance landfill rehabilitation. The Ministry of Environmental Protection's positive stance on establishing environmental funds is based on EU directives on this matter.

Figure 2

Landfill Rate and Cost in Various Countries



Landfill rates in 2017, landfill costs in European countries in 2013 and in Israel in 2017.
 SOURCE: Based on Ministry of Environmental Protection.

