Chapter 6

The General Government, Its Services and Their Financing

- The government budget deficit widened from 3.3 percent of GDP in 2011 to 4.2 percent of GDP in 2012, above the ceiling of 2 percent of GDP that was set when the budget was approved, and higher than the estimate of 3.4 percent of GDP presented by the Ministry of Finance at the beginning of the year.
- Fiscal policy for 2012 was expansionary, and the cyclically adjusted deficit increased to a level similar to that of 2003, the year in which the share of public expenditure in GDP began to fall.
- The public debt to GDP ratio declined from 73.9 percent in 2011 to 73.0 percent at the end of 2012, continuing the trend of recent years. At the same time, the current level of the deficit will make it difficult for this trend to continue.
- For the first time since 2006, government expenditure (excluding credit) was greater than the original budget. The government continued to increase its expenditure commitments for the coming years beyond the expenditure ceiling set by law.
- The rate of increase in tax revenues in 2012 was much slower than what the Ministry of Finance projected, and the level of tax revenue was below forecast.
- The government raised tax rates in 2012 in order to reduce the deficit. Some of the increases entered into force during the year, and some at the beginning of 2013.
- Since 1992, the government has adopted multi-year deficit targets that gradually decrease over a period of 3-5 years. The actual deficit level in most years was much higher than the path delineated by these targets. In 2012, the government again changed the previous deficit rule and set a new, higher path of a declining deficit.
- Yields on government bonds issued this year declined to historic lows. They remained higher than those of advanced economies, and the gap grew this year.
- Since the middle of the 1990s, the budget discipline of local authorities has improved. The ratio between their debt and their revenue declined significantly, despite less support of their budgets from the government.
- Changes in the tax rates and in public expenditure in Israel affect short-term economic activity.

1. MAIN DEVELOPMENTS FROM AN INTERNATIONAL PERSPECTIVE

The general government deficit increased in 2012 by about 1 percent of GDP, but public debt as a share of GDP declined due to the rapid growth of nominal GDP. The increase in the deficit derived from a decline in tax revenues as a share of GDP, resulting from low volume of imports of consumer products and of sales in the housing market. Government expenditure in 2012 was higher than budgeted for the first time since 2006, and the deficit was greater than the target—a phenomenon that has repeated itself since deficit targets were enacted 21 years ago. Even though it seemed that the deficit would be greater than the target, the government decided upon additional expenditures at the beginning of the year. Only in the middle of the year, when it became clear that the deficit would be even larger, were tax rates raised in order to reduce it. VAT and taxes on cigarettes and beer were increased in 2012, and income tax was raised effective at the beginning of 2013.

The deficit and the cyclically adjusted deficit are high and rising.

Israel enjoyed the highest growth rate in the OECD in 2012, while its deficit was among the highest. Israel's cyclically adjusted deficit increased, while that of OECD countries has been in decline since 2010. Since interest on Israel government bonds is higher than that which most other advanced economies must pay, due to Israel's high country risk, financing the public debt in Israel is more expensive. It is therefore important to shrink the deficit to levels that will enable the continued decline of the public debt to GDP ratio to lower levels than in those countries.[1]

The deficit in OECD countries declined between 2010 and 2012. In contrast, the deficit in Israel continued to increase.
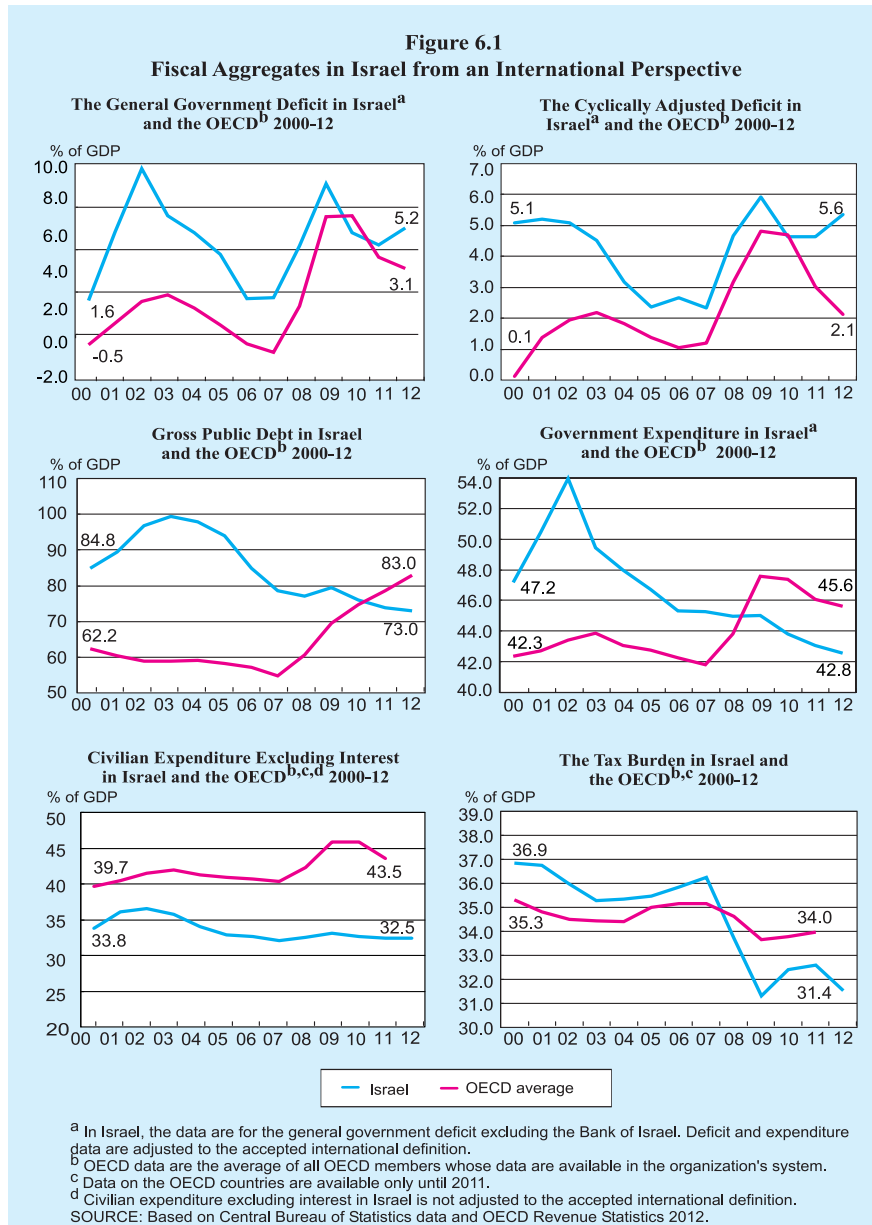
Tax revenues in OECD countries declined in 2008 and 2009 due to the negative impact of the economic crisis and the reduction of tax rates in a number of countries with the aim of accelerating growth (Figure 6.1). Public expenditure in these countries increased during those years due to the actions of automatic stabilizers actions and the implementation of many plans to accelerate the economy. These changes led to an increase in the deficit and debt in OECD countries between 2010 and 2012. Despite the crisis's harmful effects, most of them acted decisively, starting in 2010, to lower their deficits. Between 2010 and 2012, most of them raised tax rates, both direct and indirect, and began to reduce public expenditures. As a result, they reduced their deficits, and are working to return them to levels of before 2008 (when the financial crisis broke out). In contrast, the deficit in Israel continued to increase during that period.

The tax burden and public expenditures as a share of GDP in Israel are lower than the OECD average. Civilian expenditure as a share of GDP in Israel is among the lowest in the OECD.

Despite the retreat from the tax reduction path, the tax burden in Israel remains low, both compared to the past, and compared to other advanced countries. Accordingly, the level of public expenditure as a share of GDP in Israel is lower than both the average and the median in advanced economies. Since interest expenses as part of GDP are higher than in most OECD countries and defense expenditures in Israel are higher than in the other OECD countries, civilian expenditure excluding interest as a share of GDP in Israel, which serves as an indicator of the supply of public services and the government's ability to intervene in the distribution of income in the economy,

[1] For details, see the "Public Debt" section.

is the lowest among OECD countries, other than South Korea.[2] In the past decade, interest payments as a share of GDP declined by 2.6 percentage points, due to a decline in the debt to GDP ratio and a decline in interest rates. Defense expenditures as a share of GDP and as a share of the budget also declined, due to the implementation of the Brodet Committee Framework for reducing those expenses. At the same time, Israel's regional risks and the direct and indirect economic burden they pose—defense and interest expenses—limit the country's ability to provide public services at levels acceptable in OECD countries.

Figure 6.1
Fiscal Aggregates in Israel from an International Perspective

The General Government Deficit in Israel[a] and the OECD[b] 2000-12

The Cyclically Adjusted Deficit in Israel[a] and the OECD[b] 2000-12

Gross Public Debt in Israel and the OECD[b] 2000-12

Government Expenditure in Israel[a] and the OECD[b] 2000-12

Civilian Expenditure Excluding Interest in Israel and the OECD[b,c,d] 2000-12

The Tax Burden in Israel and the OECD[b,c] 2000-12

— Israel   — OECD average

[a] In Israel, the data are for the general government deficit excluding the Bank of Israel. Deficit and expenditure data are adjusted to the accepted international definition.
[b] OECD data are the average of all OECD members whose data are available in the organization's system.
[c] Data on the OECD countries are available only until 2011.
[d] Civilian expenditure excluding interest in Israel is not adjusted to the accepted international definition.
SOURCE: Based on Central Bureau of Statistics data and OECD Revenue Statistics 2012.

[2] There are no data for this variable in the OECD databases regarding Chile, Mexico or Turkey.

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Table 6.1

**The Main Components of Revenue and Expenditure of the General Government[a],
2003–12**

(percent of GDP)

	2003	2007	2008	2009	2010	2011	2012
Total public revenue	**44.0**	**43.3**	**40.5**	**37.6**	**38.8**	**38.8**	**37.6**
Income from property	1.4	1.1	1.0	0.9	0.8	0.7	0.7
Total taxes	35.3	36.3	33.7	31.3	32.4	32.6	31.6
Indirect taxes on domestic production	13.1	12.4	12.3	12.2	12.7	12.6	12.2
Indirect taxes on civilian imports	3.7	4.5	4.2	3.9	4.1	4.1	3.8
Direct taxes, fees and levies	12.5	13.8	11.7	9.9	10.1	10.3	10.2
National Insurance revenue	6.0	5.5	5.6	5.4	5.6	5.6	5.4
Grants	3.4	2.3	2.1	1.8	1.9	1.8	1.7
Other[b]	3.9	3.7	3.7	3.6	3.7	3.6	3.5
Total public expenditure	**50.1**	**43.9**	**43.1**	**43.2**	**42.6**	**42.1**	**42.1**
Current expenditure	46.4	40.4	39.3	39.5	39.0	38.7	38.7
Domestic civilian consumption	19.0	17.6	17.8	17.8	17.9	17.9	18.1
Domestic defense consumption	6.6	5.7	5.6	5.5	5.3	5.2	5.0
Defense imports	1.8	1.5	1.2	1.0	1.0	1.0	1.0
Direct subsidies	0.9	0.8	0.8	0.8	0.7	0.7	0.7
Transfer payments on current account	12.2	10.2	10.2	10.7	10.6	10.5	10.5
Interest payments	5.9	4.6	3.6	3.7	3.5	3.5	3.3
Transfer payments on capital account[c]	1.2	1.8	2.0	2.1	1.8	1.6	1.7
Investments of general government	2.5	1.7	1.8	1.7	1.7	1.8	1.6
Total deficit of the general government	**6.1**	**0.6**	**2.6**	**5.6**	**3.7**	**3.3**	**4.5**
Deficit using international definition	5.6	1.7	4.2	7.1	4.8	4.2	5.2
Current deficit of general government	5.3	0.3	2.0	4.9	3.6	3.3	4.3
Total cyclically adjusted deficit[f]	3.4	1.4	3.8	4.9	3.5	3.7	4.7
Total cyclically adjusted deficit using international definition[g]	4.5	2.1	4.9	5.8	4.4	4.5	5.6
Net public debt[d,e]	87.6	69.2	69.1	70.8	69.1	68.0	67.3
Gross public debt[d]	99.4	78.5	77.1	79.5	76.0	73.9	73.0

[a] This table no longer includes the Bank of Israel balance sheets, because the Central Bureau of Statistics has adopted the internationally accepted norms which exclude the central banks.

[b] Including transfer payments from the public on the current and capital accounts, imputed pensions, depreciation, capital transfers from abroad, and transfers from abroad to National Institutions and nonprofit organizations.

[c] Including mortgage subsidies and transfers on the capital account to nonprofit organizations and businesses.

[d] Percentage of GDP at year end.

[e] Excluding municipalities' debts to the government.

[f] Interest expenses are calculated on the assumption that the inflation rate during the year was 2 percent, and not according to the actual inflation rate.

[g] The deficit was adjusted in this item to the accepted international definition by adding linkage differentials on the indexed and unindexed shekel debt, assuming inflation of 2 percent.

SOURCE: Based on Central Bureau of Statistics data.

2. THE TOTAL DEFICIT AND THE CYCLICALLY ADJUSTED DEFICIT

The total deficit of the general government increased by one percent of GDP, to 4.5 percent of GDP (Table 6.1). This is a high deficit level, given the growth and employment in the economy in recent years.[3] The government budget deficit (excluding the provision of credit) increased to 4.2 percent of GDP in 2012, compared with 3.3 percent of GDP in 2011, and exceeded both the deficit target and the government's deficit forecast from January 2012, which was 3.4 percent of GDP (Table 6.2), mainly due to revenue that was NIS 18.5 billion lower than the budget forecast, alongside expenses that were NIS 2.2 billion higher than originally budgeted (Table 6.3). The budgetary balance of the local authorities improved in recent years, and moved into surplus in 2011–12, following a small deficit in 2004–09 (Box 6.2). In contrast, public non-profit institutions (which are mainly the health funds and the universities) moved from a budget surplus to a deficit in 2008, and their deficits have since increased, reaching 0.4 percent of GDP in 2012, mainly due to a decline in government transfer payments to them, *inter alia* to the health funds[4], despite the stability of their expenses as a share of GDP.

The general government deficit, the government's budget deficit and the public non-profit organizations' deficit increased this year. In contrast, the local authorities had a budget surplus.

Table 6.2
Central Government Deficit, Revenue and Expenditure, 2007–12

(percent of GDP)

	2007	2008	2009	2010	2011	2012
Total government deficit ceiling excluding credit granted	2.9	1.6	6.0	5.5	3.0	2.0
Total actual government deficit excluding credit granted	0.1	2.0	5.1	3.7	3.3	4.2
Actual government domestic deficit	-1.4	0.5	3.7	2.5	2.2	3.1
Total net revenue[a]	**32.7**	**30.1**	**26.8**	**27.4**	**27.4**	**26.6**
Taxes and imposts	28.1	25.6	23.3	24.1	24.3	23.7
Interest, profits, royalties, revenue from land sales	0.9	1.0	0.7	0.6	0.5	0.4
Loan from the National Insurance Institute (NII)	2.1	2.1	1.6	1.4	1.6	1.5
US government grants	1.5	1.3	1.1	1.3	1.0	1.0
Total net expenditure[a]	**32.7**	**32.2**	**31.9**	**31.1**	**30.7**	**30.8**
of which: Interest, repayment of principal to NII and credit subsidy	6.0	5.5	5.4	5.2	5.1	5.1
Net defense expenditure[b]	8.1	7.9	7.5	7.5	6.9	6.7
Total net primary civilian expenditure	18.7	18.7	19.1	18.4	18.7	19.0

[a] After deducting government repayment of credit from the public.

[b] 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.

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, 2012.

[3] The general government includes the government, national institutions, public non-profit institutions, the National Insurance Institute, and the local authorities. (For a listing, see Table 6.9 in the Appendix.)

[4] For details on the health fund deficits, see the Government Services and Targets section.

Table 6.3
Components of the Deviation from the Government's Original Budget for 2012
(NIS billion, net, excluding credit, at current prices)

	Actual performance in 2011	2012		
		Original budget	Performance	Deviation
Deficit (–)	**-28.7**	**-18.3**	**-39.0**	**-20.7**
of which: Domestic deficit	-24.4	-15.1	-33.5	-18.3
Deficit abroad	-4.3	-3.2	-5.5	-2.4
Revenue	**238.7**	**265.1**	**246.6**	**-18.5**
of which: Domestic revenue	229.1	254.9	236.7	-18.2
Taxes[a]	210.7	233.8	219.7	-14.2
Loan from the National Insurance Institute	14.0	15.8	14.0	-1.9
Other revenue[b]	4.0	6.8	4.1	-2.6
Grants from US government	8.6	8.7	8.9	0.2
Expenditure[a]	**267.4**	**283.4**	**285.6**	**2.2**
of which: Domestic expenditure	253.5	270.0	270.2	0.2
Expenditure abroad	13.9	13.4	15.4	2.0
Defense	59.9	60.3[c]	62.0	1.7
Interest, repayment of principal to National Insurance Institute, and credit subsidy	44.6	47.7	46.9	-0.8
Civilian ministries and transfer payments	162.9	176.7	177.4	0.7

[a] Including VAT on defense imports.

[b] Revenue from interest, royalties, dividends and other revnue.

[c] Including estimated transfers to defense from the economic reserve.

SOURCE: Based on the Accountant General's Data on the Performance of the 2012 Budget.

The main reason for the deficit exceeding the target in 2012 is that tax revenues were lower than projected in the budget.

There are a number of reasons for the deficit exceeding the target in 2012, with the main one being that tax revenues were lower than projected in the budget. It was already clear in 2011 that revenue would be markedly lower than forecast, but the government, which was acting within a two-year budget framework, decided to avoid adjusting revenues and expenditures to this reality. At the beginning of 2012, the Ministry of Finance updated its tax revenue projection to NIS 221 billion, about NIS 11.3 billion less than the original estimate. The government therefore raised the deficit projection for 2012 to 3.4 percent of GDP. This change in the projection did not require policy steps, since the deficit target is only mandatory when the budget is approved and not when it is carried out. Therefore, only revenue neutral tax adjustments were made, at the recommendation of the Trajtenberg Committee for Economic and Social Change.[5]

[5] For details see the Fiscal Discipline and Fiscal Rules section.

Figure 6.2
General Government Deficit Excluding Interest Payments as a Share of GDP in Israel, Compared with Other Advanced Economies, 2003-12

SOURCE: Based on Ministry of Finance data and OECD Economic Outlook.
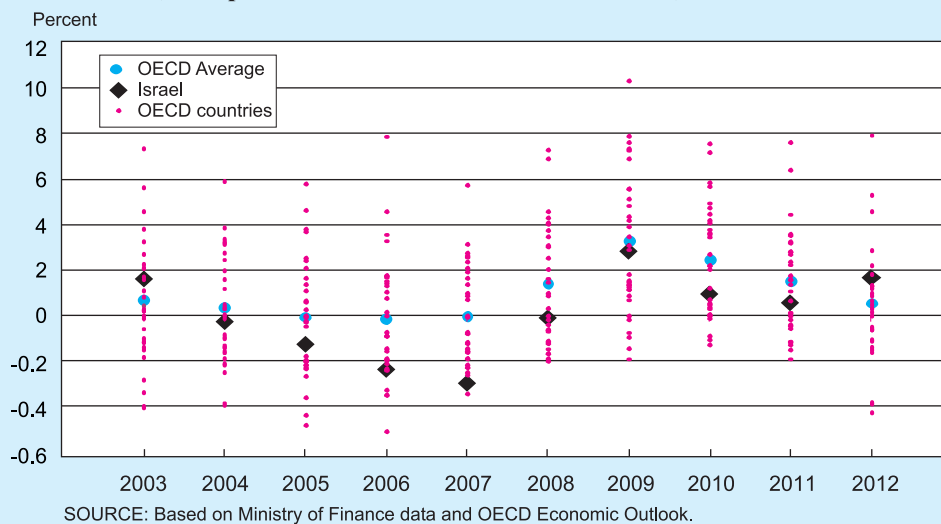
In August 2012, in parallel with raising the deficit ceiling for 2013 and onwards, the government decided to raise tax rates in order to reduce the deficit. The main step for 2012 was increasing VAT by one percentage point to 17 percent, which came into effect in September 2012. This decision included a number of other steps that came into effect on January 1, 2013: increasing income tax by one percentage point for those earning between NIS 14,000 and NIS 36,000 per month, and imposing a 2 percent surtax on income of over NIS 800,000 per year, at the recommendation of the Trajtenberg Committee for Economic and Social Change.[6] The plan increased tax receipts by about NIS 1.5 billion in 2012, and is expected to increase them by about NIS 9 billion in 2013. These increases were important, since they showed the government's commitment to dealing with the deficit. Assuming that the government increases its expenditures as allowed by the expenditure rule and not beyond it, this increase in revenue is not sufficient to bring the deficit in line with the higher target of 3 percent of GDP for 2013.

One of the tools for achieving the aim of lowering government debt is to reduce the deficit excluding interest payments, which reflect the government's past commitments. Its growth in recent years is causing a delay in achieving the aim of reducing the public debt to GDP ratio to 60 percent. After the government deficit excluding interest payments as a share of GDP was reduced, and was among the lowest in the advanced economies, this ratio grew in 2008–2012 compared to most OECD countries, returning in 2012 to its 2003 level (Figure 6.2). Since the burden of interest payments as a share of GDP is close to 4 percent, twice the average in advanced economies (2 percent),

In August 2012, the government decided to raise the deficit ceiling for 2013 and onwards and to raise tax rates.

The deficit minus interest payments increased in recent years, and its increase is delaying the decline in the debt-to-GDP ratio.

[6] For details, see the Public Revenue section.

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the delay in lowering the public debt has a marked economic cost. In order to reduce the burden of interest payments, government debt must be reduced through significant adjustments in the State budget.

Fiscal policy in 2012 was expansionary, as reflected in the high level of the cyclically adjusted deficit[7] (Table 6.1), which increased by one percent of GDP in 2012. It is too early to interpret the entire increase as an increase in the structural deficit[8], since not all the relevant data have yet been updated. At the same time, it is clear that this deficit level in recent years—3.5 to 4.5 percent of GDP—is high and emphasizes the need for fiscal correction. It is important to note that the calculations of this deficit are very sensitive to estimates of potential GDP[9] and to assumptions regarding the strength of the reactions of tax receipts and public expenditure to the increase in GDP. It should also be noted that potential GDP estimates in the world are well-known for the retroactive changes made to them over time.[10]

Since 2008, when the reduction in direct tax on labor was the sharpest in the past decade, the cyclically adjusted deficit has increased noticeably and has returned to around its level of 2003, when the reduction in the share of public expenditure in GDP took place. This phenomenon shows that the adjustment (consolidation) plan of the past decade led, in retrospect, mainly to a reduction in the relative size of government expenditure, and not to a reduction in the deficit. Though prior to the reduction in the tax burden, expenditures were reduced and the deficit declined, in the final analysis, after reductions in taxes, the deficit again rose to a high level, which makes the continued reduction of the debt to GDP ratio difficult. The high level of the cyclically adjusted deficit reduces the government's fiscal maneuvering room and its ability to react to unexpected events without raising the interest rate on the public debt—a situation that increases the risk of the Israeli economy.

The cyclically adjusted deficit increased this year, reflecting the government's expansionary policy.

[7] The "cyclically adjusted" deficit is calculated by comparing the deviation of the potential GDP in a given year from the average deviation from the potential GDP over time, which is about 2 percent. According to this calculation, the average cyclically adjusted deficit is of a similar size over time to the regular deficit. Another assumption is that tax revenues increase over time in proportion with GDP, and that total expenditures and revenues excluding taxes are not sensitive to changes in GDP. The cyclically adjusted deficit is corrected for the effect of capital market developments on tax revenues. The cyclically adjusted deficit "corrects" GDP gaps, capital market deviations from the long-term trend and deviations of the interest rate from its long-term average. It also corrects real interest payment calculations prepared by the Central Bureau of Statistics, in accordance with the assumption that inflation is 2 percent. The calculation does not necessarily present a structural deficit, meaning that not every change in the cyclically adjusted deficit reflects a change in government behavior. At the same time, structural changes in the economy that affect tax receipts or expenditures can occur.

[8] The structural deficit is the cyclically adjusted deficit minus the effects of temporary factors.

[9] The calculation of the potential GDP here is based on the average growth of GDP per capita since 1973, which is 1.7 percent per year—a stable rate over the past few decades, and similar to the trend in advanced economies. According to this calculation, GDP grew in 2012 by 0.5 percent less than the potential GDP, and the cumulative deviation of GDP from its potential level reached 0.2 percent, assuming that GDP was equal to potential GDP in 1997.

[10] See: G. Kempes (2012), "Cyclical adjustment in fiscal rules: some evidence on real-time bias for 15 EU countries", Deutsche Bundesbank discussion paper No. 15.2012.

3. PUBLIC EXPENDITURE

This year, similar to most years since 2008, the nominal growth of public expenditure continued, at a rate of about 6 percent (Table 6.4). This growth in public expenditure and consumption between 2009 and 2012 has greatly moderated the path of decline in public expenditure's share of GDP, a decline that began in 2003. The general government's nominal expenditures increased in 2012 at a rate similar to 2011, and their share of GDP remained the same. Public investments are the only item that declined on a nominal basis in 2012, but within it, investment in transportation infrastructure increased by 16 percent. The rate of growth of civilian consumption accelerated, and both its salary and purchasing components exceeded that of nominal GDP. The slow increase of defense expenditure compared to civilian expenditure is in line with the policy decided upon by the government in 2007 at the recommendation of the Brodet Committee.

The social protests of the summer of 2011 led to an increase in public expenditure. The Trajtenberg Committee for Economic and Social Change, which was established in response to the protests, formulated recommendations that would enable the

Public expenditures increased by 6 percent this year. The growth of civilian expenditures was more rapid than the growth in defense expenditures.

Table 6.4
Rates of Nominal Increase of Public Expenditure in Israel, 2003–12

	Rates of Growth						
	2003	2007	2008	2009	2010	2011	2012
Total public expenditure	0.0	3.3	3.9	6.3	4.6	5.9	6.4
of which: Interest payments	18.6	3.7	-16.7	7.6	1.8	5.8	-0.9
Total primary expenditure	-2.0	3.2	6.4	6.2	4.8	6.0	7.1
of which: Current primary expenditure	-1.5	2.5	5.6	6.2	5.5	6.2	7.1
Current primary civilian expenditure	-0.5	3.1	6.5	7.8	5.9	6.7	7.5
Public consumption	-2.2	3.4	5.6	4.1	6.1	6.2	7.0
Public consumption excluding defense imports	-0.7	4.5	6.8	5.4	6.2	6.2	6.6
Civilian consumption	-0.8	5.1	7.1	5.7	6.9	7.1	7.6
Per capita civilian consumption	-2.5	3.3	5.2	3.9	4.9	5.1	5.7
Wage expenditure	-2.6	3.3	6.5	4.6	7.6	7.5	7.5
Purchases	0.8	7.8	7.7	7.5	6.3	6.5	7.7
Domestic defense consumption	-0.9	3.4	5.4	3.0	3.7	4.0	3.5
Wage expenditure	-2.7	2.4	2.1	3.7	3.6	3.7	2.4
Transfer payments on domestic current account	-1.3	2.6	5.5	10.6	5.2	6.1	7.4
Per capita transfer payments on domestic current account	-3.0	0.8	3.6	8.7	3.3	4.2	5.5
Investments of the general government	1.6	10.0	10.6	1.2	5.5	14.1	-1.6
of which: Land transport infrastructure	51.7	16.7	16.7	0.2	5.1	-0.3	16.0
Transfer payments on the capital account	-22.3	12.2	17.7	11.5	-7.1	-6.8	16.0
Change in CPI (annual average)	0.7	0.5	4.6	3.3	2.7	3.5	1.7
Change in GDP deflator	0.7	0.0	1.1	4.5	0.2	1.7	3.2
Change in public consumption price index	0.1	0.0	3.1	1.9	3.1	3.1	3.1
Change in nominal GDP	0.9	5.7	5.8	5.9	6.3	7.1	6.5

SOURCE: Based on Central Bureau of Statistics data.

The government increased its expenditures by 0.7 percent of GDP at the beginning of 2012, *inter alia* in order to implement some of the Trajtenberg Committee recommendations, without indicating the sources for financing these expenses.

The government's expansionary policy supported economic activity and employment in 2012.

Public expenditures as a share of GDP declined rapidly between 2003 and 2007, and more slowly between 2008 and 2012.

government to respond to the demands of the protests to increase civilian expenditure without deviating from the expenditure and deficit rules. The Committee proposed a number of programs for expenditure and support for citizens, which included tax credits for fathers of children up to the age of 3 and free compulsory education for children aged 3 and 4. Since it was decided that the expenditure steps outlined by the Committee would be financed by cuts in other expenditures, the main budgetary tool for financing the proposed steps was a cut of about 5 percent (NIS 2.5 billion) in defense expenditures. At the beginning of 2012, alongside the decision to carry out a significant portion of the Trajtenberg Committee's recommendations and other expenditure programs, the government decided to increase the defense budget for 2012 by NIS 4 billion, and to delay the beginning of the defense cuts to 2013, but did not decide on financing steps of a similar magnitude. (A broad cut of NIS 760 million was approved.) This decision, which also included a one-time use of reserves in the two-year budget totaling NIS 1.5 billion, increased expenditures in 2012 by about NIS 6.5 billion (0.7 percent of GDP)[11], despite the already published forecasts of low revenue for 2012. This decision contributed to the high rate of budgetary performance in 2012 of 100.6 percent, which was enabled by the transfer of budget surpluses from previous years. For the first time since 2006, the government therefore spent more than the original budget.[12]

The expansionary policy contributed to the growth in demand and to the moderation of the decline in the growth rate in 2012. This is shown, *inter alia*, by the calculation of the fiscal multipliers (Box 6.1), according to which had the government acted to reduce the deficit to the rate forecast at the beginning of 2012—3.4 percent of GDP—economic growth would have been 0.5 percent to 0.7 percent lower. In this context, the government's policy in 2012 supported economic activity and employment, and increased GDP growth.

The social protests of 2011 came about, *inter alia*, in response to the trend of cuts in public expenditure in the past decade. As part of the fiscal reform that began in 2003, public expenditure as a portion of GDP declined rapidly. This decline reduced civilian and defense expenditure and social support payments at similar rates, and shrank public expenditure by 6.1 percent of GDP between 2003 and 2007 (Table 6.5). Between 2008 and 2012, once the plan whose principles were approved in 2003 and 2004 was completed, the rate of decline in public expenditure slowed, while public revenue as a share of GDP declined rapidly. The slowdown in the decline was reflected in a number of ways: The government decided upon a number of medium-term expenditure programs in the fields of defense, education, health, welfare and infrastructure in the budgets for 2008 and following years. In addition, the expenditure ceiling was raised at the beginning of 2007 from growth of 1 percent per year to growth of 1.7 percent per year, and the current expenditure rule was legislated in 2010, increasing expenditure

[11] Bank of Israel, Recent Economic Developments 132, September-December 2011, pp. 10-12, February 2012.
[12] 2006 was the only year in the last 15 years in which budgetary expenditures were higher than the original budget.

Table 6.5
Changes in Public Revenue and Expenditure, by Category, 2003, 2007 and 2012

(% of GDP)

		2003–07	2007–12	2003–12
Revenue	Taxes	1.4	-4.5	-3.1
	Grants[a]	-1.1	-0.5	-1.6
	Property tax	-0.3	-0.3	-0.6
	National Insurance	-0.4	-0.1	-0.6
	Other	-0.3	-0.1	-0.4
	Total	**-0.7**	**-5.6**	**-6.3**
Expenditure	Civilian	-1.4	0.5	-0.9
	Defense[a]	-1.3	-1.0	-2.3
	Interest	-1.3	-1.4	-2.6
	Transfer payments	-1.4	0.2	-1.1
	Investments	-0.8	0.0	-0.8
	Subsidies	0.0	-0.1	-0.1
	Total	**-6.1**	**-1.8**	**-7.9**
Total deficit		-5.5	3.9	-1.6
Cyclically adjusted deficit		-1.9	3.7	1.7

[a] About one-third of the reduction in defense expenditure in 2003–12 was due to the decline in value of the defense grant from the US relative to GDP.

SOURCE: Based on Central Bureau of Statistics data.

in line with growth and the debt-to-GDP ratio. Beginning in 2012, the social protests of 2011 had an effect, and the government has reached decisions in the spirit of the Trajtenberg Committee recommendations.

The government's decision at the beginning of 2012 was part of this process of increasing important future expenditures without presenting financing sources for them, and without examining their effect on how the expenditures in the coming years would meet the expenditure rule.[13] In recent years, many expenditure programs have accumulated that permanently increase expenditures, including the wage agreement with physicians and accompanying public healthcare reforms, the "Oz Le'tmura" (Courage to Change) and "Ofek Hadash" (New Horizon) reforms in education, increasing the minimum wage compared to the average wage, improving the conditions of contract workers in the public sector, the wage agreement with nurses, the "Netivei Yisrael" (Israel Routes) program and other transportation infrastructure projects, the transfer of IDF camps to the Negev, the approval of the Trajtenberg Committee report

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[13] Chapter 6 of the Bank of Israel Annual Reports for 2007-2011 and the analysis of the proposed state budget for 2011 and 2012 compared to budget targets and with a long-term view, Bank of Israel Research Department, Public Sector Area, November 7, 2010.

and the Brodet framework for the Ministry of Defense budget.[14] These programs came about as a response to public demands, and were accompanied by adjustments in conditions and wages in the public sector and in some cases by reforms in widespread parts of government services and its expenditures. The lack of financing for these programs, which would enable their execution without deviating from the deficit ceiling, and the decision to avoid cutting other public expenditures, which would enable meeting the expenditure rule, may endanger both the implementation of the reforms and the fulfillment of the fiscal rules.

In recent years, many expenditure programs have accumulated, increasing expenditures permanently without presenting a source of financing for them.

In November 2012, Israel launched Operation Pillar of Defense in response to rocket fire from Gaza. The cost of the operation to the State's coffers was comprised of the defense establishment's combat expenditures, property compensation payments, the decline in tax revenues and the costs of protecting buildings in the south of the country. The portion of the operations costs that will be financed by the reserve for unexpected events, which the defense establishment is supposed to maintain each year as per the Brodet Committee recommendations[15], is still unclear, as is whether there will be an additional budget demand to finance the operation's expenditures. In many cases during the operation, citizens living within the range of rocket fire were asked to remain in their homes and not to go to work, and schools were closed. The government approved compensation for businesses within rocket range for salary expenses for workers who did not come to work as per instructions from the Home Front Command, for damages to property and for the decline in sales turnover compared to the previous year. The property tax system is also providing compensation for property damage resulting from rocket attacks. The cost of this compensation is not yet known, but it is expected to be small in macroeconomic terms, and it is being paid from the compensation fund that is included in the general government's expenditures, but not directly in the budget.[16]

4. PUBLIC REVENUE

Revenue as a share of GDP declined slightly between 2003 and 2007, but declined more rapidly between 2008 and 2012.

The fiscal program that began in 2003 also affected the revenue side. Revenue declined, though only slightly, between 2003 and 2007, and tax revenue even increased during this period thanks to the rapid growth as the country came out of the 2001–03 recession, and thanks to reforms implemented by the government. At the same time, tax rates were significantly lowered during these years. Starting in 2008, the various temporary effects dissipated—particularly those in the capital markets that concealed the effects of reduced taxes on receipts, and since then the decline in tax receipts in relation to GDP mainly reflects the reductions in the tax rates from previous years.

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[14] The Brodet framework established that the defense budget must increase at a real rate of 1.3 percent per year, thereby gradually decreasing defense expenditures' share of the budget and of GDP.

[15] The report of the Committee Examining the Defense Budget, May 2007.

[16] The deductions for the compensation fund are recorded each year as a reduction from tax receipts, so its payouts to the public are not recorded as an expenditure.

This was reflected in a sharp decline in revenue, by 5.6 percent of GDP, between 2007 and 2012.

In 2011, partly in response to the social protests, the Trajtenberg Committee recommended cancelling the direct tax reduction path, mainly in order to prevent an increase in the deficit in the years following 2012, which would endanger the government's ability to finance existing services, as well as the services whose expansion was being recommended by the Committee. The cancellation of the path and the raising of taxes that were recommended by the Committee are also intended to finance changes in taxation, which include the reduction of import duties and purchase taxes, the cancellation of the increase in fuel excise and the provision of tax credit points to fathers for children up to age 3.[17] The Committee's recommendations regarding taxation were approved by the Knesset. The recommendations slightly reduced tax revenue in the short term and increased it over the long term. Given the expenditure programs for the coming years, the cancellation of the tax reduction path was an important step in preventing the continued increase of the deficit.

Tax revenues

The rate of increase in tax revenues in 2012 was slower than projected in the budget, even though nominal GDP grew beyond what was forecast in the budget for 2011–12, and real GDP grew at a rate in line with projections.[18] The government's tax receipts (excluding receipts by local authorities and the National Insurance Institute) totaled NIS 219.7 billion in 2012, an increase of 4.3 percent compared to 2011 (Table 6.3), but NIS 14.2 billion lower than the original budget forecast from the end of 2010 and NIS 2.9 billion lower than the updated forecast from January 2012. Most of the increase in tax revenues came from direct taxes. According to the Bank of Israel Research Department's tax model[19], the main variables explaining the deviation between the tax projection and actual revenue in 2012 are the stagnation of real gross wages, which explains a decline of NIS 7 billion in revenue compared to the forecast, and the slower than expected rate of new home sales, which explains a gap of NIS 3 billion.

An assessment of real developments in tax collection in 2012 through the Research Department's tax model[20] shows that most of the growth in revenue in 2012—excluding the effect of changes in legislation—was in line with the explanation derived from the model's variables: the 1.2 percent revenue growth sprang from the following factors:

In 2011, the Trajtenberg Committee recommended cancelling the direct tax reduction path, which was an important step in preventing the continued increase in the deficit.

Tax revenues increased in 2012 at a slower rate than projected in the budget.

[17] For details, see Chapter 6 of the Bank of Israel's 2011 Annual Report.
[18] Nominal GDP for 2012 was NIS 928.3 billion, compared with NIS 918.6 billion in the forecast, and real GDP grew in 2011-2012 by 7.8 percent, similar to the budget's projection for real GDP growth of 8 percent during these years.
[19] Brender, Adi and Navon, Guy, Predicting Government Tax Revenues and Analyzing Forecast Uncertainty (February 2010). Israel Economic Review, Vol. 7, No. 2, (2010), pp. 81–111.
[20] For a full description of the model, see: Brender, A., Estimates of the Function of Tax Revenues in Israel, Bank of Israel Research Department, Discussion Papers Series 2001.02, January 2001. As explained there, the contribution of each of the explanatory variables reflects not only the behavior of a specific tax base, but also the correlation between the variables and other tax bases.

(1) the increase in GDP—including the change in the ratio of the GDP price index to the Consumer Price Index and the distribution of growth over the year—contributed to a 3.3 percent increase in revenue; (2) the increase in real wages, which was smaller than the growth explained by the increase in GDP, contributed a 0.2 percent reduction in revenue[21]; (3) the volume of consumer goods imports was smaller than what was derived from its long-term connection with GDP, and therefore contributed a 2 percent reduction in revenue; and (4) the slow growth in the sale of homes contributed a 0.4 percent reduction in revenue. The financial variables included in the model explain an increase of 0.2 percent in revenue in 2012. In total, the model explains an increase of 0.8 percent in revenue, similar to the actual increase of 1.2 percent.

Changes in legislation caused a net increase in tax collection in 2012, totaling NIS 2.4 billion[22]: the tax exemption ceiling on lottery winnings was reduced to NIS 5,000, and purchase taxes on beer and cigarettes, as well as VAT, were raised. In contrast, the income tax credit for childcare was increased. In addition, there were two one-time factors that affected tax revenue in 2012. The first was an increase in the tax rate on dividends as part of the Trajtenberg Committee recommendations, which led to many dividends being brought forward to December 2011 and caused a one-time increase of NIS 3.5 billion in tax revenue at the beginning of 2012. (A significant part of this increase was offset during 2012, and the remainder will be offset in the next few years by a decline in expected revenues from the increased dividend taxation.) The second factor was the January 2012 payment of NIS 1.2 billion in VAT refunds that were deferred from December 2011, which reduced tax revenue.

In August 2012, in order to lower the deficit, mainly as of 2013, and in order to deal with the effects of the global economic crisis, the government decided to raise taxes (Table 6.6). Most of the tax increases came into effect on January 1, 2013, but the increase in the purchase tax on cigarettes and beer came into effect in August 2012, and the increase in VAT came into effect in September 2012. This program is expected to increase tax revenue by about NIS 9 billion in 2013.

Direct tax receipts increased in real terms by 3.1 percent, similar to the rate of increase of real GDP. This is the result of a real increase of 4.1 percent in income tax receipts, the continued decline of net deductions from the capital market, and the 21.2 percent real decline in land tax receipts. The decline in land taxes was the result of a slowdown in activity in the real estate sector in 2011, since these taxes are collected in arrears. Collection declined in both purchase tax and betterment tax.

Changes in legislation led to a net increase in tax collections in 2012, and two one-time causes affected tax revenue.

In August 2012, the government decided to raise tax rates, mostly starting in 2013.

Direct tax receipts grew in real terms at a rate similar to the increase in real GDP.

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[21] Wages and consumer goods imports are included in the model as deviations from the long-term connection estimated between these variables and GDP. In the short term, we cannot determine whether such deviations reflect a temporary or permanent development. Therefore, we must be cautious in interpreting changes in the ratio between tax revenues and GDP as structural or temporary.

[22] In addition to these changes, the fuel excise is updated by law three times a year, by the rate of increase in the CPI since the last update. Therefore, excise on gasoline in January 2013 was higher than in January 2012 by 4.3 agorot per liter.

Table 6.6
The August 2012 Tax Increases
(Finance Ministry Forecast of Revenue from the Tax Changes in 2013)

Item	Estimated revenue (NIS billion)
VAT increase to 17%	4.4
Increase in income tax for those earning NIS 14,000 to NIS 41,830 per month	1.2
Increase in purchase tax on cigarettes and beer	1
Bringing forward the 0.6 percent increase in National Insurance payments by employers from 2014 to 2013	1.0
Surtax on annual income exceeding NIS 800,000	0.6
Increasing the "green tax"	0.3
Not updating the indexation for the three highest tax brackets	0.3
Extending the higher purchase tax rate to the end of 2013	0.4
Total	**9.2**

Indirect tax receipts increased in 2012 by just 0.3 percent in real terms. Net VAT receipts increased by just 0.6 percent in real terms—the slowest increase since 2003. Excluding the increase in VAT and the refunds that were deferred from 2011, a similar rate of collection would have been obtained. The collection of import taxes excluding VAT declined by 3.8 percent, and the collection of other domestic taxes, mainly fuel excise, increased by 2 percent.

Indirect tax receipts increased by just 0.3 percent in real terms.

Domestic revenue excluding taxes, National Insurance payments and interest, totaled NIS 2.5 billion in 2012, compared to NIS 4.5 billion in the budget forecast—a gap of 0.2 percent of GDP. This revenue item is comprised of royalties, dividends and other revenue. The reasons for the gap from the forecast are not clear, but this is the second year in a row that revenue in this section was 45 percent lower than in the original budget. A more detailed listing of this item in the budget forecast will enable an analysis of its dependence on the business cycle and will contribute to reducing future surprises in its volatility.

Domestic revenue excluding taxes was 45 percent lower than projected in the budget.

5. FISCAL DISCIPLINE AND THE FISCAL RULES

a. The two-year budget

2012 was the second year of the two-year budget that was approved in 2010, and the disadvantages of this budgeting method became clearer this year. The goals of the two-year budget were to allow the government and its ministries to engage in longer-term planning and to free up time and resources that were invested in preparing the annual budget for other tasks. As part of formulating this budget, assumptions

The disadvantages of the two-year budget became clearer in 2012, particularly the difficulty in projecting economic variables over time.

were made regarding developments in the economy and prices. As a result of these assumptions, government expenses and revenues were planned for the following two years. Since the ability to project economic variables in a credible manner shrinks as the term of the forecast grows longer, and this was particularly true in 2010 when the global economic environment was not stable, some of the assumptions for 2012—particularly regarding tax revenue and other revenue—were already discovered to be inaccurate at the end of 2011. Due to the two-year budget framework, the government was not required to act as in a normal budget year and submit a real-time accounting to the Knesset regarding the budget of the outgoing year and regarding the planned budget for the coming year, and it was therefore not required to adjust expenses and revenue to the expected decline in revenue and increased commitments in order to meet the deficit target in 2012. At the same time, the government was aware of the deviation that was becoming apparent in the deficit ceiling, and it is therefore not clear whether different decisions would have been made as part of a one-year budget framework for 2012. In any case, it is clear that increasing transparency regarding the government's intentions and regarding the compatibility between budgetary developments and the policy path that it adopts can contribute to an improvement in fiscal policy in the coming years.

b. Sweeping cuts

Despite their name, sweeping cuts do not apply to all government ministries or to their total budgets.

Two sweeping cuts were made to government ministry expenditures in 2012. The government's decision in January included a sweeping cut of 4 percent, which generated NIS 760 million to finance the increase in expenditures derived from the decision. The government's decision in August included a cut in expenditures of 5 percent in 2012, which generated NIS 910 million, and a further 3 percent cut in 2013 to finance the construction of a holding facility for border infiltrators and the reform in the fire services. Despite their name, sweeping cuts do not apply to all government ministry or to their total budgets. Basically, they apply only to about 7 percent of the budget (NIS 19 billion out of NIS 284 billion in 2012), because they do not apply to budget items derived from legislation that defines budgetary amounts or percentages that must be allocated for implementation, and they do not apply to budgetary items intended to fulfill the government's contractual obligations to make payments (including wage and other agreements). Beyond that, the Ministry of Defense was not included in the January 2012 cuts, and expenditures at the Ministry of Education were cut by only 1 percent in the August 2012 decision. The significance of these limitations is that this type of broad cut is not a budgetary source for financing significant expenditures.

c. The fiscal rules

(1) The deficit rule

In 1991, the Knesset for the first time passed a law setting out a multi-year budgetary deficit ceiling, for the years 1992–95.[23] This law mandated a balanced budget from 1995 onwards. In practice, in no year since then has this goal been achieved. Almost every government since then has set multi-year deficit targets, and has always established that the deficit would decline sharply in another few years, while setting out higher deficit targets for the current year. As shown in Figure 6.3, these paths have not been realized in many cases, with further changes then required in the ceiling.[24] This year as well, the government decided to increase the deficit target set out in the law for 2013 from 1.5 percent of GDP to 3 percent of GDP. In that decision, the deficit targets for 2014 and onwards were also raised, and the long-term deficit target from 2019 onwards was raised from 1 percent of GDP to 1.5 percent of GDP—the original 2013 target.

The overall government deficit (excluding credit) in 2012 was 4.2 percent of GDP, compared to a ceiling of 2 percent of GDP, after also having slightly exceeded the

Almost every government since then has set multi-year deficit targets, and has always set out that the deficit would decline sharply in another few years, while setting higher deficit targets for the current year.

Figure 6.3
Budget Deficits and Deficit Targets, 1992-2016

SOURCE: Bank of Israel.

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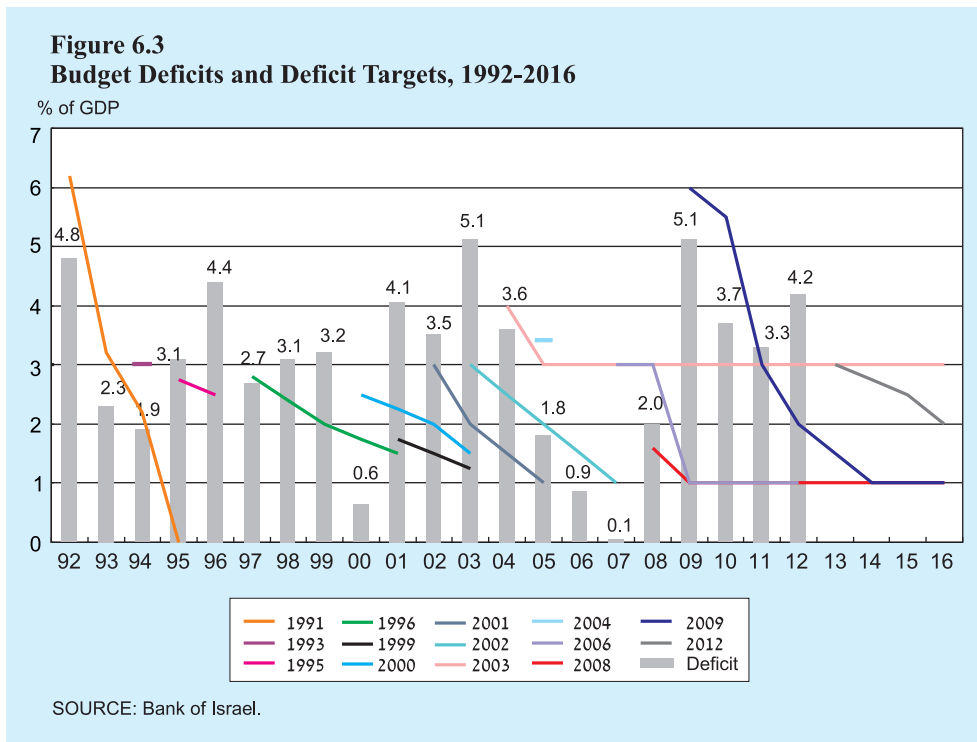
[23] The Deficit Reduction and Budgetary Expenditure Limitation Law (Amendment 12), 5770-2010.
[24] The average overall deficit of the general government in 1992-2012 was 3.9 percent of GDP.

ceiling in 2011. In the 21 years since the deficit ceiling was set by law, there were just a few years—mostly economic boom years—in which the government met the deficit ceiling set out two or more years beforehand.[25] The deficit ceiling was breached 10 times[26] in relation to the most recent target set for each year; and even more often in relation to the earlier and more ambitious targets that were set in previous multi-year paths. Even when governments met the deficit ceiling, it was for the most part a ceiling that had been set just one year earlier. The repeated deviations from the rule reduce the power of the deficit ceiling as an anchor for fiscal policy. This behavior also emphasizes the clear disadvantage of an inflexible deficit ceiling: it is not compatible with the business cycle, and a major part of the deviations from the ceiling were the result of economic crisis, such as in 2008, or of recession, such as in 2001–03. Moreover, in practice, the ceiling is pro-cyclical: During periods of recession, when tax revenues decline and the deficit increases, a hard rule requires raising taxes or cutting expenditures precisely at a time when these steps would moderate activity even more, and during boom periods, such a rule enables a reduction in the tax rates. These deviations and disadvantages contributed to frequent changes in the deficit ceiling, which were approved by the government and by the Knesset.

(2) The expenditure rule

In 2004, as part of a process of reforms and improved fiscal credibility, an expenditure rule was passed by the Knesset limiting the real growth of public expenditure to one percent per year between 2005 and 2010.[27] Since the population growth rate in Israel in an average year is about 1.8 percent, this rule eroded the level of public services per capita. Therefore, the rule was updated for the years 2007–10 to real growth of 1.7 percent per year. In 2011, the current expenditure rule came into force, linking the permitted rate of increase in public expenditures to GDP growth in the past ten years and to how close the public debt-to-GDP ratio is to 60 percent. This rule permits real growth of public expenditure at a higher rate than what had been permitted by the previous rules, enables the moderate expansion of public services, and adjusts expenditure growth to past economic performance and to a reduction in the debt-to-GDP ratio.[28] In the next few years, this ratio is expected to more or less maintain the share of expenditure in GDP.

The expenditure rule, which limits the growth of public expenditure, is more stable than the deficit rule, thereby increasing the level of certainty regarding the expenditure
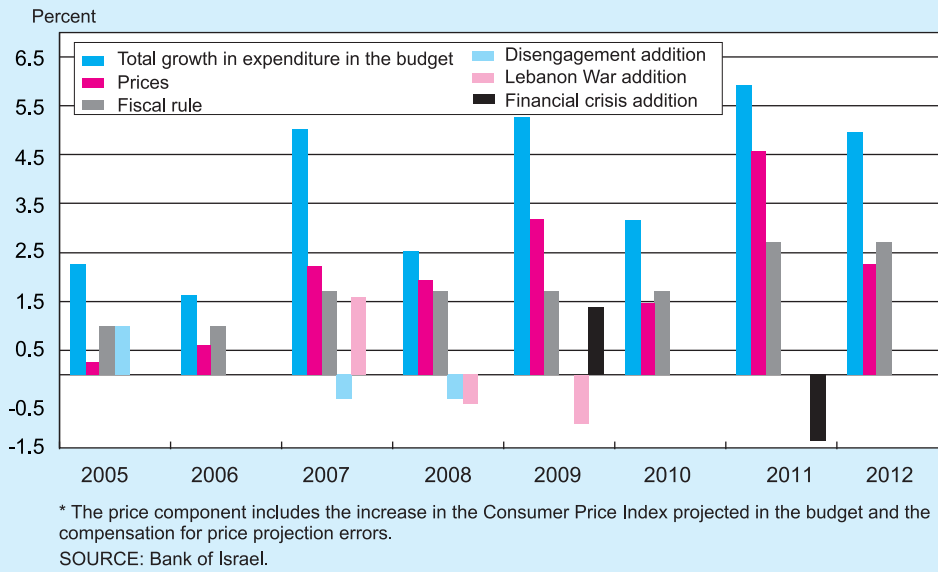
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[25] In 1994, 2000, and from 2005 to 2007.

[26] The ceiling was breached in 1995, 1996, 1998, 1999, 2001-2003, 2008, 2011 and 2012.

[27] The law limited gross government expenditure, including the provision of credit, and excluding debt principal repayments that were not debt principal repayments to the National Insurance Institute. In 2007, the law was amended, and since then it applies to net expenditure (excluding contingent expenditure) instead of gross (which included contingency) expenditures. The data presented for 2005 and 2006 also relate to net expenditures for purposes of comparison.

[28] The annual expenditure ceiling is calculated by multiplying the average GDP growth rate in the past ten years by the quotient of the debt target of 60 percent, divided by the debt-to-GDP ratio.

Figure 6.4
Nominal Growth in Public Expenditure, its Components and Performance, 2005-12
(compared to the previous budget)

Percent

Legend:
- Total growth in expenditure in the budget
- Prices
- Fiscal rule
- Disengagement addition
- Lebanon War addition
- Financial crisis addition

* The price component includes the increase in the Consumer Price Index projected in the budget and the compensation for price projection errors.
SOURCE: Bank of Israel.

growth rate and regarding the reduction of the public debt. At the same time, in each of the years from 2005 to 2010, the Knesset changed the expenditure limit in order to finance further public expenditure that was required due to unforeseen events (Figure 6.4)[29]: In 2005, an addition was provided to finance the disengagement from Gaza until 2008. In 2006-2007, an addition was provided to finance the costs of the Second Lebanon War. In 2008-2009, an addition was provided due to the global financial crisis. Each of these additions was temporary, and did not increase expenditure on a permanent basis. But, taken cumulatively, they generated fluctuations in the real growth of expenditure beyond the growth rates set forth in the expenditure rule, and once they were completed, the rule was changed in an expansionary manner. In 2012, there were expenditures beyond the ceiling set forth in the law. These additional expenditures clarify that the government and the Knesset view the growth of expenditure within the expenditure rule as insufficient for financing large new programs or for responding to events such as wars and crises. A significant part of the growth of expenditure within the framework of the rule is required to maintain the level of public services per capita—financing the expansion of educational institutions, health and social services, and increasing benefits in accordance with the natural growth of the population.

The two fiscal rules apply both in the short-term—to the next budget—and to future budgets. Within the framework of these rules, the government is permitted to make decisions, and the Knesset is permitted to enact legislation without being required

In each of the years from 2005 to 2010, the Knesset changed the expenditure ceiling in order to finance additional public expenditures.

It is important to examine the effect of government decisions and laws on meeting the deficit and the future expenditures within the limitations set out in the law over the medium and long term.

[29] The expenditure rule limits the real growth of the budget. The nominal growth is comprised of the growth defined in the rule, additions to the rule, the expected change in the Consumer Price Index, and compensation for errors in forecasting the change in the Index in previous budgets.

to examine their effects on future deficits or expenditures vis-à-vis the limitations set forth by law—beyond the upcoming budget. Conducting such examinations will improve budgetary planning and will support the existence and credibility of the fiscal rules over time.

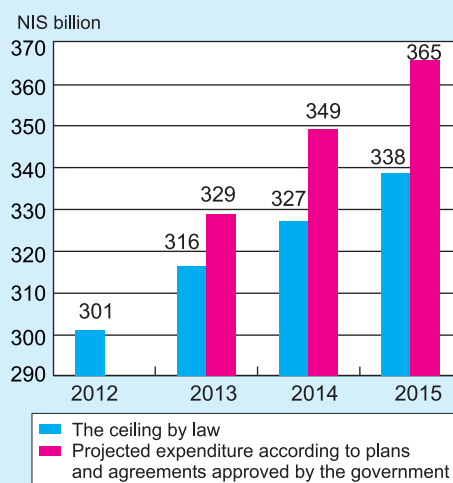### d. The government's commitments for the next few years

The expected growth of public expenditure in 2013 as a result of the cost of programs approved by the government is higher than the expenditure ceiling.

The current expenditure rule enables real growth of public expenditure by 4.6 percent in 2013, and by 3 percent in the following years. In contrast, according to the estimated cost of the programs approved by the government, the expected growth of public expenditure in 2013 is 9.4 percent, such that there is a gap of NIS 13 billion between the expenditure ceiling for 2013 and forecast expenditures[30], and this gap will continue to widen in the next few years (Figure 6.5). Not cancelling programs for which the source of financing has not been determined (by reducing other expenditures or by increasing revenues) will lead to an increase in the deficit. The results will be a decline in the credibility of fiscal policy in Israel— credibility which was achieved through the consolidation program that ended in 2008—and an increase in the risk attributed to the Israeli economy.[31]

Figure 6.5
Expenditure Ceiling in the Government Budget, and Expenditure Derived from Government Plans (excluding credit), 2012-15

NIS billion

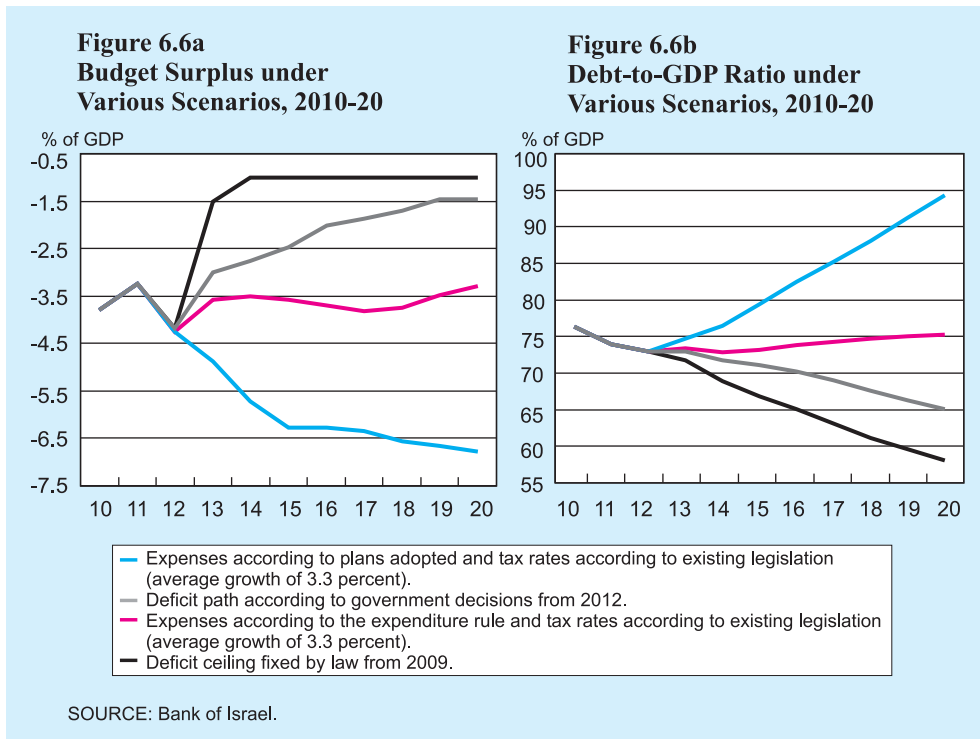Legend:
- The ceiling by law
- Projected expenditure according to plans and agreements approved by the government

SOURCE: Bank of Israel.

Even if the government reduces expenditures enough to meet the expenditure rule in 2013, but does not increase tax revenues, a deficit of 3.6 percent of GDP is still expected, which is higher than the increased deficit target that the government set in 2012 (Figure 6.6). In order to meet the deficit target as well, it will be necessary to reduce expenditure growth to a level below the expenditure ceiling, or to increase tax revenues. Against this background, the new government will be required to make a sustainable and credible fiscal decision on how to meet the fiscal targets for the coming years, or how to change them, and what the desirable combination is between

The new government will be required to decide soon how to meet the fiscal targets for the next few years, or how to change them, in order to obtain the fiscal space to deal with security or economic crises.

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[30] Government Budget Outcome in 2012 and Budget Outlook in Coming Years, Bank of Israel Research Department, Public Sector Area, February 13, 2013.

[31] This risk was reduced in the last decade with the significant decline in the debt-to-GDP ratio, accompanied by declines in interest payments on the debt, a decline that freed up 2.6 percent of GDP during the decade (Table 6.5).

raising tax rates and reducing future expenditures—the combination that will allow for the goals that will be chosen to be attained.

Figure 6.6a
Budget Surplus under
Various Scenarios, 2010-20

% of GDP

Figure 6.6b
Debt-to-GDP Ratio under
Various Scenarios, 2010-20

% of GDP

Expenses according to plans adopted and tax rates according to existing legislation (average growth of 3.3 percent).
Deficit path according to government decisions from 2012.
Expenses according to the expenditure rule and tax rates according to existing legislation (average growth of 3.3 percent).
Deficit ceiling fixed by law from 2009.

SOURCE: Bank of Israel.

6. THE GOVERNMENT'S SERVICES AND OBJECTIVES

The government's main tasks are to maximize citizens' welfare and provide suitable public goods and services. The latter include national defense, personal safety (policing, law and order), transport infrastructure, public health, public education, a social safety net, and a system of legislation and regulation. The government chooses the mix of services and the way they are delivered according to its preferences, which are dictated by the electorate. The policy of Israel's government since 2003 has stressed the reduction of intervention in the economic life of its citizens, including reducing taxes (decreasing public sector revenue) and lowering public sector expenditure. In 2008, this policy began to moderate, and the rate of decline in public expenditure in relation to GDP slowed and focused on lowering interest payments and defense expenditures. In recent years, the government has formulated, approved and implemented expanded expenditures on national projects, national infrastructure, and public systems, such as health and education. These expenditures, if they are directed properly, can improve the well-being of citizens, increase the potential for economic growth by expanding the education of the population, increase labor productivity and the number of work hours by improving the health status of the country's citizens and
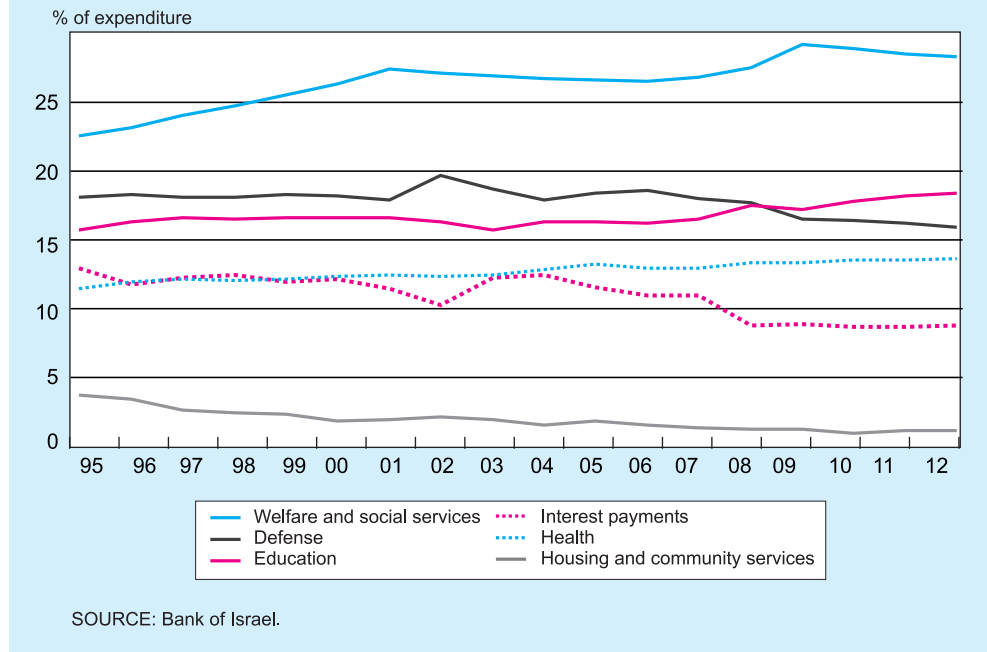
Government policy since 2003 has emphasized lowering the government's involvement in economic life, including the reduction of taxes and the reduction of public expenditures.

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streamlining the public transport system, roads and trains, and increase social cohesion and the potential labor force through support programs and transfer payments to the needy, the "Earned Income Tax Credit" and unemployment benefits.

As part of the policy of reducing public expenditure, defense expenditures as a share of GDP were reduced by 1.8 percent of GDP between 2003 and 2012 (a reduction of 21 percent). This took place, *inter alia*, as a result of the Brodet Framework, which limited the real growth of Defense Ministry expenditures to 1.3 percent per year from 2008. Even so, the defense budget remains much higher than parallel budgets in advanced economies, and it imposes a limitation on the growth of civilian expenditure. Attempts to cut this budget in recent years beyond the Brodet Framework, including the recommendations of the Trajtenberg Committee, have not succeeded.[32] Against the background of the government's desire to bring the military's tasks in line with the threats that it perceives and the defense establishment's need to plan medium- and long-term projects, these attempts show that it is necessary to formulate a framework for setting the defense budget outline for the next decade, since the period to which the Brodet Committee's recommendations apply is coming to a close. The importance of a multi-year framework in this area stems from the multi-year structure of a significant portion of defense expenditures and from the relative success of the prior framework for the defense budget as an anchor for this budget in recent years.

Figure 6.7
Distribution of Public Expenditure by Main Budget Items, 1995-2012

% of expenditure

	Welfare and social services	Interest payments
	Defense	Health
	Education	Housing and community services

SOURCE: Bank of Israel.

[32] In January 2012, the government decided to cut the defense budget for 2013 and onwards by NIS 2.4 billion.

In preparing this framework, it will be possible to examine and update the targets that have were set in the Brodet framework and to determine the size of the defense expenditure in accordance with the tasks required of the defense establishment, the economy's ability, and the overall priorities of government policy.

The changes in the composition of public expenditure are mostly slow, but Figure 6.7 shows the changes in the distribution of public expenditure among major categories over time.[33] The Figure indicates that in 1995, defense expenditures and interest payments constituted about 29 percent of public expenditure, while in 2012, they constituted about 23 percent. This decline enabled an increase in the weight of education and health expenditures. Starting in 2009, public expenditure on education has been higher than expenditure on defense (Table F.8 (appendix)). The Figure also shows the persistent decline of the weight of public expenditure on housing out of total expenditure, from 3.5 percent in 1995—the height of the period of investment in absorbing the wave of immigration—to 1.1 percent in 2012.

Defense and interest expenditures declined from 29 percent of public expenditure in 1995 to 23 percent in 2012. Since 2009, public expenditure on education is higher than defense expenditures.

a. Education

Significant portions of the recommendations of the Trajtenberg Committee dealt with assistance to parents, mainly in the area of education. Two of the main recommendations that were accepted in this framework are the expansion of the Ministry of Industry, Trade and Labor's daycare system for children aged 0-3 by 30,000 spaces over five years, and applying the Free Compulsory Education Law to those aged 3 and 4. This year, the construction of the required additional day care centers began, and the number of spaces in day care centers is expected to grow significantly only 3-4 years hence. In 2012, according to data from the Ministry of Finance, the number of spaces increased by about 3 percent as a result of the implementation of previous decisions.

The implementation of the free education law for children aged 3-4 began in the 2012-2013 school year. Since many families in communities belonging to lower socioeconomic clusters[34] (and in neighborhoods belonging to these clusters even though they are in more established communities) were already entitled to free education for their children at these ages or to a 50 percent discount in tuition, this law is expected to mainly improve the well-being of those with medium and high incomes. An examination of data on the number of children in public kindergartens in the 2012 and 2013 school years shows that the number of children aged 3-4 joining the public kindergartens increased by 12 percent, above the trend[35] of recent years.[36]

Implementation of the Free Education Law for Children Aged 3-4 began in the 2012-13 school year, and the number of children in these ages attending public kindergartens increased by 14 percent.

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[33] A number of relatively small and stable expense items are not included in this Figure: public order, financial services, general public services, culture and religion, and environmental quality.

[34] For an explanation of the socioeconomic clusters, see footnote 9 in Chapter 8.

[35] The number of children aged 3-6 in the public kindergartens and in recognized kindergartens increased by an average of 2.1 percent between 2007 and 2012.

[36] 75 percent of the children joining are aged 4, and there is no data as to whether they came from private frameworks or were not in any framework beforehand.

The increase in the 2013 school year was mainly in communities belonging to social cluster 4 and above.[37]

b. Health

2012 was the first year since the wage agreement with the country's physicians was signed. The agreement included structural changes to the health system, including an agreement between the parties to reduce specialists' workload by adding 1,000 positions in the hospitals, as well as the addition of shifts for specialists. Toward the end of 2012, the goal of reducing the number of monthly shifts for residents to six at the most was achieved, on average. The number of monthly resident shifts at government hospitals declined from 6.6 in 2011 to 5.7 in 2012. Ministry of Health data indicate a decline in the number of shifts at all government hospitals, but that the average number of shifts per resident is still higher than the target at some of the hospitals (mostly in the periphery).

Other issues upon which the parties reached agreement were the creation of incentives for physicians to work at hospitals in the periphery and the encouragement of young physicians to specialize in fields where there is a shortage of doctors through additional salary, tenure and one-time grants. In 2012, there were 127 grants made to physicians who began working at hospitals in the periphery, most of whom fill new positions that were opened at these hospitals. The grants succeeded in significantly increasing the number of young physicians opting to specialize in a number of fields where there is a lack of manpower (geriatrics, anesthesiology, and general surgery), but it is not yet clear how significant the increase was in all of the professions needing encouragement. In order to obtain a partial indication, we can examine the number of physicians who qualified in the distressed fields during the years prior to the agreement. Between 2005 and 2010, there were an average of 238 qualifications per year, compared with 268 residents in these fields in 2012.[38] The residents received grants in 2012 for specializing in fields where there is a lack of personnel. (83 of those awarded the grant received an increased grant for specializing in a field where there is a lack of personnel in the periphery.) The amount of the grants issued in 2011 and 2012 was much higher than planned. With the intention of returning to the intended budget framework for the grants in the coming years, the list of fields entitling specialists to a grant should be focused, thereby increasing the effect of the grants on selecting residency fields.

Health fund deficits expanded in recent years, totaling NIS 1.26 billion in 2011, compared with NIS 200 million in 2010. In 2012, the Ministry of Health estimates that they were even higher. A principal cause of the large deficits was the delay in signing

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[37] In communities in clusters 4 and above, the average increase in 2013 was 16 percent. In clusters 1-3, the average increase was 3 percent, mainly because the coverage for public and recognized kindergartens in these communities before the 2013 school year was 90 percent on average.

[38] This comparison should be made with caution, since not every residency ends in qualification, and because qualification reflects a specialty that was selected a number of years beforehand.

stabilization agreements ("support tests") for the years 2011-2013. These agreements were only signed at the end of December 2012 with two of the health funds ("Clalit" and "Leumit"), and once they were signed, NIS 650 million was transferred to those funds at the end of the year, of which NIS 475 million was for 2011.

Other than one-time factors in the expansion of the deficit, there are a number of structural reasons for the continued erosion in the budgets transferred to the health funds compared with the required expenditures for providing the services in the basket of public health services. First, the budget transferred to the health funds is updated every year in accordance with the increase in the "Cost of Health" index, which does not reflect the full health fund costs and, in particular, does not include the full price of hospitalization services (but only the wage component in the health system, which is part of the price of hospitalization). This is despite the fact that in 2011, hospitalization expenditures constituted 42 percent of the total operating expenses of the health funds, and the price of one day of hospitalization increased by 17 percent between 2009 and 2011. The Supreme Court discussed this factor in the erosion of health fund budgets in 2012, and ruled that the new government will need to decide, within 90 days of its formation, on how to deal with the gap—whether to deal with hospitalization costs via the same index through which the basket of health services budget is updated, and/or to limit the increase in hospitalization costs (thereby, basically, transferring part of the burden of erosion to the hospitals). A second factor in the erosion of health fund budgets is the rate at which the budget is updated in respect of demographic changes. This rate is currently 1.2 percent per year, compared with an increase of 1.5 percent in the standardized number of insured persons in accordance with the capitation formula (which allocates budgets to the health funds by age, gender and geographic spread of the insured persons).

The erosion of health fund budgets, and the health funds' need for complementary budgets, which are conditioned in meeting targets, enable the government to maintain constant pressure to streamline the system and control the scope of expenditures. At the same time, in order to avoid harming the health funds' ability to provide the services set forth in the public basket of health services, and in order to maintain their financial stability, we must avoid an erosion of the health funds' budgets that is too deep. It is therefore preferable to determine more appropriate methods and to be cautious about creating incentives for the health funds to increase their costs unnecessarily in the knowledge that they will be fully reimbursed for this ("moral hazard"). Incentives must also be maintained that will encourage greater efficiency and the exploitation of advantages of scale. In particular, it is important to create a system of continued objective criteria for determining budgets, which will define streamlining targets but will provide the health funds with certainty and with the possibility of planning their budgets long term.

Health fund deficits increased in recent years.

The budgets transferred to the health funds are being eroded compared to the expenses required to provide the services included in the public health basket.

We must avoid too deep an erosion of the health fund budgets by setting more appropriate update methods for the health basket budget, while maintaining streamlining incentives.

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7. THE PUBLIC SECTOR DEBT

a. The public debt-to-GDP ratio

Between 2010 and 2012, the debt-to-GDP ratio declined thanks to rapid growth.

The public debt (gross) to GDP ratio declined by 0.9 percentage points in 2012 to 73.0 percent. As in 2010 and 2011, the decline was sustained by high nominal growth rates relative to the government's net borrowing. The low level of borrowing relative to GDP does not reflect a decline in the deficit, but rather changes in the way it is financed: Against the background of the global crisis, the government deficit increased in 2008 and in 2009, and the rapid rate of decline in the debt-to-GDP ratio halted. In 2010 and 2011, the government deficit remained high despite rapid economic growth, but the repayment of credit extended to the public by the government in the past, large privatization proceeds, and the funding surplus from previous years all served to reduce the government's borrowing requirements. In contrast, surplus revenue from previous years was exhausted in 2012, and privatization receipts declined as well. At the same time, the government's borrowing increased, and the rate of decline of the public debt-to-GDP ratio slowed. Borrowing totaled 3.9 percent of GDP, and its level came close to that of 2009, when expansionary fiscal policy was adopted in order to support economic activity against the background of the global crisis. The expansion of borrowing in 2012 stemmed from an increase in the deficit, and indicates that between 2010 and 2012, the debt-to-GDP ratio declined due to economic growth. While GDP growth minus the revaluation of the debt inventory decreased the debt-to-

Table 6.7

Components of the Increase in the Gross Public Debt, 2009–12

(percent of GDP)

	2009	2010	2011	2012
Debt to the end of the previous year	77.1	79.5	76.0	73.9
Nominal growth of GDP	-4.3	-4.7	-5.0	-4.5
Net capital inflow	5.5	1.4	1.4	3.9
of which: Government's cash deficit	5.1	3.7	3.3	4.2
Net repayment of credit by the public[a]	-0.7	-0.7	-0.6	-0.5
Privatization proceeds	-0.3	-0.5	-0.8	-0.1
Total change in government deposits in the banks[b]	1.4	-1.1	-0.4	0.3
Revaluation of shekel-denominated indexed debt[c]	1.5	0.9	0.7	0.5
Revaluation of foreign currency-denominated debt	0.0	-0.6	0.8	-0.2
Adjustment to issue costs	-0.5	-0.2	-0.2	-0.3
Remainder[d]	0.3	-0.3	0.2	-0.3
Debt at year end	79.5	76.0	73.9	73.0

[a] Including the provision of credit and principal collection.
[b] Funding surplus.
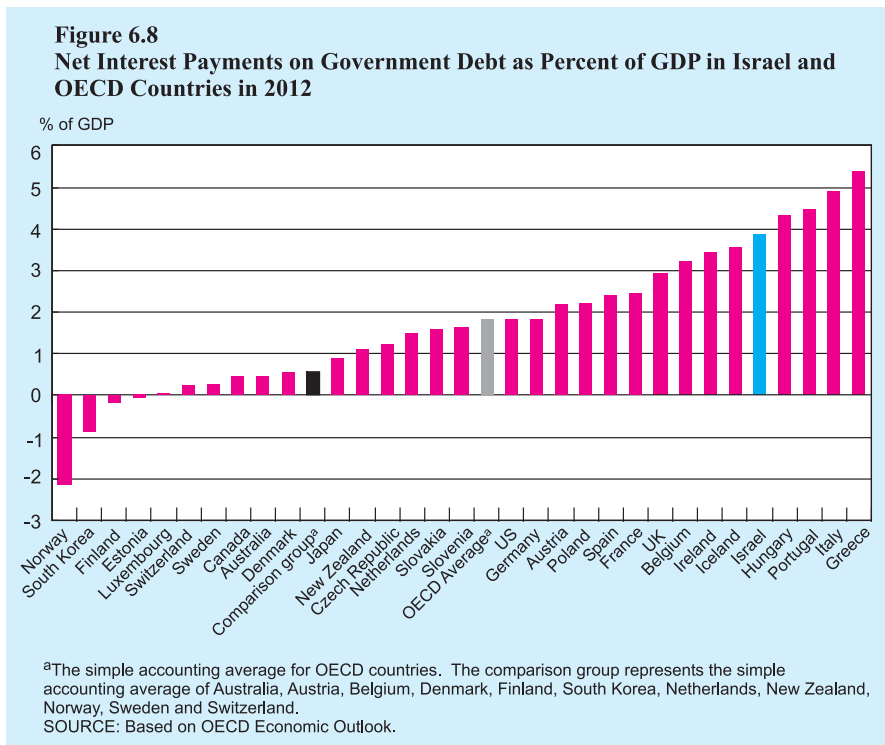[c] Increase in the Consumer Price Index during the year.
[d] Roundings.
SOURCE: Bank of Israel Research Department.

GDP ratio by 10.7 percentage points, this ratio declined by only 6.5 percentage points due to the high deficit (Table 6.7).

b. The cost of debt financing

The cost of financing the government debt, measured by the burden of interest payments as a share of the debt level, is high by international standards, and reflects the debt risk. Whereas Israel's debt-to-GDP ratio contracted in recent years, and is lower than the average of OECD countries, net interest payments as a share of GDP are high when compared to most of the advanced economy countries (Figure 6.8). The burden of interest payments is estimated at about 4 percent of GDP, much higher than the average in advanced economy countries, which is 2 percent. This spread not only reflects the high interest rates of the past, it also reflects the current interest rate spread between Israel and the other advanced economies. Between 2003 and 2007 the decline in debt was reflected in the cost of its financing, and the yield gap on 10-year government bonds between Israel and the other advanced economies contracted. The increase in the difference between the long-term and short-term interest rate spreads reflects the increase in the risk premium required on the government debt, *inter alia* against the background of the growing geopolitical risks and the high deficit, which reinforces the budgetary risks of government debt (Figure 6.9).[39] As the interest rates on

The cost of financing the government debt, measured by the interest payment burden compared to the level of debt, is high when compared internationally.

Figure 6.8
Net Interest Payments on Government Debt as Percent of GDP in Israel and OECD Countries in 2012

[a]The simple accounting average for OECD countries. The comparison group represents the simple accounting average of Australia, Austria, Belgium, Denmark, Finland, South Korea, Netherlands, New Zealand, Norway, Sweden and Switzerland.
SOURCE: Based on OECD Economic Outlook.

[39] Ber, Hedva, Adi Brender and Sigal Ribon (2004), "Are Fiscal and Monetary Policies Reflected In Real Yields? Evidence from a period of disinflation and declining deficit targets", Israel Economic Review 2, 15-44.

the debt and the deficit financing needs are higher, the sensitivity of government debt to market and budgetary risks increases. Therefore, a negative shock such as a decline in state revenues, which increases borrowing needs, may harm the debt repayment abilities of countries where the burden of interest payments as a share of GDP is high. For instance, in the three countries currently at the heart of the debt crisis—Greece, Italy and Portugal—interest payments as a share of GDP were high relative to other countries even before 2008.
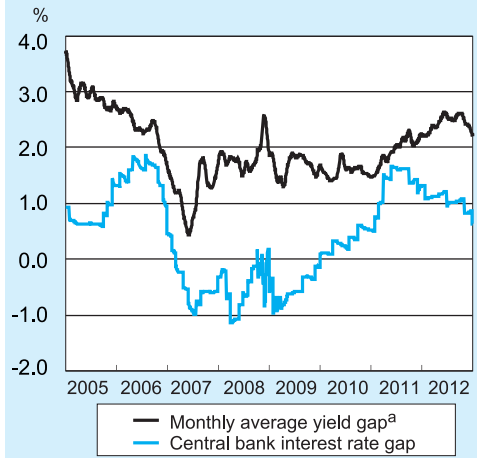
c. The composition of the debt

Net foreign currency denominated borrowing remained negative in 2012, and its share of total government borrowing continued to decline, a trend that has continued since 2006. Government debt issues abroad

Figure 6.9
Average Yield Gap of 10-Year Government Bonds in Israel and Other Advanced Economies, 2005-12

[a] Simple arithmetic mean of yield gaps between Israel and selected countries: Japan, Belgium, Canada, Austria, France, Sweden, Netherlands, Germany, Denmark, United States, Switzerland, Finland, United Kingdom, New Zealand, Norway, Austria, South Korea.
SOURCE: Based on Ministry of Finance data and the Bloomberg database.

totaled $3 billion, of which about 40 percent was raised through the Israel Bonds organization. The continued decline in the share of foreign currency denominated borrowing reflects the relatively high cost of raising debt in these markets. Even so, the government borrows in this channel due to the function of foreign currency denominated government debt as a signal of its future borrowing as well as that of Israeli companies abroad.

In domestic borrowing, the share of unindexed fixed-rate bonds declined, while the share of the indexed and the unindexed variable-rate elements in government borrowing increased. The increase in the indexed component stems mainly from the issue of bonds earmarked for veteran pension funds. The earmarked bonds are non-tradable bonds that guarantee a relatively high yield compared with tradable channels. In 2012, earmarked bonds were issued for the first time in 9 years, after some of the pension funds reduced the portion of such bonds in their asset portfolios to less than 30 percent—a rate that grants them the right to purchase earmarked bonds. In addition to the growth in the weight of indexed debt, the rate of unindexed variable-rate borrowing also grew after declining in 2011. While the use of unindexed variable-rate borrowing allows for the reduction of immediate costs during periods when the lower end of the yield curve declines, the cost of the debt is measured in a long-term perspective, where debt managers are less able to create capital gains by exploiting the lower

end of the curve. Therefore, the issue of such debt is worthwhile if the government estimates that future interest rates will be lower than the market projections.

d. The term to maturity of the outstanding debt

The average term to maturity of the government debt is one of the measures of stability that serve investors in evaluating the government's financial state: The longer it is, the more stable its situation is and confidence in it increases, since a long borrowing channel reduces concerns about a large-scale refinancing of the debt in the event of a temporary crisis in the market, and allows for an easier spread of borrowing and of maturity. Therefore, even though short-term issues allow for borrowing at a lower immediate cost—thanks to their relatively high tradability and liquidity—during periods of economic uncertainty, extending the debt's term to maturity is actually of greater importance.

In 2012, the government acted to extend the debt's term, and the prolonged decline in the average term to maturity of the government debt was checked. The average term to maturity was extended to 6.6 years after a gradual decline from 6.9 to 6.3 years between 2003 and 2011. The extension of the term to maturity is a result of the issuance of 30-year bonds, and of the decline in the share of the short-term government

> The continued decline in the portion of the debt denominated in foreign currency reflects the relatively high cost of raising money in international markets.

Figure 6.10
The Average Term to Maturity on Government Debt in 2012 vis-à-vis OECD Countries
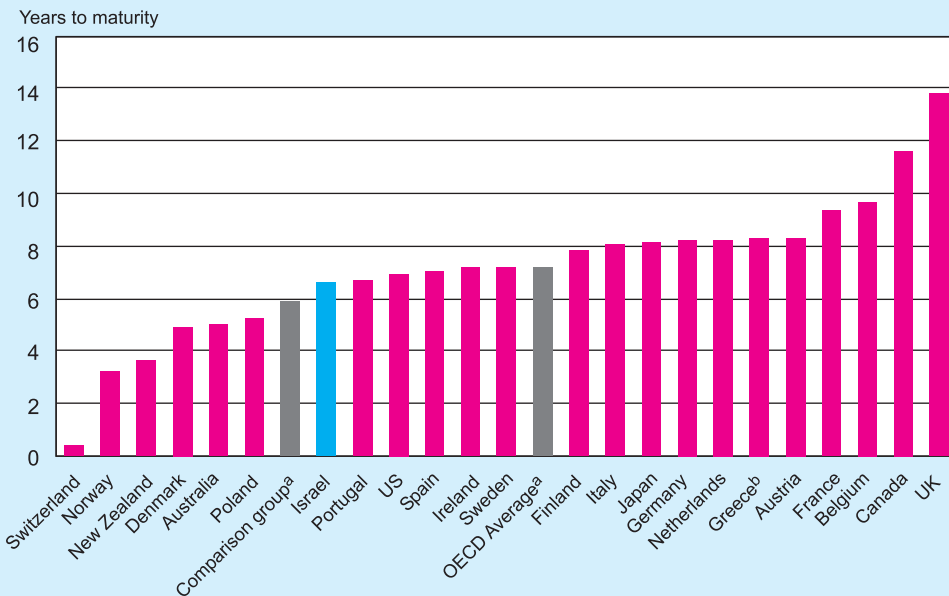
a Simple arithmetic mean for OECD countries. The comparison group represents the simple accounting average of Australia, Austria, Belgium, Denmark, Finland, South Korea, Netherlands, New Zealand, Norway, Sweden and Switzerland.
b The government debt term in Greece was significantly extended due to the debt repayment arrangements to which it was a partner in 2012.
SOURCE: Based on Ministry of Finance data and the Bloomberg information system.

bonds out of total government borrowing. In 2012 as well, there was a high volume of issuing intermediate- and short-term bonds, such that the rate of bonds issued for terms of up to 5 years in 2012 exceeded 50 percent of total bonds bearing coupon interest (excluding short-term government bonds).

An international comparison shows that most OECD countries where the term to maturity of government debt is lower than in Israel are characterized by particularly low debt balances and interest payments compared to GDP, and are therefore less exposed to refinancing risks. In contrast, the burden of interest payments in Israel is higher than in most advanced economies, other than in Europe, which is at the center of the debt crisis, while the average term to maturity of government debt is lower than the average in OECD countries (figure 6.10). It is therefore important to continue increasing the term to maturity of government debt in order to ensure an easier spread of borrowing and of maturity, and to reduce the risk inherent in it.

Box 6.1
The Fiscal Multiplier

In Israel, as in other developed countries, fiscal policy affects the short-term GDP growth rate. The fiscal multiplier is the ratio of the percentage change in GDP to the percentage change in the fiscal variable. The fiscal multipliers in Israel, with respect to both public consumption and taxes, are less than one.

In recent years, the subject of the fiscal multiplier has been at the forefront of economic research. The global economic crisis in 2008 and 2009 and the government responses to it have renewed interest in the question of how much and for how long fiscal policy influences growth and on what does its effectiveness depend. The answers to these questions determine the response of the various governments to the business cycle. They are relevant for Israel as well, especially as the process begins to approve the budget for coming years, which will require major adjustments.[1]

This box presents a calculation of the fiscal multipliers for Israel and their expected impact on economic growth in the short term. This estimate can be used to answer the questions of whether and to what extent fiscal policy generates, moderates or amplifies a shock in the business cycle. In this context, we emphasize that the calculation differs from that in the literature, which tests the effect of various

[1] See elsewhere in Chapter 6, and the Bank of Israel Fiscal Survey from January 2013.

consolidation programs and their components (raising of taxes or a cut in expenditure) on the growth of GDP in the intermediate term.[2]

There are four main approaches to this subject accepted in economic theory, each of which provides a different forecast for the effect of the multiplier:

Classic Keynesian theory: According to this approach, the fiscal multiplier is greater than one. Thus, an increase in public consumption or a decrease in taxes will bring about an even larger increase in GDP and a change in public consumption will have a larger effect than a change in taxes.

The Weak Keynesian theory: Due to the crowding out of investment and private consumption as a result of the increase in public consumption, the multiplier is less than one but greater than zero.

The Ricardian approach: According to this approach, there is a full crowding out effect for public consumption. Thus, a change in the fiscal variable will have no effect in the short term.

A channel may also exist through which an increase in public consumption leads to an increase in the economy's risk premium, which will lead to a decline in investment and an increase in savings, as well as an outflow of capital. This channel of transmission may even lead to a net decrease in GDP in the short term. This approach is considered to be relevant only in extraordinary situations.

Baunsgaard, et al., present a table that summarizes the empirical findings for the fiscal multiplier in various countries. The results are based on 34 different studies which examined the subject during the last ten years (Table 1). The table indicates that the average multiplier[3] for public consumption in these countries is slightly less than one. The average in the United States is 1, and in the eurozone it is 0.8. The findings of the worldwide study therefore support the Weak Keynesian theory. Another prominent finding that is also reflected in the Table is the large variance compared to the multiplier estimate.

Table 1
The fiscal multiplier for public consumption one year later – findings from the recent literature

Method of estimation	Entire sample		US		Europe	
	VAR	DSGE	VAR	DSGE	VAR	DSGE
Average	0.9	0.7	1.0	0.7	0.8	0.6
Median	0.8	0.6	0.9	0.7	0.6	0.5
Mode	0.6	0.5	0.6	0.0	0.5	0.5
Maximum	2.1	1.9	2.0	1.6	1.5	1.5
Minimum	0.4	0.0	0.4	0.0	0.5	0.1

SOURCE: IMF Fiscal Monitor, April 2012, Page 33.

Despite the large variance in the findings, the worldwide studies share a number of common conclusions:

• The effect of taxes is smaller than that of expenditure in the short term; however, this is sometimes reversed in the intermediate term.

• The multiplier is higher in large countries, in countries with a low level of debt and in closed economies (and therefore it can be expected that Israel will have a low multiplier).

[2] Thus, for example, AFG (2012) showed that the negative effect of an increase in taxes is stronger than that of a reduction in expenditure, primarily because taxes have a stronger effect on investment in the economy.

[3] The estimate of the multiplier also includes the direct effect on GDP as a result of the increase in public consumption. In other words, a multiplier of one implies that an increase of one shekel in public consumption will increase GDP by one shekel.

- The multiplier increases with the deviation of the economy from full employment and the greater availability of factors of production (such as in a period of recession).
- The size of the multiplier is also dependent on monetary policy. Thus, the multiplier increases in size when the nominal interest rate is particularly low and in economies with a fixed exchange rate.

Most of the empirical results are consistent with the four theories presented above. Nonetheless, the relation between the findings and the various theories varies according to the stage of the business cycle, the characteristics of the economy and in particular the monetary and exchange rate policies adopted. Thus, for example, the fiscal multiplier is expected to be greater than one in closed economies and during periods of recession with a surplus in production supply, which is consistent with classic Keynesian theory. In contrast, in open economies or in a period of economic prosperity it is expected that the multiplier will be less than one, which is consistent with the Weak Keynesian Theory.

In general, the findings support the hypothesis that anti-cyclical fiscal policy is indeed effective. This result has gained additional support following the recent global crisis. Blanchard and Leigh (2012) found a strong positive link between the error in growth forecasts and the degree of fiscal consolidation during a period of one to two years after the recent crisis. They interpret this result as reflecting an underestimation of the size of the fiscal multiplier and its effect on the rate of growth. This is because forecasters of growth assumed that the size of the multiplier during a period of recession and liquidity trap is similar to that during normal periods, an erroneous assumption in the researchers' opinion.

Estimation of the fiscal multiplier in Israel

The Bank of Israel has estimated the size of the fiscal multipliers using the VAR method and what follows presents the highlights of those findings (Mazar, 2011; Mazar, 2013 forthcoming).

It was found that an increase of one shekel in public consumption raises GDP after one year by 70 agorot. This implies that the multiplier for public consumption is smaller than one, which is similar to the findings of most of the research in this area. The effect of an increase in public consumption persists for three years.

The maximal impact of a statutory increase[4] shekel in direct taxes is achieved after about two years, with quarterly GDP reduced by the amount of the increase in taxes.

According to the VAR model, the effect of a change in indirect taxes is of a much shorter duration and reaches its peak in absolute terms after only two quarters. On average, the effect of indirect taxes over three years is slightly stronger than that of direct taxes. Thus, an increase of one shekel in the collection of indirect taxes reduces quarterly GDP by almost two shekels after one to two quarters. Following that, the effect quickly diminishes.

Another important finding shows that a change in public consumption financed by additional taxes does not have a statistically significant effect on GDP.

In conclusion, the research indicates that the fiscal multipliers in Israel, for both public consumption and taxation, are less than one. In other words, the effect that a change in public consumption and/or taxes

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[4] In other words, a change in tax rates that will increase the revenues from direct taxes by one shekel, without taking into consideration the effect of the change on economic activity. In actuality, revenues will be less than a shekel due to the decline in economic activity.

has on growth is smaller than the change itself. As in the case of other countries and in accordance with economic theory, the effect of a change in public consumption is slightly larger and more persistent than that of a change in taxes. In contrast, it was found that an increase in public consumption together with an increase in taxes does not have a statistically significant effect on growth.

Other models for estimating the fiscal multiplier

In order to provide forecasts of expected developments in the National Accounts, the Bank of Israel uses a number of macroeconomic models which have implicit fiscal multipliers, as described in Table 2.

The DSGE model[5] describes the links between real and nominal variables in the economy and the interest rate path that is necessary to achieve the objectives of monetary policy, with fiscal policy determined exogenously. Its structure is based on microeconomic principles in a context of general equilibrium. In this model, public consumption directly influences total demand in the economy, the rate of direct taxation influences the decisions of firms and households in the labor market and the rate of indirect taxation influences the decision of consumers in the market for final goods. Some of the parameters in the model, in particular those with a long-term effect, are calibrated while others are estimated using the Bayesian method according to data for the period 1992–2009.

The annual macro model describes in detail the real variables in the economy, particularly the various components of public consumption. Its structure is based on economic logic; however, in contrast to the DSGE model it is not based on optimization and its parameters are calibrated ahead of time (in other words, they are determined outside the model). In this model, public consumption affects total demand and employment in the economy, the rate of taxation affects disposable income and direct taxes affect the demand for labor, the supply of labor and the investment decisions of firms. The model also includes the long-term effect of the government deficit and the weight of taxes in GDP on growth in total productivity.

With respect to the estimates themselves, the multiplier for public consumption obtained from the other models is similar in magnitude to that obtained through VAR estimation. In contrast, the multiplier for indirect taxes according to the VAR model is much larger. The main difference between the estimates of the effect of direct taxes is in its timing. Thus, while according to the VAR model GDP reacts only after 18 months or more, according to the Research Department's economic models the reaction is immediate.
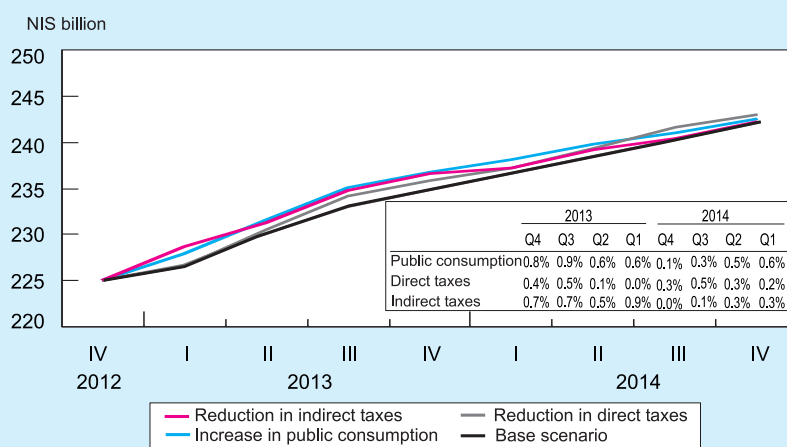
We will now attempt to illustrate the estimate of the multiplier as obtained from the average of the three models using a simple simulation. Table 3 presents the path of GDP as a result of a (statutory) increase of one percent of GDP in public consumption, a reduction in the rate of direct taxation and a reduction in the rate of indirect taxation, in comparison to the Research Department's basic growth scenario.

Table 2
Multipliers (increase in GDP in shekels, average over the course of the year as a result of an increase of 1 shekel in the fiscal variable) according to the VAR model and the Bank of Israel's macroeconomic models

Model	Public Consumption	Direct Taxes	Indirect Taxes
VAR	0.53	-0.40	-1.44
DSGE	0.60	-0.30	-0.15
MACRO	0.80	-0.34	-0.40

[5] See Argov et al. (2011).

Figure 1
GDP Path in the Next Two Years and the Effect of Changes in the Fiscal Variables According to the VAR model , (2012-14)

NIS billion

	2013				2014			
	Q4	Q3	Q2	Q1	Q4	Q3	Q2	Q1
Public consumption	0.8%	0.9%	0.6%	0.6%	0.1%	0.3%	0.5%	0.6%
Direct taxes		0.4%	0.5%	0.1%	0.0%	0.3%	0.5%	0.3%	0.2%
Indirect taxes		0.7%	0.7%	0.5%	0.9%	0.0%	0.1%	0.3%	0.3%

IV 2012   I   II   III   IV   I   II   III   IV
2012   2013   2014

— Reduction in indirect taxes   — Reduction in direct taxes
— Increase in public consumption   — Base scenario

a The table in the figure shows the GDP deviation from the base path as a result of any change in a fiscal variable.

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Box 6.2
Budgetary Performance in Israel's Local Authorities

During the past fifteen years, local authorities' deficits have declined markedly, as has the ratio between their debts and their revenues, despite decreased transfers from the government. The improvement in budget discipline is more noticeable among local authorities in the Jewish sector than among those in other sectors, and is observable in communities of all sizes and income levels. As expected, local authorities' deficits are not affected by the business cycle, contrary to the central government deficit.

Since the end of the 1990s, the budgetary performance of the local authorities has changed markedly. These changes are the result of tougher budget constraints faced by local authorities, the expansion of public reporting on their activities, and enhancement of the Ministry of the Interior's supervision. These tougher budget constraints were based on the recommendations of the Suari Committee (1993), which set objective criteria for the provision of "equalization grants" to the local authorities, leading in turn to a change in the problematic concept that was in operation until then of basically rewarding the local authorities through grants for failing fiscal performance (Brender, 2003). Further tightening of the criteria for distributing the equalization grant was later put into place (Gadish Committee, 2000), in order to ensure that this grant would not serve as an alternative to streamlining the local authority over the long term (Sadan-Samet, 2009). There was also increased enforcement of financial reporting requirements through the publication of the authorities' audited financial reports. These reports expanded the information available to the public regarding the authorities' actions, thereby enabling residents to take this information into account when voting in the local elections (Brender, 2003). As part of the Economic Recovery Program (2004), the Minister of the Interior was authorized to revoke authority from the professional and the elected echelons in the local authorities and to appoint a supervisory committee ("Va'ada Kru'ah"; Sadan-Samet, 2009). The changes in the budgetary discipline of the local authorities in Israel are of particular interest during the current period against the background of the role of local authorities in OECD countries in the debt crises being experienced by those countries (Eyraud and Badia, 2013).

An analysis of the fiscal data of the local authorities shows that, between 1997 and 2012, local authorities' budget balances have shifted gradually from a deficit of 0.8 percent of GDP to a surplus of 0.1 percent (Figure 1), accompanied by a decline in local authorities' debt to GDP ratio of 1.7 percentage points. Figure 1 shows that this decline was achieved despite a reduction in government transfer payments of 0.6 percent of GDP, which is the result of a marked reduction in local authorities' expenditures of 1.4 percent of GDP. The VFI (Vertical Fiscal Imbalance) index, which measures the rate of expenditures that are not covered by independent revenue out of total expenditures, also shows a similar trend, declining from 40 percent to 25 percent.

According to the Ministry of the Interior's audited financial report, there were 247 local authorities in Israel in 2011, 169 of which were Jewish or mixed localities, and 78 were non-Jewish (Table 1). In general, the weight of each local authority's revenues and expenditures out of total municipal revenues and expenditures reflects the proportion of the number of residents within the country's population—other

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Figure 1
Local Authorities - Expenditures, Revenues, Deficit and Government Transfer Payments to the Authorities, 1997-2012
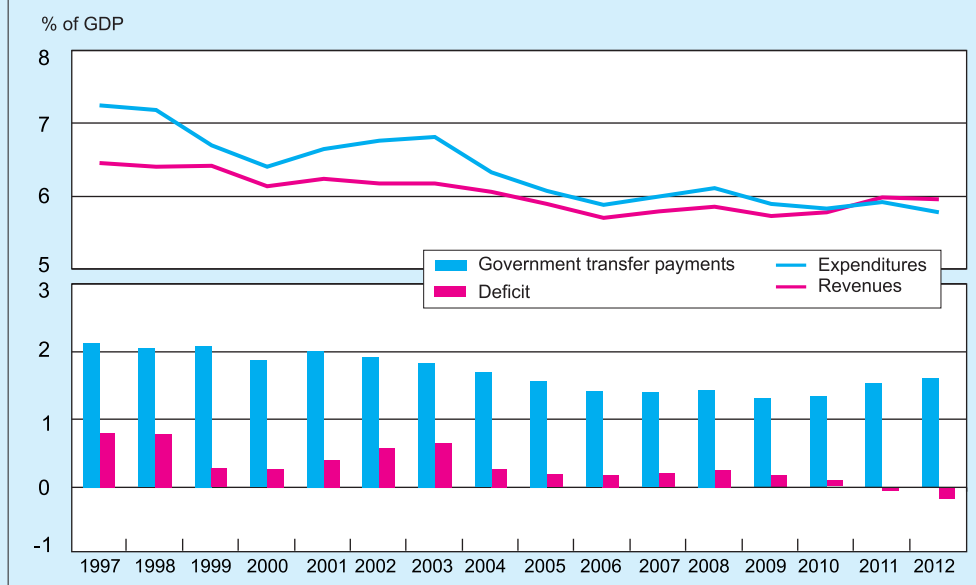
% of GDP

Table 1
Distribution of Population, Expenditures, Revenues, and Debt of Local Authorities, 2011

| | | Sector | | Size of community | | | | |
| | | | | Municipalities and Local Councils | | | | |
	Total	Non-Jewish communities	Jewish and mixed communities	Up to 5,000 residents	5,000 to 20,000 residents	20,000 to 50,000 residents	50,000 or more residents	Regional Councils
Number of authorities[a]	247	78	169	29	90	47	28	53
Number of residents (thousands)	7,672	1,014	6,658	87	971	1,516	4,348	751
As a percentage of total residents	100.0	13.2	86.8	1.1	12.7	19.8	56.7	9.8
Expenditures (as a percentage of the total)[b]	100.0	9.1	90.9	1.4	10.4	18.2	55.9	14.0
Revenues (as a percentage of the total)[c]	100.0	8.8	91.2	1.5	10.2	18.1	56.3	13.9
Loan burden (as a percentage of the total)	100.0	8.3	91.7	1.2	9.5	18.7	57.2	13.4

[a] Excluding industrial authorities.

[b] Expenditures in the regular budget and non-regular budget.

[c] Revenues in the regular budget and the non-regular budget.

SOURCE: Local authorities' audited financial data for 2011, Local Authorities Auditing Department, Ministry of the Interior; and Central Bureau of Statistics.

than non-Jewish local authorities, which spend less than dictated by their proportion of the population, and regional councils (counties), which spend more than their proportion of the population.

In order to obtain a picture of the local authorities' budgetary performance over time, we assess the development of the debt burden on each authority from 1997 to 2011 by the type and size of the authority. The debt burden is the total debt of each authority excluding bank overdrafts, and serves as a good estimate of the authorities' debt, since it amounts to more than 95 percent of debt. The development of the debt burden over time reflects whether the authority's budget is in deficit, balanced or in surplus. In order to standardize the level of the debt burden in relation to the size of the authority, we used two definitions: (1) real debt per capita; (2) the ratio of debt to municipal tax revenues ("arnona") and equalization grants. The reason for dividing the latter by only this part of the authority's revenue rather than total revenue is that most of the authority's other revenue is designated for pre-specified expenditure . The total of municipal tax revenue and equalization grants is basically the authority's "disposable income", out of which it can, among other things, repay its debts.

Table 2 shows the gap in real debt per capita between the non-Jewish local authorities and the Jewish and mixed ones both at the initial level and in the different trends of these data between the two groups. In 1997, debt per capita in the non-Jewish localities was less than half of their level in the Jewish localities. In the Jewish localities, real debt per capita declined until 2011, while it increased until 2004 in the non-Jewish localities, and only then, apparently as a result of closer supervision over local authorities' budgets, was there a decline among these authorities as well. In total, debt per capita in the Jewish localities posted a real decline of 46 percent between 1997 and 2011, alongside a smaller but still significant decline of 25 percent in the non-Jewish localities.

Table 2
Development of the Local Authorities' Real Debt Burden Per Capita by Type of Authority and Size of Community, Selected Years (NIS thousand, 2000 prices)

| | | Sector | | Size of community[a] | | | | |
| | | | | Municipalities and Local Councils | | | | |
	Total	Non-Jewish communities	Jewish and mixed communities	Up to 5,000 residents	5,000 to 20,000 residents	20,000 to 50,000 residents	50,000 or more residents	Regional Councils
1997	2.68	1.39	3.21	2.64	1.86	2.22	1.95	4.55
2000	2.39	1.49	2.78	2.53	1.73	1.95	1.84	3.92
2003	2.16	1.54	2.43	2.74	1.54	1.66	1.68	3.38
2006	1.92	1.38	2.15	2.40	1.43	1.48	1.64	2.94
2009	1.79	1.25	2.03	2.13	1.37	1.44	1.53	2.67
2010	1.66	1.15	1.90	1.87	1.26	1.36	1.45	2.53
2011	1.52	1.04	1.73	1.67	1.14	1.28	1.32	2.30
Rate of change 1997-2011	-43	-25	-46	-37	-39	-43	-32	-49

[a] The size of the community is not fixed for 2011. As such, some of the local authorities have moved up in the size category over the years.

* Excluding industrial authorities and authorities that merged.

SOURCE: Local authorities' audited financial data for 1997-2011, Local Authorities Auditing Department, Ministry of the Interior; and Central Bureau of Statistics.

An analysis of the local authorities' debt compared to municipal tax and equalization grant revenue by type of authority (Table 3) presents a similar picture. While the ratio of debt to municipal tax and equalization grants among local authorities in the Jewish sector has declined by an average of 45 percent, reflecting an improvement in these authorities' repayment power, the decline in the non-Jewish sector was just 9 percent. A multi-year regression analysis of the change in the ratio between real debt and real revenue from municipal tax and equalization grants between 1997 and 2011 indicates that the improvement in budgetary discipline among local authorities in the non-Jewish sector was smaller even when controlling for the size of the authority. The gap between the sectors exists even though the reduction in real equalization grants per capita to the local authorities in the Jewish sector was greater (Table 3).

Table 3
Debt Burden Relative to Municipal Tax and Equalization Grant Revenue (Selected Years) and the Real Decline in Equalization Grants Per Capita Between 1997 and 2011 of Local Authorities, By Type of Authority and Size of Community

| | | | Sector | | Size of community[a] | | | | |
| | | | | | Municipalities and Local Councils | | | | |
		Total	Non-Jewish communities	Jewish and mixed communities	Up to 5,000 residents	5,000 to 20,000 residents	20,000 to 50,000 residents	50,000 or more residents	Regional Councils
Loan burden compared to municipal tax and equalization grant revenue	1997	1.10	0.85	1.20	0.80	0.99	1.22	1.08	1.47
	2004	1.05	1.23	0.98	1.36	1.06	0.87	0.74	1.14
	2011	0.70	0.78	0.66	0.63	0.73	0.66	0.59	0.76
Real decline in equalization grants per capita	Rate of change 1997-2011	-52	-35	-60	-40	-42	-37	-1	-62

[a] The size of the community is not fixed for 2011. As such, some of the local authorities have moved up in the size category over the years.

* Excluding industrial authorities and authorities that merged.
SOURCE: Local authorities' audited financial data for 1997-2011, Local Authorities Auditing Department, Ministry of the Interior; and Central Bureau of Statistics.

An analysis of the real debt by community size shows that between 1997 and 2011, real debt per capita declined in all community size groups (Table 2) and the ratio of debt to municipal tax and equalization grant revenue (Table 3) declined, despite the marked reduction in real equalization grants per capita. Budgetary performance improved in all socio-economic groupings. An individual analysis of the authorities indicates that the improvement encompassed the decisive majority of them: the ratio between real debt and revenue from municipal tax and equalization grants grew over the period in only 44 authorities, containing 10 percent of the country's residents.

An international comparison shows that in addition to the positive trend that characterizes the budgetary performance of local authorities in Israel, the absolute fiscal state is better than local authorities in other OECD countries. Local authority debt in Israel in 2010, at 1.6 percent of GDP, was lower than the OECD

average, which was 8.2 percent of GDP. Moreover, the ratio of local authority debt to annual receipts was one-third among Israeli local authorities in 2010, compared to an OECD average of one-half (OECD, 2012).

During the most recent financial crisis, many local authorities in OECD countries were characterized by pro-cyclical behavior, which endangers the ability to recover from the crisis. This is a result of, among other things, a pro-cyclical tax base (OECD, 2012). In analyzing the connection between the cycle and local authority deficits in Israel, we found a different picture: local authority deficits—even excluding government transfer payments—are not affected by the business cycle. This is perhaps because the tax base of the local authorities in Israel, which comes mainly from fixed real estate taxation and water charges, is practically not affected by residents' income or business activity.

Sources:

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