Chapter 2

Aggregate Activity: GDP and Employment

- In 2015, GDP grew by 2.5 percent—similar to the pace over the previous three years, and slightly moderate when taking into account the historical growth and the pace of the labor force's expansion. This was reflected in the fact that in the past two years, the growth rates of per capita GDP and labor productivity have been lower than in most of the OECD member countries.
- The moderate growth is mainly a result of the fact that the global economy has been sluggish since the Global Financial Crisis of 2008, and to a certain extent of the fiscal consolidation implemented by the government in 2013 and in 2014.
- There are signs that growth in 2015 moderated due to the creation of localized limitations in the supply of manpower, particularly in high technology, a sector that has benefited from the rapid growth of employment in the business services industries in recent years.
- In terms of uses, there was a prominent contraction in exports in 2015. Alongside the low growth in world trade, other causes of this include a deterioration in competitiveness as a result of the appreciation of the shekel in previous years and the decline in business services exports, which may reflect the effect of the supply of skilled workers in the information technology fields.
- Another contributing factor to the moderation in the increase of uses is the standstill in fixed investment in the principal industries, particularly manufacturing—an industry that is exposed to demand from abroad.
- Investment in construction has stabilized at a high level, and as such did not contribute to growth in the past two years, as the ability to increase building starts in the economy has neared its limit.
- The growth rate of private consumption, particularly current consumption, accelerated in 2015, and contributed to maintaining the GDP growth rate. This was a result of both the low interest rate environment and the increase in real disposable income—itself a result of the decline in world energy and commodity prices and of the strength of the labor market.
- The employment rate continued to increase in 2015, while the unemployment rate declined to an historic low. The change in the composition of demand in the economy—which continued to range toward an increase in labor-intensive activity such as business services and trade—and the increase in employment in the public services, made major contributions to expanding employment. These processes were joined in 2015 by a slight acceleration in the rate of increase of nominal wages. Real wages in CPI terms increased markedly, thereby contributing to an increase the private consumption.
- Potential growth moderated slightly relative to previous years, as a result of the continued slowdown in the growth rate of the prime working-age population, the fact that the continued decline in the natural unemployment rate and the increase in the participation rate are beginning to reach their full potential, and the slowdown in the expansion rate of physical capital. However, potential growth remains higher than the growth of aggregate demand, and the negative output gap therefore expanded.

1. MAIN DEVELOMENTS AND BACKGROUND CONDITIONS

a. Main developments

In 2015, the economy continued to grow more moderately than in previous decades.

Gross Domestic Product (GDP) grew by 2.5 percent in 2015, similar to the underlying rate of growth in the three previous years (2.5–3.0 percent).[1] Relative to the growth rate in previous decades, and taking into account the fact that the labor force expanded in recent years, the growth rate in the last four years is moderate. This is mainly the result of the fact that global growth has been sluggish, making it difficult for Israeli exports to continue leading growth in the economy and reducing the incentive to make fixed investments in industries exposed to demand from abroad. However, another contributing factor to the moderation of growth is the fact that in recent years the government has had to reduce its deficit by raising taxes. Moreover, there were also signs in 2015 of the creation of localized supply limitations in some of the service industries, which had led growth in recent years. Against these forces, there were other forces supporting growth: the low level of the real interest rate incentivized the increase in private consumption—as well as investment in residential construction—thereby preventing a sharper decline in growth. The low interest rate was joined this year by a dramatic decline in world energy and commodity prices, since it saved the economy import costs and enabled an increase in other domestic demand.

The weakness of growth this year was the result of contraction in exports and a standstill in fixed capital formation.

In terms of uses, the contraction in exports was particularly prominent in 2015, and was affected by very moderate growth in world trade, and possibly by a negative impact on the competitive ability of the economy, a development that was reflected by the fact that prices of Israeli exports increased relative to the exports of its trading partners. This increase may reflect a lagged response to appreciation, a process that mainly took place in previous years and developed because the 2008 crisis had less of a negative impact on activity in Israel than among its main trading partners—all of which were at the eye of the storm. In addition to appreciation, there was also a decline in the export of business services, and alongside the factors mentioned above, it apparently also reflected the effect of the undersupply of skilled workers. In addition to the contraction in exports, there was also a standstill in fixed capital formation in the principal industries—particularly manufacturing, which is exposed to global demand. Investment in residential construction returned to growth in 2015 after stagnating in 2014, although at a significantly lower rate than in 2008–13.

The decline in global energy prices acted to increase real income in the economy due to the savings in net expenditure on the import of energy products. The public diverted the increased income to both expanding consumption and increasing private savings. The increase in national savings in 2015—to a great extent because the government began lowering the budget deficit in 2013—and the moderate demand for investment in the economy were reflected in the fact that the current account surplus increased to 4.7 percent of GDP. The decline in energy prices, the strength of the

[1] The underlying growth rate is the rate excluding the direct effects of one-off factors, including the start of natural gas production from the Tamar site in 2013 and Operation Protective Edge in 2014.

labor market, and the low real interest rate environment—which monetary policy makers in Israel and abroad dictated in response to the Global Financial Crisis and to the slow pace of recovery from it—contributed to the acceleration of the increase in private consumption in 2015. The Global Financial Crisis and the policy response to it therefore motivated a change in the composition of demand in the economy: Exports and investment are stagnating while private consumption is growing.

The global crisis, alongside monetary policy's response to it, led to a change in the composition of demand in the economy.

The level of employment remains high, and even improved. The employment rate (among the prime working ages) increased to 76.2 percent in 2015, while the unemployment rate declined to a historic low. There are a number of factors explaining the robustness of the labor market. On the demand side, the continued growth of employment in the public services, along with the change in the composition of demand in the economy, are reflected in a relative increase in business activity in employment-intensive industries (such as trade and services). Moreover, it seems that manufacturing in the tradable industries has adjusted itself to the weakness of demand from abroad, mainly by reducing utilization and not by reducing employment, inter alia because of assessments that the sluggishness in global growth is temporary. On the supply side, the natural unemployment rate continues to decline, and the participation rate continues to increase—although at a lower rate than in previous years. The slowdown in the growth of supply and the increasing demand for workers led to a decline in unemployment and an increase in the job vacancy rate in 2015, which were reflected in the creation of localized supply limitations in the labor market and some acceleration in the increase of the nominal wage. An improvement in corporate

The increase in the volume of employment and in the job vacancy rate were reflected in an increase in wages.

Table 2.1
Indicators of economic activity, 1995–2015

(annual change, percent)

	1995-2010	2011	2012	2013	2014	2015
GDP	4.0	5.0	2.9	3.3	2.6	2.5
GDP of OECD countries	2.3	1.9	1.3	1.2	1.8	2.0
Per capita GDP in Israel	1.8	3.1	1.0	1.3	0.6	0.5
Per capita GDP in OECD countries	1.5	1.3	0.7	0.6	1.3	1.5[a]
Exports excluding diamonds and startups	7.5	8.4	4.0	-1.8	4.9	-1.3
Domestic uses	3.2	5.5	3.2	3.3	3.2	3.8
Unemployment rate (level, percent)	10.4	7.1	6.9	6.2	5.9	5.3
Real wage per employee post	0.8	0.4	0.5	0.9	1.1	3.0
Current account surplus (percent of GDP)	0.3	2.6	1.6	2.9	3.7	4.7
Real effective exchange rate[c]	0.4[b]	-1.1	5.3	-5.7	-1.3	-0.1

[a] Data for 2015 are based on estimates.
[b] The data relate to the years 1999–2010.
[c] An increase refers to depreciation.
SOURCE: Based on Central Bureau of Statistics, OECD, and IMF.

profitability—thanks to declines in energy price and in financing costs—enabled an increase in wages without increasing the real unit labor cost.

There was some slowdown in 2015 in the potential growth rate of the economy—a figure that reflects the supply of domestic production inputs. It seems that alongside the slowdown in the growth rate of the prime working age population, which became stronger about 4 years ago, there were three other developments leading to this. The decline in the natural unemployment is close to maximization, a slowdown in the increase in the participation rate, and the standstill in investment over the past few years has attenuated the expansion of the stock of physical capital. However, the potential GDP growth rate remains higher than the increase in demand in the economy, and the excess aggregate capacity continued to increase in 2015.

Despite some slowdown in potential growth, the excess aggregate capacity continued to increase this year.

Per capita GDP increased by just 0.5 percent in 2015, one percentage point lower than the average pace in Israel between 1995 and the Global Financial Crisis. In the past two years, per capita GDP has increased by less than in most OECD member countries (Table 2.1 and Figure 1.6), after being among the highest in the OECD during the first years of the crisis (2008–2011), and the gap between Israel and the OECD average in terms of per capita GDP narrowed from 25 percent in 2006 to 15 percent in 2013. Israel's growth advantage was already in decline in 2012–2013, but in the past two years there was a turnaround, with the gap between Israel and the OECD average expanding again, to 17 percent in 2015. About one-quarter of the growth turnaround resulted from the fact that the total population increased more than the prime working age population—a continuing process that became stronger in the past four years.[2] However, most of the turnaround was a result of two processes: the growth rates in countries that were at the eye of the storm in 2008 are recovering to a certain extent, while the ramifications of the prolonged crisis are trickling down to Israeli growth.

In the past two years, per capita GDP in Israel has increased by less than in most OECD member countries.

The gap in per capita GDP narrowed between 2006 and 2013, mainly because the employment rate in Israel increased and, with the exception of 2009, labor productivity increased at a similar pace to the OECD average (Figure 2.1).[3] However, in the past two years, productivity in Israel has grown at a slightly lower rate than in the OECD.[4] Since the employment rates in Israel have reached higher levels than the OECD average, it seems that the key to maintaining the gap in per capita GDP—or continuing to narrow it—involves an increase in labor productivity. From a long-term standpoint, it seems that one of the main channels for increasing productivity in Israel (relative to productivity in other OECD countries) involves advancing policy measures that will make it possible to increase productivity in industries where the main gaps are found. As Figure 2.2 shows, industry-specific labor productivity in Israel is particularly low in domestic (and nontradable) industries. By way of illustration, in

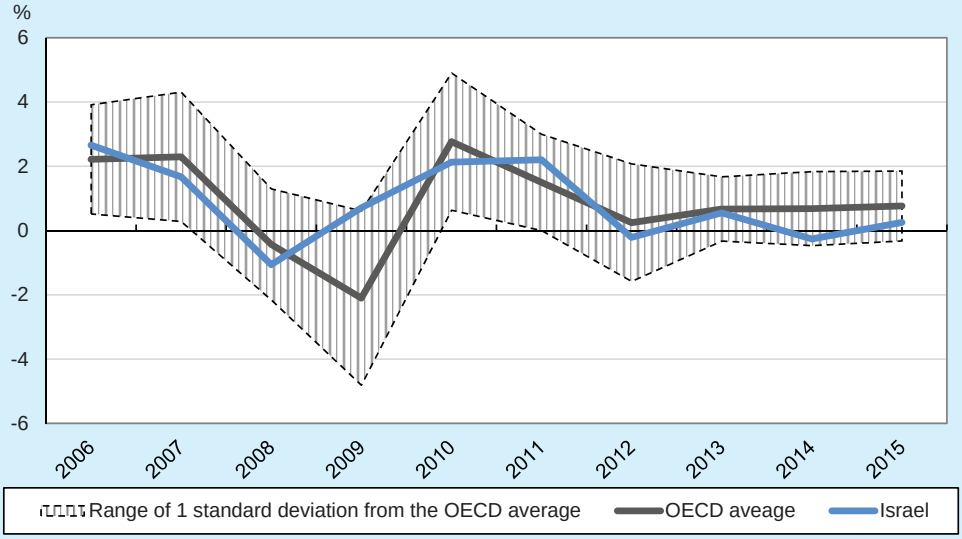
The key to maintaining the gap in per capita GDP—or continuing to narrow it—involves an increase in labor productivity.

[2] This is a global process, and it is taking place with greater strength in Israel.

[3] Box 2.1 in the Bank of Israel Annual Report for 2012 relates to a long period and discusses how the level of labor productivity in Israel is not converging to the level in the other advanced economies.

[4] Excluding the effects of the start of natural gas production from the Tamar reservoir in 2013, labor productivity in Israel has been lower than in the OECD for the past four years.

Figure 2.1
GDP Growth Per Employee in Israel and in the OECD, 2006–15



SOURCE: Based on OECD and Central Bureau of Statistics.

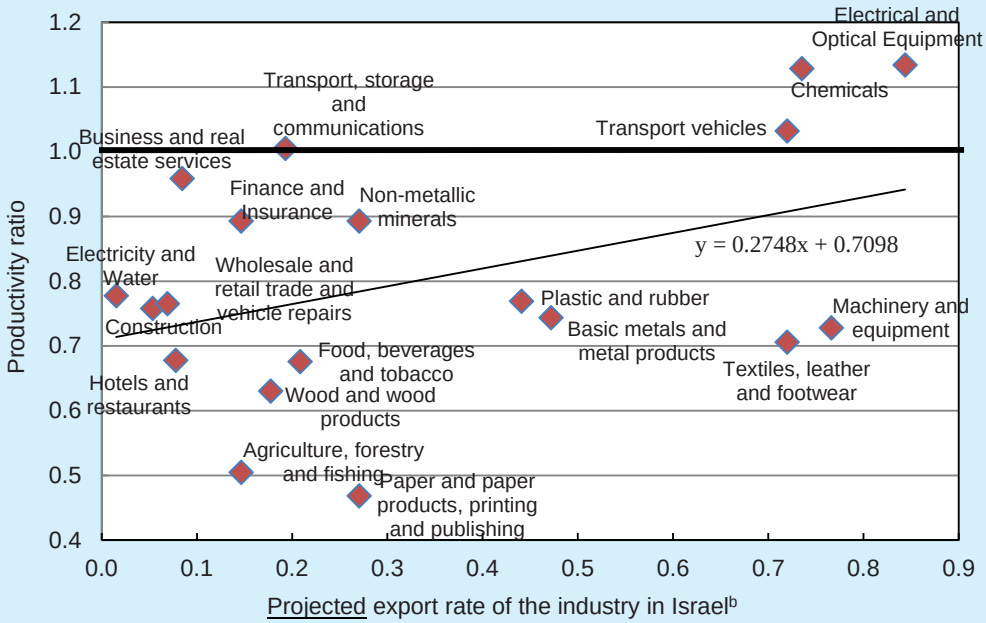
construction, commerce, and hospitality and food services, labor productivity in Israel is only about 70–80 percent of the OECD average. In contrast, in export industries such as electronic equipment, productivity in Israel is even higher than the OECD average.[5,6]

The figure illustrates how important it is to maintain the advanced export industries during periods of low external demand, since they contribute a lot to income in the economy, which is reflected in their high level of productivity. It is important to prevent a temporary weakness in global demand from turning into a prolonged problem in exports due to the loss of market share, or due to the loss of human capital as a result of the closure of companies that developed know-how and trained human capital specific to their products.

[5] It is important to emphasize that in order to build the horizontal scale in the figure, we used the rate of the industry's openness to exports—the forecast rate of export as a share of the industry's output—and estimated it based on the industry export rates in other countries (US, Germany, Japan and UK). Thanks to the use of the forecast rate, the causality moves from the export rate to relative productivity, and not vice-versa (productivity to export).

[6] Since there are no available data on the exchange rate adjusted to purchasing power parity (PPP) at the industry level, we compared the industry productivity levels in Israel to the parallel levels in the OECD, while using the exchange rate adjusted to the overall GDP level. In other words, we used the same adjusted exchange rate for all industries. We therefore assume that there is similarity between industries in the existing ratio between value added prices in Israel and average prices in the OECD. Even though this assumption is certainly not precise, and at this stage we can neither refute or establish it, there must be extremely large and outlying price variance between the industries in order for the correlation arising from the figure not to exist.

Figure 2.2
The Ratio Between Industry Labor Productivity in Israel and Average Industry Productivity in the OECD[a] Compared with Projected Export Openness[b] of the Industry in Israel, 2010



[a] Due to the limited availability of data, the average includes the US and 19 EU countries.
[b] Projected according to the average export rate of the US, UK, Germany and Japan.
SOURCE: Based on OECD, US Department of Commerce, Eurostat, WIOD database, and Central Bureau of Statistics.

b. Background conditions

Background conditions abroad

A number of background conditions abroad can help us understand the development of aggregate activity in Israel[7]: (1) the decline in global commodity prices, particularly energy prices, which dropped by 50 percent (see also Chapter 7); (2) the slowdown in the world GDP growth rate, which took place mainly in the developing economies, while growth in the advanced economies recovered somewhat relative to 2012–2013 (see also Table 2.2); and (3) the growth of world trade—a variable that has been found to provide a good explanation of demand for Israeli exports—slowed to about 2.6 percent in 2015, the lowest rate since the outbreak of the Global Financial Crisis, and an historically low level. This figure joins the data obtained for the previous few years, when world trade also did not grow at the pace that had characterized it prior to the crisis. Box 2.1 reviews various explanations for this weakness and attempts to understand whether it is structural or cyclical.

7 These conditions are discussed at length in Section 3 of Chapter 1.

Table 2.2
Global econmic developments, 1995–2015

(annual change, percent)

	1995–2010	2011	2012	2013	2014	2015[a]
Advanced economies						
GDP	2.3	1.9	1.3	1.2	1.8	2.0
Imports	5.8	5.3	1.2	1.4	3.4	4.0
US						
GDP	2.5	1.6	2.2	1.5	2.4	2.4
Eurozone						
GDP	1.7	1.6	-0.8	-0.3	0.9	1.7
Developing economies						
GDP	5.9	6.2	5.1	4.7	4.6	4.0
Imports	8.7	9.8	6.0	5.3	3.7	0.4
World trade	6.5	6.7	2.9	3.0	3.4	2.6

[a] Data for 2015 are based on estimates.

SOURCE: Based on OECD, BEA, Eurostat and IMF.

Domestic background conditions

Following the early dispersal of the Knesset in 2014, before the approval of the 2015 budget, and since the new government was established only toward the middle of 2015, the government operated without an approved budget for almost the entire year. However, it seems that the rules that apply to expenditure without a budget, as well as the actions of the government officials, did not materially restrict total public expenditure on an annual level, and did not markedly affect its composition. (For more information, see Chapter 6.) Public consumption (excluding defense imports) at fixed prices increased by 3.7 percent, similar to the typical pace over the past four years, and higher than the GDP growth rate (Table 2.3). An overall observation of government expenditure shows that total nominal public expenditure increased by 4.7 percent in 2015—slightly lower than the actual and potential nominal GDP growth rate (about 5 percent). This development led to a decline of about 0.2 percentage points in the structural deficit, and it seems that fiscal policy restrained growth slightly in 2015.[8,9] On the revenue side, tax revenues were higher than the initial forecast due to increased activity in the real estate market and wage increases. The surplus revenue led to a

[8] The decisive majority of government expenditure is comprised of wages and transfer payments, the purchasing power of which increased due to the decline in the Consumer Price Index. Therefore, the government's purchasing power, in terms of the ability to provide a standard of living to benefit recipients and to purchase labor services, increased in 2015 despite the decline in the expenditure to GDP ratio.

[9] In the short term, a reduction of the structural deficit in the government budget acts to moderate demand and growth. However, in the longer term, it acts to increase activity, *inter alia* by lowering the long-term interest rates in the market.

decline in the government deficit, as a result of which the government announced a reduction of VAT and corporate tax rates. The government decided to implement the VAT reduction immediately (in October), and the corporate tax reduction as of the beginning of 2016. These reductions are expected to be reflected in aggregate activity only from 2016 onwards. The dissipation of the restraining effect of the tax increases made in mid-2013 may have contributed slightly to the expansion of activity, particularly private consumption.[10]

The low interest rate environment that has characterized the past few years supported domestic demand.

The Bank of Israel reacted to the decline in inflation, the slowdown in growth, and the fact that the real appreciation of the shekel resumed in 2015, by lowering the interest rate to near-zero (0.1 percent), and through foreign exchange purchases intended to offset the forces for appreciation (see Chapter 3). However, as a result of the decline in inflation expectations, the real interest rate (in CPI terms) for the year actually increased slightly, although it remained negative. In contrast, real long-term yields declined by about 0.5 percentage points in 2015. The low interest rate environment that has characterized the past few years supported domestic demand through lowering the cost of credit[11], reducing the incentive to save, and increasing the "wealth effect" among the public by increasing the value of asset portfolios and of dwellings.[12] An analysis of the effect of policy through the Bank of Israel's general equilibrium model[13] shows that the process of lowering interest rates—from 3.25 percent in mid-2011 to 0.1 percent at the end of 2015—contributed about 0.5 percentage points of GDP growth each year from 2012 to 2015, and 0.9 percentage points of the employment level in 2015.

At the beginning of 2015, changes in tax regulations took effect, making some vehicles more expensive. Consumers therefore brought forward vehicle purchases—and importers brought forward the release of vehicles from customs—to December 2014. In other words, consumers and importers conducted activity in December 2014 that had been planned for the beginning of 2015, reducing GDP in 2015 by approximately 0.2 percent and yearly import totals in 2015 by about 0.4 percent.[14] That said, the volume of new vehicle purchases in mid-2015 was about 20 percent higher than in 2012. This development was supported by the expanded supply of credit, particularly to households.

[10] Studies have shown that statutory tax changes reach peak effect on the level of economic activity after one year at the most, and the effect begins to dissipate two years after the change. See Brender, A. and E. Politzer (2014), "The Effect of Legislated Tax Changes on Tax Revenues in Israel", Bank of Israel, Research Department Discussion Paper No. 2014.08; Mazar, Y. (2011), "The Effect of Fiscal Policy and Its Components on GDP in Israel", *Israel Economic Review* 9(1), pp. 1–28.

[11] More information appears in Chapter 4.

[12] Kahn, M. and S. Ribon, (2014), "The Effect of Home and Rent Prices on Private Consumption in Israel—A Micro Data Analysis", Israel Economic Review, 11(1), pp. 97–144.

[13] Argov, E., A. Barnea, A. Binyamini, E. Borenstein, D. Elkayam and I. Rozenshtrom (2012), "MOISE: A DSGE Model for the Israeli Economy", Bank of Israel, Research Department Discussion Paper No. 2012.06.

[14] Even though vehicles are imported, they contribute to GDP, through importers' profits and the indirect taxes paid on them—which account for a combined 50–60 percent of the value of the vehicle.

In the fourth quarter of 2015, a wave of terrorist attacks against Israel began, reflected in isolated violent incidents in many communities throughout Israel. These events prevented the completion of the recovery of tourism from the negative impact it suffered following Operation Protective Edge. However, it seems that for now, the incidents have caused almost no slowdown in domestic macroeconomic activity, in contrast to security developments with greater impact and volume such as the Second Intifadah, which led to a prolonged negative impact on domestic demand and exports in 2001–2002[15], or Operation Protective Edge, which reduced GDP growth by about 0.3 percentage points in 2014.[16]

Terrorist incidents increased toward the end of the year, but have caused almost no slowdown in domestic macroeconomic activity.

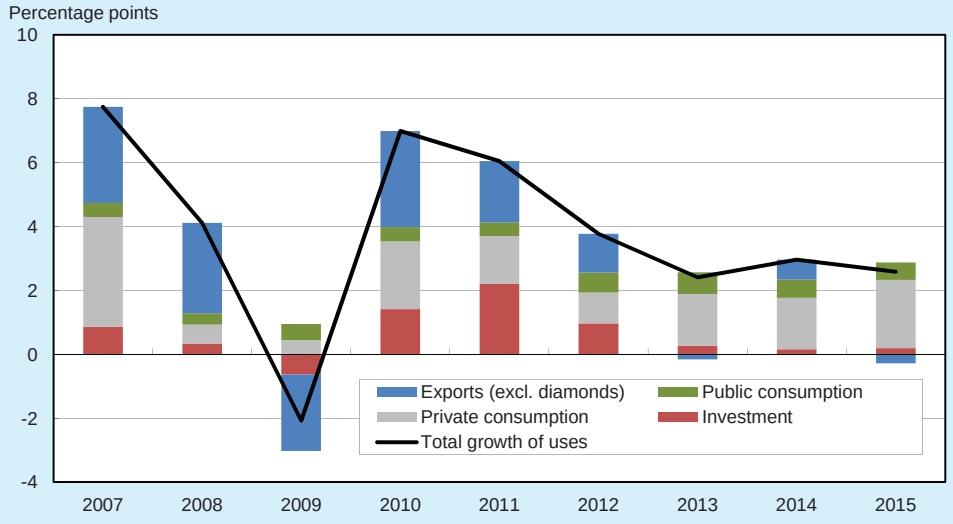
2. AGGREGATE DEMAND AND USES

a. The composition of foreign and domestic demand

The economy's aggregate demand for final uses grew this year by a moderate 2.6 percent. The rate of growth in uses declined to this low environment already in 2013, primarily due to the exposure of the export component to the moderate demand from abroad and the appreciation of the shekel (Figure 2.3 and Table 2.3). The contribution of investment to the growth of uses has been negligible in recent years. In contrast, domestic demand for private consumption and for public consumption continued to

Aggregate demand for final uses grew this year by a moderate rate, with a change in composition.

Figure 2.3
Total Growth of Uses and Contribution of Components, 2007–15



SOURCE: Based on Central Bureau of Statistics.

[15] It seems that the Second Intifadah trimmed about 4 percent from GDP in 2001–2002. See Box 2.1 in the Bank of Israel Annual Report for 2001, and the Bank of Israel Annual Report for 2002.

[16] A discussion of the economic effects of the military conflicts over the past decade appears in the Bank of Israel Annual Report for 2014, Box 2.1.

increase at a stable rate and even accelerated this year, thus maintaining the growth in total demand in the economy.

The weakness in demand in 2015 was reflected on the sources side both in GDP growth and in the growth of imports (Table 2.3). However, these did not fully reflect the weakness of demand, and investment in inventory increased this year. That increase might indicate that corporations were surprised by the low demand this year, and particularly by the decline in exports, or rather that they expect future growth in demand and are therefore avoiding a sharp slowdown in production. The low interest rate environment is reducing the financial cost of maintaining inventory relative to the savings that would result from reducing production.

An observation of imports over a longer period shows that its weight out of total uses (in fixed prices) remained stable over the past four years, and is slightly lower than its average weight between 2006 and 2008, the period preceding the Global Financial Crisis. This proportion was affected by a number of contrasting forces: the real appreciation of the shekel lowered the relative price of imports and supported increased imports, but the increase in excess domestic capacity since the crisis and the increase in the weight of construction and services as a share of total uses moderated the weight of imports.

Table 2.3
Sources and uses, 1995–2015

(annual change, percent)

	1995–2010	2011	2012	2013	2014	2015
GDP	4.0	5.0	2.9	3.3	2.6	2.5
Imports (excluding ships, aircraft, diamonds and defense imports)	4.7	8.7	5.2	-2.0	3.3	2.7
Domestic uses	3.2	5.5	3.2	3.3	3.2	3.8
of which: Private consumption	4.2	3.4	2.2	3.9	3.7	4.9
Investment in fixed assets (excluding ships and aircraft)	2.0	15.1	3.2	3.1	-1.3	-1.4
Investment in inventory as a percentage of GDP (excluding diamonds and startups)	0.1	-0.2	0.5	0.4	0.3	0.7
Public consumption (excluding defense imports)	2.2	2.2	3.3	3.8	2.9	3.7
Exports (excluding diamonds and startups)	7.5	8.4	4.0	-1.8	4.9	-1.3

SOURCE: Based on Central Bureau of Statistics.

b. Domestic uses

Private consumption

Private consumption continued to lead the increase in demand.

This year, private consumption maintained its strength and continued to lead the increase in demand. The increase in private consumption even accelerated this year to 4.9 percent, with current consumption being particularly prominent, expanding more rapidly than in any year since 2007. The effect of the recovery from the temporary slowdown in current consumption during Operation Protective Edge was a contributing factor in the marked increase in current consumption relative to 2014. However, it seems that most of the increase was a result of a combination of the low real interest rate environment—since it continued to support increased credit (including nonhousing credit)—and the increase in real disposable income (Table 2.4). The latter was a result of both the increase in employment and wages in 2015, and the dramatic decline in energy prices. This decline led mainly to an increase in the consumption volume of energy products that became less expensive (private consumption of fuel, electricity and water jumped by 8.2 percent in 2015), but since demand for these products is characterized by rigidity, it also left households with disposable income that led to some increase in current consumption of services and manufacturing products as well. Box 1.1 outlines the long-term trends in the demand for electricity, including the elasticity of demand for electricity with respect to their price and to total activity. In the fourth quarter of 2015, the increase in current consumption slowed, and there was even a decline in the consumption of services. It is not inconceivable that the decline reflects a response to the deterioration of the security situation in the fourth quarter, however, the decline followed four quarters of very rapid growth in the consumption of services. As such, the level of the consumption of services in the fourth quarter was about 5.5 percent higher than in the same quarter in 2014.

The low interest rate, tax changes, the appreciation of the shekel, and the decline in fuel prices continued to contribute to the worthwhileness of purchasing private vehicles.

Most of the items in durable goods consumption increased significantly in 2015, but total consumption of durable goods increased only slightly (0.7 percent), only because vehicle purchases declined by 6.7 percent. Net of the effect of customers bringing forward vehicle purchases to December 2014, the level of private purchases is increasing, and is supported by the low interest rate environment, tax changes intended to make it less worthwhile to lease a vehicle, a decline in fuel prices (a product complementary to vehicles), and the appreciation of the shekel in previous years, which acted to lower the cost of the import component of consumer goods—a component that is significant in the case of vehicles.[17]

[17] The effect of appreciation on consumption is discussed in the parallel section of the Bank of Israel Annual Report for 2013, and in the Bank of Israel Annual Report for 2014.

Table 2.4
Background conditions and main indices of the development of domestic demand, 1995–2015

(annual change, percent)

	1995–2010	2011	2012	2013	2014	2015
Private consumption	4.2	3.4	2.2	3.9	3.7	4.9
***of which*: Current consumption**	3.8	2.5	3.6	3.1	2.8	4.9
Consumption of durables	5.6	10.8	-6.0	6.4	9.9	0.7
Gross private disposable income from all sources	4.0	3.5	4.6	3.7	3.5	5.5
Credit to households	7.7[a]	9.0	6.3	6.4	6.2	6.7
Real 1-year interest rate (government bonds, percent)		0.6	0.2	-0.3	-0.7	-0.5
Value of the public's financial assets	11.3	-1.2	7.8	8.9	6.8	4.5
Consumer Confidence Index	4.6[b]	-2.1	-3.2	-4.3	2.7	3.4
Fixed capital formation (excluding ships and aircraft)	2.0	15.1	3.2	3.1	-1.3	-1.4
Credit to the business sector	6.6[a]	4.5	4.1	-1.4	0.5	1.6
Real 10-year interest rate (government bonds, percent)		2.5	2.1	1.7	1.0	0.5
Purchasing Manager's Index (level)	52.1[b]	48.7	43.2	47.2	48.6	50.2
Change in capital utilization (net balance[c] from the Bank of Israel Companies' Survey)	-3.6	9.7	-0.1	-3.2	-2.1	-9.0
Public consumption excluding defense imports	2.2	2.2	3.3	3.8	2.9	3.7
Total taxes (percentage of GDP)	33.1	30.2	29.1	30.1	30.7	30.9
General government budget deficit	3.4	2.6	4.2	3.6	2.8	2.4
Change in the structural deficit		0.3	0.2	-0.2	-1.0	-0.2
Change in the cyclically adjusted-deficit		0.4	1.6	-0.6	-1.2	-1.1

[a] The figure relates to the years 2005–2010.

[b] The figure relates to the years 2002–2010.

[c] The percentage of manufacturing companies reporting an increase in the utilization of machinery and equipment, minus the percentage reporting a decline.

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

Investment

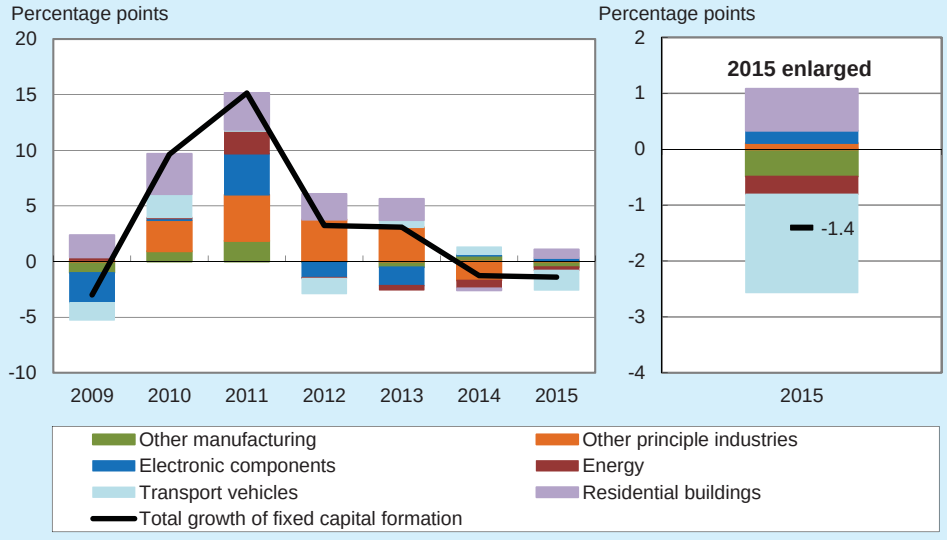
Gross domestic investment increased by 1.5 percent in 2015, due to an increase of 0.5 percent of GDP in investment in inventory. In contrast, fixed capital formation (excluding ships and aircraft) contracted by 1.4 percent, similar to the situation in 2014 (Table 2.4; details appear in Table 2.A.3).

Nonresidential fixed investment—about two-thirds of fixed investment—reached a peak in 2011, due to expectations that the world would recover from the financial crisis and as a result of several large investment projects in the areas of electronic components and energy (Figure 2.4). Since then, it has been growing at a negligible rate, and has even contracted over the past two years. Most of the decline in

investment in 2015 was derived from a decline of about 22 percent in the import of land transport vehicles. As in previous years, the decline in investment in the field of energy continued this year as a result of the completion of infrastructure projects related to the production of natural gas and the construction of private power plants. An examination of investment in manufacturing (excluding vehicles) shows that the industry, which is exposed to the moderate demand from abroad—contracted in 2015, following three previous years of no growth on average. It seems that investment in manufacturing is not growing, despite the low interest rate environment, because there is excess production capacity in most of the industry. This explanation is consistent with indications that the utilization of capital has declined in the past two years (Table 2.4). There was negligible growth in investment in the other principal industries this year, but within that, there was a marked increase in investment in machinery and equipment in domestic-oriented industries that have benefited from increased demand in the recent years—construction, trade and services. There was no particular growth this year in investment in nonresidential construction or other construction, which include public investments. The level of investment in both manufacturing and in the principal industries as a whole, remains sufficiently high to support an increase in capital stock—and even to support it at a higher rate than the increase in GDP (Table 2.8).[18]

Investment in manufacturing is not growing because there is excess production capacity in most of the industry.

Figure 2.4
Total Growth in Fixed Capital Formation and Contribution of its Components, 2009–15



SOURCE: Baed on Central Bureau of Statistics.

[18] Capital stock is not measured directly, but is calculated through the perpetual capital stock method: Investment data over years are aggregated while assuming the lifespan of each type of investment and its rate of depreciation. There may be some upward deviation in the data on capital stock if there was a decline in recent years in the lifespan of fixed investments.

Investment in residential construction resumed its growth in 2015, but at a significantly lower rate than the rate between 2008 and 2013.

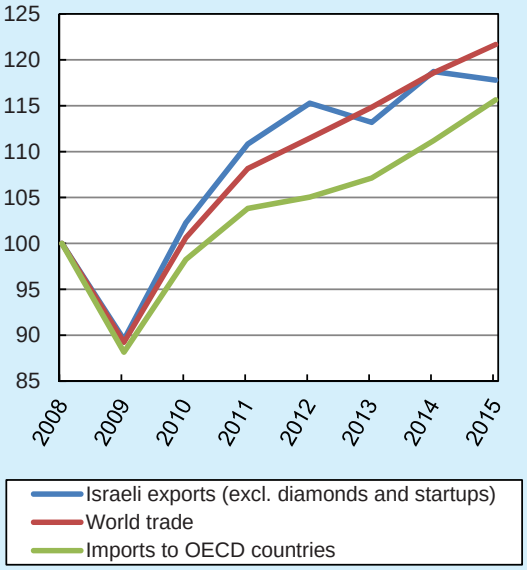
Active investment in residential buildings—about one-third of fixed investment—resumed its growth in 2015, by 2.4 percent after being unchanged in 2014. However, this growth rate is low relative to the average rate between 2008 and 2013—about 9 percent per year. The increase in the number of building starts—from about 45,000 units in 2014 to about 48,000 units in 2015—was a contributing factor in the increase in the volume of investment in residential construction. However, despite the annual fluctuations, the level of building starts has remained stable since 2011, in the range of about 45,000 units per year. This is a high level, and the lack of growth in it apparently reflects restrictions in the planning stages and in the production capacity in the construction industry (a detailed discussion of the housing market appears in Chapter 9). Investment in residential and nonresidential construction led to a small increase of 1.4 percent this year in construction industry output, after a significant decline of 2.9 percent in 2014. In those two years, therefore, construction industry output reduced GDP growth by 0.1 percentage points, after contributing about 0.3 percentage points between 2008 and 2013 and helping soften the negative impact of the Global Financial Crisis on growth.[19]

c. Global demand and exports

In 2015, the weakness of growth of Israeli exports exceeded the weakness of growth of world trade.

Exports (excluding diamonds and startups) contracted by 1.3 percent in 2015. As Figure 2.3 shows, the weakness of exports in recent years explains a significant portion of the moderation in aggregate demand since 2012. Exports had difficulty increasing in recent years, first and foremost because world trade increased at a moderate rate due to the continuation of the global crisis (Box 2.1). Figure 2.5 indicates that between the beginning of the crisis and 2014, the development of Israeli exports was in line with the development of world trade. However, it seems that in 2015, the weakness of growth of Israeli exports exceeded the weakness of growth of world trade. This relative weakness was a result

Figure 2.5
World Trade, Imports to OECD Countries, and Israeli Exports (Goods and Services), 2008–15
(Volume index, 2008 = 100)



SOURCE: Based on Central Bureau of Statistics and OECD.

[19] See Bank of Israel (2015), "The construction industry and its contribution to growth", Recent Economic Developments, number 140, April–September 2015.

of a series of factors: The local security tension and the resulting negative impact on tourism, the appreciation of the shekel in previous years, the creation of supply constraints in some export industries, and temporary labor disruptions in the chemicals industry in the first half of the year.[20]

Goods exports (excluding diamonds)—about 60 percent of Israeli exports—declined by 1.1 percent in 2015, and have essentially not grown since 2012. The decline in 2015 was led by agricultural exports (about 2.5 percent of Israeli goods exports). This was largely the result of a drop in exports to Russia, a main destination for Israeli agricultural exports, as a result of the recession in that country and the marked depreciation of the ruble. Industrial exports also contracted this year, although at only a slight rate—0.3 percent. An examination of the development of goods exports from Israel compared to the development of goods exports from the other OECD countries (Figure 2.6) shows that at the peak of the Global Financial Crisis (2009), there was less negative impact to Israeli exports than to exports from the other member countries. In the two following years, Israeli goods exports increased at a rate similar to the OECD average. This is one of the reflections of the fact that the crisis impacted the Israeli economy to a relatively moderate extent. However, since 2012, goods exports from Israel have grown at a lower rate than in most of the OECD countries, and 2015 is no exception.

Since 2012, goods exports from Israel have grown at a lower rate than in most of the OECD countries.

The export of tourism services—about 5 percent of Israeli exports—declined by 0.9 percent in 2015, due to the security incidents that took place during the year and in the previous year. Figure 2.7 shows how Israel's tourism services exports reacted to each of the four military conflicts that took place during the past decade.[21] The figure shows that the immediate impact of Operation Protective Edge was felt by the tourism industry beginning around the time of the operation, and was similar in intensity to the impact of the Second Lebanon War (which also took place in the summer and had a similar duration). Even though it initially seemed that tourism was recovering more rapidly than in the past, the wave of terrorism that broke out in Israel at the end of 2015—alongside the increase in global terrorism and the negative impact it is causing to tourism in general—halted the recovery. The level of tourism services exports in the second half of 2015 was 12 percent lower than in the half-year preceding Operation Protective Edge.

Tourism to Israel declined in 2015 due to the security incidents that took place during the year and in the previous year.

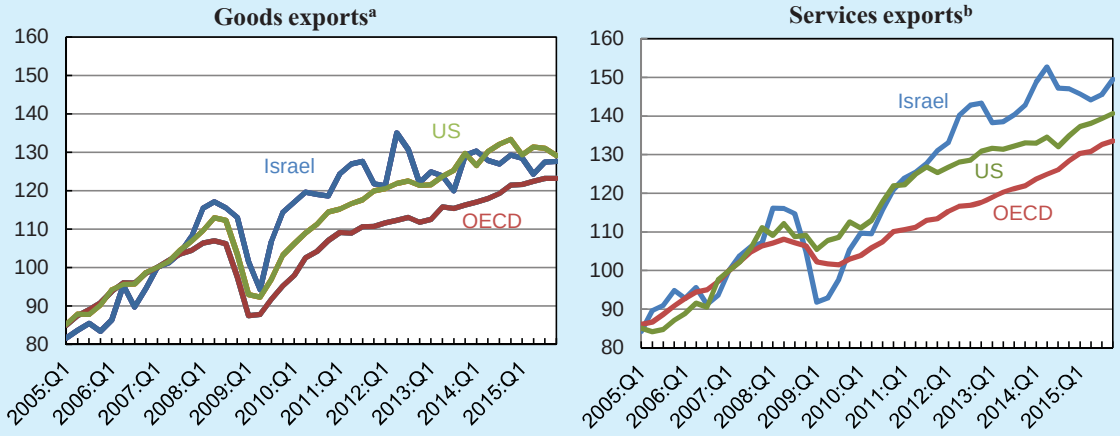
A prominent change in the growth rate of exports took place in the business services field—about one-third of Israeli exports.[22] Business services exports contracted by

[20] Israel Chemicals estimates (in its financial statement to September 30, 2015) that the strike at the company caused it to lose $450 million in sales in 2015, which is the equivalent of 0.5 percent of Israel's annual exports (excluding diamonds and the sale of startup companies).

[21] The economic effects of combat operations in the past decade are discussed in the Bank of Israel Annual Report for 2014, Box 2.1.

[22] The main components of the "business services" aggregate analyzed here include software services, research and development services (excluding the sale of startup companies), shipping and transportation services, professional services (in the areas of law, accounting, sciences, technical, management and support), wholesale trade services, complementary services provided by the manufacturing industries, financial services, and more.

Figure 2.6
Goods and Services Exports from Israel, the US and OECD Countries, 2005–15
(Volume Index, 2007:Q1 = 100)

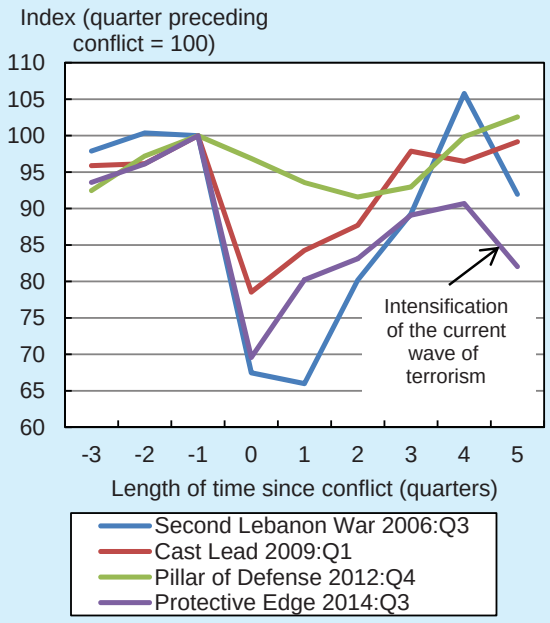


[a] In Israel: Excluding diamonds.
[b] In Israel: Excluding the sale of startup companies.
SOURCE: Based on OECD and Central Bureau of Statistics.

Business services exports contracted in 2015, after leading export growth in the previous five years.

2.5 percent in 2015, after leading export growth by increasing by an average of about 11 percent per year in the previous five years.[23] The decline in business services exports was particularly notable in the high technology industries, and especially in the export of research and development services, areas that are characterized by a high value added rate and by uniqueness (whereas goods are commoditized). Thanks to these qualities, such exports are less sensitive to changes in relative prices and to global business cycles. The overall coefficient of correlation between all of the OECD countries' services exports growth rates (0.4) is lower than the correlation between them in terms of goods

Figure 2.7
The Reaction of Tourism Services Exports to Military Conflicts
(seasonally adjusted data)



SOURCE: Based on Central Bureau of Statistics.

[23] During this period, there is one outlier year, 2013, in which business services did not increase.

exports (0.7).[24] While services exports from Israel, compared to the OECD average, declined at the height of the crisis more than it did in the other developed economies, it recovered more fully immediately thereafter. In 2015, the increase in services exports from Israel was, quite extraordinarily, the lowest in the OECD. Since the developed economies as a whole did not show a broad decline in services exports, this may indicate growth constraints on the supply side—particularly a lack of workers possessing the high skills demanded in these industries.

However, the question of why services exports contracted must still be answered. There are two possible explanations. First, the ensemble of firms involved is heterogeneous, and it is possible that the supply limitations mentioned above were focused specifically on companies that saw an increase in foreign demand for their services (but could not expand exports due to the limitations), while companies faced with a decline in demand for their services reduced exports. Second, the companies that export advanced services compete for skilled manpower with startup companies[25], and it is possible that the latter attracted workers this year, thereby reducing the supply of skilled workers available to the former. In 2015, there was an increase of about 0.2 percent of GDP in investment in startup companies (which is the equivalent of the decline in business services exports). It should be noted that such a process is not reflected in a decline in GDP, but only in a change in its composition—from exports to investment in startup companies.

Israeli exports may also have been characterized by underperformance relative to world trade, and particularly relative to global goods exports, as a result of an international return to equilibrium: economies that were less impacted by the global crisis, including Israel, are growing less during the recovery from the crisis. The economic mechanism driving this is the appreciation of the real exchange rate of the shekel, since it has a direct impact on the profitability of exports. While receipts are in foreign currency, a significant portion of expenses, particularly wages, are in shekels. The decline in profitability may roll over to a quantitative decline in the volume of exports through two supply-side channels: (1) exporters who cannot raise prices in foreign currency terms—and become unprofitable—stop producing; and (2) exporters with market power raise their prices in foreign currency terms in order to maintain profitability, thereby losing market share.[26] Export prices in shekels increased by about 2 percent in 2015, even though the decline in energy prices impacted some of the goods exports in Israel. Translating export prices of all advanced economies into

[24] The overall correlation—the percentage of covariance in the yearly growth rates of exports in advanced economies that is explained by the first principal component. The correlation is calculated based on data for the period from 2000 to 2015.

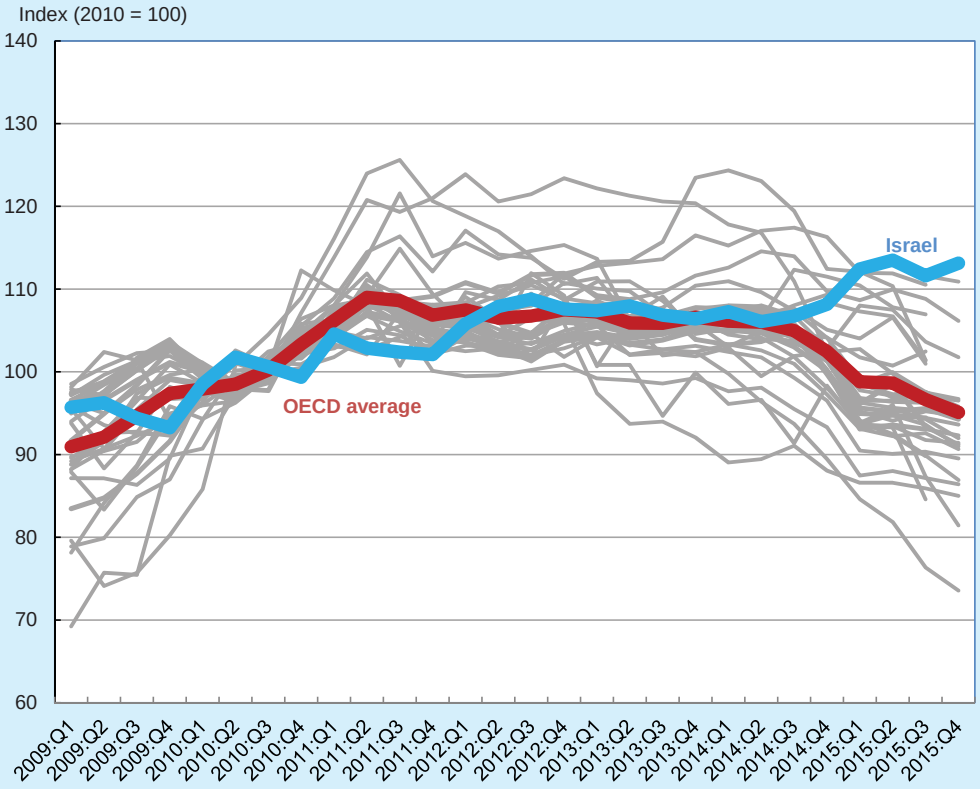
[25] The current expenses of the startup companies during their development are recorded in the National Accounts as an investment in stock of the startup companies, thereby increasing GDP. When a startup company is sold abroad, the value of the sale is recorded as an export, and in parallel as a decline in the stock of startup companies, so that the sale does not affect GDP.

[26] According to the Bank of Israel's General Equilibrium Model (see Note 10), an appreciation of 1 percent leads to a real decline of about 0.3 percent in total exports after one year, because the export price increases, in foreign currency terms, by 0.2 percent.

There was an exceptional increase in export prices in Israel, and this may be a result of the appreciation of the shekel in previous years.

a uniform currency shows that there was an exceptional increase in prices in Israel, and it is certainly possible that this is a result of the adjustment of prices to the loss of profitability as a result of the appreciation of the shekel in previous years (Figure 2.8).[27]

Figure 2.8
Export Price Index in Foreign Exchange Terms[a]: Israel and Other OECD Countries, 2009:Q1 to 2015:Q4



[a] The price index derived from all countries is translated into a uniform exchange rate comprised of the dollar (50 percent) and the euro (50 percent).

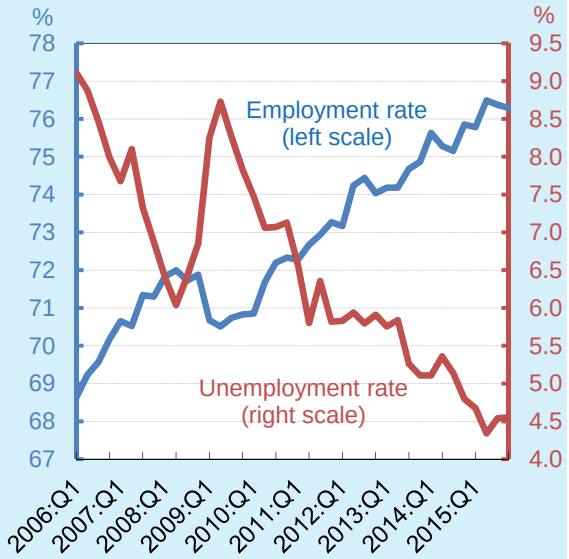
SOURCE: Based on OECD.

[27] An alternative explanation can be offered by arguing that it is possible that Israeli exports are not energy intensive like exports in most advanced economies—either from the standpoint of the manufacturing inputs or from the standpoint of the products themselves—and in contrast to exports from those countries, Israeli exporters could not translate the decline in energy prices to lower export prices. However, World Bank data show that the use of energy in Israeli production is similar to the average weight of energy use in the OECD, and that this proportion is not correlated with export or GDP growth in the past year.

3. MACROECONOMIC DEVELOPMENTS IN THE LABOR MARKET

The labor market continued to expand despite the moderate growth in GDP.

Figure 2.9
Unemployment and Employment Rates, Prime Working Ages (25–64), 2006–15



SOURCE: Based on Central Bureau of Statistics.

The labor market continued to expand in 2015, with the number of employed persons and total work hours in the economy growing by about 2.4 percent. (This figure relates to non-Israelis as well). Since GDP increased by slightly more than total labor input, labor productivity barely increased. The labor market is showing strong performance—the employment rate increased and the unemployment rate decreased to historically low levels (Figure 2.9)—despite the moderate increase in GDP. This phenomenon did not begin in the reviewed year, but has been noticeable since 2012. In contrast, prior to 2015, a decline in the average number of work hours per employee helped to reconcile between moderate growth of activity and total labor input. However, this year, the decline was halted—and there was even an increase in the average number of hours per employee in the business sector (Table 2.5)—because the utilization of labor increased in some of the industries that showed an increase in demand for labor (trade) and in industries where a supply limitation of workers developed against the background of friction in the labor market (professional, scientific and technical services).

The pace of growth in activity moderated in the past four years, while the labor market showed robustness, and this difference in development has to do with a number of structural and cyclical factors. On the structural side, the expansion of the supply of labor contributed to increased employment, although the contribution declined in 2015. On the cyclical side, the change in the composition of demand in the economy continued, with a marked transition from exports relying on productivity-intensive industries to private consumption relying on labor-intensive industries.

Table 2.5
Principal labor market data, 1995–2015

(annual change, percent)

	1995-2010	2011	2012	2013	2014	2015
Population in the prime working ages (25–64)	2.5	1.7	1.1	1.3	1.8	1.4
Labor force participation rate in the prime working ages (level, percent)		77.5	78.7	78.8	79.5	79.8
Employment rate in the prime working ages (level, percent)		72.8	74.0	74.5	75.5	76.2
Unemployment rate in the principal working ages (level, percent)		6.1	5.9	5.4	5.0	4.5
Employed persons (Including non-Israelis)	2.7	2.8	3.1	2.7	2.8	2.3
of which: Employed in the business sector	2.8	1.8	2.7	1.9	2.4	1.8
Employed in the public services	2.6	4.9	4.0	4.3	3.7	3.5
Total work hours (including non-Israelis)	2.9	2.5	2.6	2.1	2.1	2.4
of which: Total work hours in the business sector	2.8	1.8	3.1	1.9	1.7	2.9
of which: Total work hours in the manufacturing industry		0.9	2.5	0.1	0.0	-0.5
Total work hours in the public services	3.3	5.0	0.8	2.8	3.3	0.8
Hours per employed person (including non-Israelis)	0.1	-0.2	-0.5	-0.6	-0.7	0.1
of which: Hours per employed person in the business sector	0.0	0.0	0.4	-0.1	-0.7	1.1
Hours per employed person in the public services	0.7	0.1	-3.1	-1.5	-0.3	-2.6
Nominal wage per employee post	4.4	3.8	2.2	2.5	1.6	2.3
Real wage per employee post	0.8	0.4	0.5	0.9	1.1	3.0

SOURCE: Based on Central Bureau of Statistics.

The supply of labor continued to expand in 2015, but at a slower pace than in previous years.

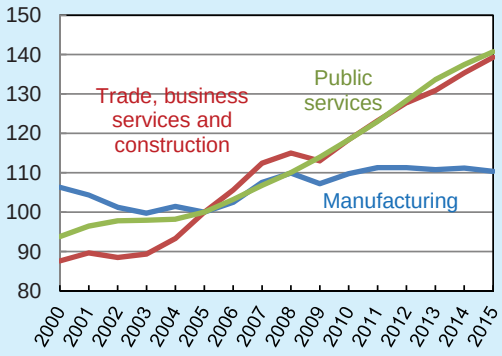
The supply of labor continued to expand in 2015, but at a slower pace than in previous years. The Israeli labor force[28] increased by about 1.8 percent (about 67,000 people) this year, while the average increase between 2011 and 2014, and in the previous decade, was about 2.4 percent. The slowdown relative to the previous decade is mainly a result of the slowdown in the growth rate of the population in the prime working ages, which increased by 1.4 percent in 2015, about one percentage point less than in the previous decade. This is a reflection of a long-term demographic process in the Israeli economy, whereby the cohorts leaving this age range are larger than the cohorts remaining within the range. Even though the growth rate of the population in the prime working ages was already declining to about 1.4 percent at the start of the current decade[29], the labor force continued to expand at a rapid rate, as stated,

[28] Labor force participants—a group that includes all of the employed and the unemployed (those looking for work who are not finding jobs) and does not include the working-age population that is neither working nor seeking employment.

[29] According to Labor Force Survey data. While the population in the prime working ages (25–64) increased by 1.4 percent in 2015, the increase was 1.8 percent in the previous year, and 1.1–1.3 percent in the two previous years. This may represent statistical volatility, and the basic growth rate in those years is equal to an average rate of 1.4 percent between 2012 and 2015. This is strengthened by the demographic forecasts made every five years based on the 2009 population. Those forecasts projected that the prime working age population would increase by 1.3–1.5 percent between 2009 and 2014.

until 2014, as reflected in the rapid increase in the labor force participation rate—an indication of the increase in the supply of labor. The increase in supply continued this year as well, but at a slower pace than in previous years. The participation rate among the prime working ages increased by 0.3 percentage points in 2015, and by an average of 0.6 percentage points in the previous four years. The increase in 2015 covered a wide range of age and gender groups, and reflects a number of structural processes. First, the education level of the population expanded, and educated individuals tend to participate in the labor force.[30] Second, the participation rate increased particularly among men and women aged 60–64, and this increase explains about 20 percent of the increase in the labor force. This increase at least partially reflects the continuing ramifications of the increase in the retirement age in the middle of the last decade.[31] Third, the upward trend in the participation rate among ultra-Orthodox men continued this year as well[32], in accordance with the policy adopted by the government with the objective of increasing the employment rate among groups that tend not to participate in the labor force.[33] It is possible that the growth rate slowed this year because these structural factors are beginning to reach their full potential.

Figure 2.10
Employee Posts in Manufacturing, in the Trade, Business Services and Construction Industries, and in the Public Services Industries[a], 2000–15
(Index: 2005 = 100)



[a] The trade, business services and construction industries include the following sub-industries: wholesale and retail trade and repair of vehicles; professional, scientific and technical services; management and support services; hospitality and food services; and construction.
The public services industries include: local administration; public administration; national security and insurance; education; healthcare; welfare; and social care.
Data for years prior to 2005 are based on the old classification of industries (1993 industrial classification).
SOURCE: Based on Central Bureau of Statistics.

The cyclical growth in demand for workers continued this year, against the background of the change in composition of economic activity. While the output of the tradable industries (manufacturing) has been stagnating due to the weakness of exports, there is a marked increase in the output of industries dependent on domestic

The change in composition of economic activity led to a cyclical increase in demand for workers.

[30] Box 5.1 in the Bank of Israel Annual Report for 2012 examines how education affects the participation rate in the long term.

[31] See Bank of Israel Annual Report for 2014, Chapter 5, Part 2.

[32] According to the definition used by the Central Bureau of Statistics to identify the ultra-Orthodox within the Labor Force Survey, the participation rate among ultra-Orthodox men aged 25–64 reached 50.4 percent in 2015, compared with 47.2 percent in 2014, and 37.6 percent a decade ago.

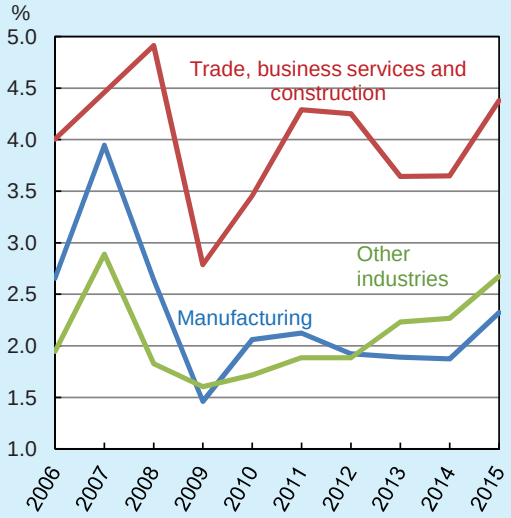
[33] The government's policy is also striving to increase the employment rate among Arab women. Their participation rate in 2015 (34.6 percent) is about 10 percentage points higher than it was a decade ago, but this improvement took place mostly between 2007 and 2012.

demand and characterized by high labor intensivity (trade, business and public services; Table 2.7). The change has been reflected in the fact that the number of employee posts in the trade and business services industries continued to increase this year at a high and stable rate—3.1 percent.[34] In addition, employment in the public services industries also increased, mainly due to employment in private non-profit organizations.[35] The increase in the number of positions in the domestic industries was accompanied by a rapid increase in the number of job vacancies for instructors, professional and nonprofessional workers in the construction industry, and clerks, artisans, and nonprofessional workers in the domestic industries such as trade and hospitality services.

In contrast, the number of employee posts in manufacturing, the industry most exposed to demand from abroad, has been stagnating since the beginning of the crisis in 2008, and even declined slightly in 2015 (Figure 2.10). While the job vacancy rate in the industry increased this year, it is far from the rate at the peak of the previous business cycle (Figure 2.11). An examination of the manufacturing industry shows a particularly prominent weakness in technologically advanced industries in the past three years (relative to the preceding years) (Table 2.6). These industries showed particular declines in the growth rates of production, the number of employee posts, and the number of hours per post.

It is possible that manufacturing companies, and particularly companies that are technologically advanced, are not broadly reducing their workforce, but are decreasing the intensity

Figure 2.11
Job Vacancies as a Percentage of Total Employee Posts Held by Israelis, by Industry Groups[a], 2006–15[b]



[a] The trade, business services and construction industries include the following sub-industries: wholesale and retail trade and repair of vehicles; professional, scientific and technical services; management and support services; hospitality and food services; and construction.
The other industries include: electricity and water; transport; communications; finance and insurance; education; healthcare; and community services.
[b] Since 2009, the figure is based on the Central Bureau of Statistics' Job Vacancy Survey. In previous years, it is based on chained data from the Employers Survey by the Ministry of Industry and Trade (now the Ministry of Economy and Industry).

SOURCE: Based on Central Bureau of Statistics and Ministry of Industry and Trade (Ministry of Economy and Industry).

[34] The increase in the number of posts in this group of industries is maintained even if we exclude the business services industry, because it is also dependent on demand from abroad.

[35] Including private not-for-profit institutions operating mainly in the education, health, art, entertainment and leisure industries. These include about 200,000 employee posts, accounting for about 20 percent of total positions in the public services.

of their utilization—and it can be seen that, for instance, the number of hours per position in the high technology industries has been declining by about 1 percent for the past three years. There are a number of reasons for the preference to reduce utilization. The companies are interested in maintaining the high level of human capital they have due to the costs inherent in new recruitment[36], they are transitioning to a production structure where a large proportion of the workers are required for overhead (meaning, unconnected to the volume of production), and they expect that there will be a turnaround in global demand in the foreseeable future.[37] This preference contributed to the development of supply limitations in the sub-industries dependent on skilled workers (both in manufacturing and in other industries). This was reflected, for instance, in the fact that the number of job vacancies in the information technology professions (mainly in the information and communication and the business services industries) increased by more than 60 percent within two years—twice the growth rate in the number of job vacancies in the entire business sector in the same period. In

Table 2.6
Indices of manufacturing activity by technological intensity

	High	Medium-High	Medium-low	Low
Rate of change: 2015 vs 2014, percent				
Production	1.9	1.3	0.9	1.8
Export revenue (fixed prices)	0.1	0.7	-6.5	0.4
Number of employees	-0.7	-1.8	1.2	-0.3
Work hours per employee	-0.9	-2.3	1.2	-0.6
Real cost per work hour	2.7	1.8	1.4	5.1
Average change 2013–2015, minus average change 2007–12, percentage points				
Production	-6.8	-3.0	-1.4	0.9
Export revenue (fixed prices)	-7.5	-3.6	10.9	-0.6
Number of employees	-2.6	-1.9	-0.4	0.4
Work hours per employee	-2.0	-1.8	0.2	0.3
Real cost per work hour	1.4	-0.1	0.5	1.9

SOURCE: Based on Central Bureau of Statistics.

[36] Box 2.1 in the Bank of Israel Annual Report for 2013 describes the human capital intensiveness of the manufacturing sub-industries with a high export rate.

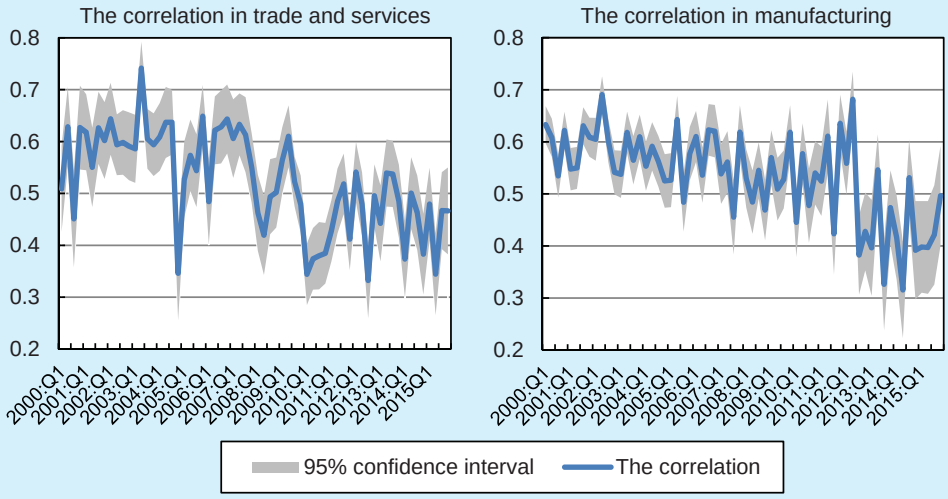
[37] A statistical examination found that the change in the unemployment rate is to a large extent and more significantly negatively correlated with growth expectations than with the actual development of growth. This is even more the case regarding expectations for the current year. A discussion of this topic appears in the Bank of Israel Annual Report for 2014, Chapter 2, Section 4a.

other words, firms held on to their skilled workforce despite the moderate demand for their products. Figure 2.12 provides an indication of this phenomenon. The Figure shows that since 2012, the correlation between manufacturing companies' reports of changes in employment and their reports of changes in output declined.[38,39] While the correlation in the trade and services industries also declined, the decline was gradual between 2007 and 2010, and not in more recent years.

The limited supply of labor with high human capital, together with the agreement to increase the minimum wage, accelerated the increase of wages.

The moderation of the increase in the supply of labor, together with the continued increase in demand for workers, led to a decline in the unemployment rate this year as well. However, in previous years, the decline in unemployment was not translated into an increase in wages, while there was a change in 2015: The pace of increase in the nominal wage per employee post increased from 1.6 percent in 2014 to 2.3 percent in 2015 (Table 2.5). The acceleration in the increase of wages was derived from the business sector industries, including those characterized by high human capital (information and communication, high technology manufacturing)—meaning industries where there is apparently a limited supply of manpower—and those characterized by a multiplicity of unskilled workers (construction, hotels and

Figure 2.12
The Coefficient of Correlation[a] Between Companies' Responses Regarding Growth in Activity and Their Responses Regarding Growth in Employment in Manufacturing and in Trade and Services, 2000–15



[a] Polychloric correlation, appropriate for discrete data such as categorical responses.
SOURCE: Bank of Israel Companies Survey.

[38] Based on company reports in the Bank of Israel's quarterly Companies Survey. The report contains companies' qualitative assessments of the changes in output and employment in five categorizations: "greatly increased", "increased", "unchanged", "declined", or "greatly declined". The Central Bureau of Statistics Business Tendency Survey carried out since 2011 showed similar findings among businesses.

[39] The decline in the correlation cannot be attributed only to the group of companies that increased or decreased their output.

restaurants, transportation, and low technology manufacturing). The increase in wages in the second group of industries apparently shows that the minimum wage increase in the economy directly contributed to the increase in wages, since the first installment of the minimum wage increase was implemented in April 2015. According to estimations, this increase contributed 0.6 percentage points to the increase in the average wage. However, the increase should not be viewed as an administrative initiative to apply pressure for an increase in wages. On the contrary, it was a result of an agreement between the employee organizations and the employers, and the government accepted the agreement later on. In other words, the employers' readiness to increase the minimum wage reflects pressure in the labor market, particularly at the lower wage levels.

The slight acceleration in the increase of the nominal wage, alongside the decline in inflation, led to an increase of 3.0 percent in the real wage (after adjusting for the Consumer Price Index). This is the largest yearly increase for more than a decade, and it apparently also contributed to the increase in private consumption. However, since the low inflation in 2015 is first and foremost a result of a decline in the prices of imported inputs (mainly oil), real wages increased at a more moderate pace from the manufacturers' point of view, and the increase was made possible because profitability improved due to the decline in input prices. After adjusting the wage per employee post for the GDP Price Deflator—a reflection of value added prices in the economy—real wages per employee post did not increase this year.[40] Since labor productivity increased moderately, the real unit labor cost declined slightly this year (Table 2.8). This analysis supports the conclusion that the wage increase and the robustness of the labor market do not reflect a broad limitation in the economy's production capacity.

The real unit labor cost declined slightly this year, which shows that the labor market is not creating a broad limitation in the economy's production capacity.

[40] While the private consumption deflator declined by 0.6 percent in 2015 (2015 average compared with 2014 average), the GDP deflator—a reflection of the price of final uses minus imports—increased by 2.6 percent. The gap in the developments is to a large extent the result of the decline in global energy prices, since the latter reduces the price of imports. While imported products, particularly fuel, are included in the consumption basket, they are not part of domestic output. The gap is also created by the fact that export prices increased at a high rate (see Section 2c).

Table 2.7
Change in output of principal industries, 1995–2015

(annual change, percent)

	Share of total output (2015)	1995–2010	2011	2012	2013	2014	2015
Total		4.0	5.0	2.9	3.3	2.6	2.5
Public services	16.0	2.0	3.0	3.2	2.0	3.1	2.9
Business sector	71.6	4.4	5.6	2.8	3.4	2.3	2.3
Manufacturing, mining and excavation	13.8	4.4	-0.5	-0.1	1.6	1.7	1.8
Commerce	8.7	4.4	1.3	3.7	0.5	0.9	2.8
Business services	22.1	4.4	17.1	6.4	3.3	3.9	3.9
Construction	5.3	1.2	12.3	7.9	6.3	-2.9	1.4
Transport and Communication	13.7	6.6	1.1	6.9	4.2	6.9	4.4
Agriculture	1.4	3.5	11.3	-3.3	-0.3	-3.5	-4.0
Electricity and Water	1.4	6.2	-14.5	-42.1	63.8	2.1	1.8

SOURCE: Based on Central Bureau of Statistics.

4. SUPPLY AND EQUILIBRIUM

a. Potential output and the sources of growth

According to the production function approach—on which the following analysis is based—potential output is defined as the output that would have been achieved in a hypothetical equilibrium in which the utilization rate of all factors of production is similar to its long-term average and which does not create pressure on prices and wages. Accordingly, the output gap reflects the deviation of actual output from its potential.[41] The rate of increase in potential output is derived from the long-term growth trends of the various factors of production—physical capital, labor and human capital—and from the average increase in total factor productivity, which is the result of technological improvements and other structural improvements.

The rate of growth of potential output slowed this year.

Calculations based on this approach show that the rate of growth of potential output was about 2.8 percent in 2015, lower than the average for 2012–14 (3.5 percent). The reason is related to the trend in potential labor input, the stock of human capital, and the stock of physical capital. In terms of labor input, the slowdown in the potential growth is explained by the slowing of the rate of growth of the prime working age population, and by the fact that the decrease in the natural rate of unemployment, which began about a decade ago, is nearing exhaustion. While the estimated NAIRU[42] declined over the past three years by more than half a percentage point each year, it

[41] When actual output is lower than potential (a negative output gap) it is also called "surplus capacity".

[42] The natural unemployment rate—the Non Accelerating Inflation Rate of Unemployment—is calculated on the basis of: Elkayam, D. and A. Ilek (2013), "Estimating the NAIRU Using Both the Phillips and the Beveridge Curves", Bank of Israel Research Department, Discussion Paper No. 2013.10.

declined by only 0.3 percentage points in 2015. In addition, the upward trend in the participation rate slowed. In terms of human capital, the decline in the rate of growth was affected by the gradual exhaustion of the increase in the average number of years of schooling, which had contributed significantly to growth until the end of the 1990s.[43] The standstill in fixed capital formation is gradually eroding the growth rate of the stock of physical capital, thereby explaining some of the decline in the potential growth rate. However, the level of investment remains sufficient to contribute to the increase in supply.

Total factor productivity has not increased in the past four years.

Total factor productivity has not increased in the past four years (Table 2.8). This mainly reflects the low utilization of factors of production, particularly physical capital—meaning a situation in which existing physical capital is not fully utilized. The utilization of physical capital (as well as the factors of production in general) is not measured directly, and the Companies Survey conducted by the Bank of Israel provides an indication of a decline in such utilization. The survey shows that in terms of changes in the utilization of capital, a negative net balance has developed (Table 2.4). It is possible that the slowdown in productivity is also a result of the fact that employment and activity are expanding to population groups and industries that are characterized by relatively low labor productivity.

Table 2.8
The supply of output, 1995–2015

(annual change, percent)

	1995–2010	2011	2012	2013	2014	2015
Gross Domestic Product	4.0	5.0	2.9	3.3	2.6	2.5
of which: Business sector output	4.4	5.8	2.6	3.4	2.3	2.3
Public services output	2.0	3.0	3.2	2.0	3.1	2.9
Stock of physical capital of the business sector	6.0	3.4	4.8	4.5	4.1	3.5
Labor force	2.6	1.8	3.2	2.0	2.7	1.8
Total hours worked	2.8	1.8	3.1	1.9	1.7	2.9
Total factor productivity	0.6	3.2	-0.8	0.7	-0.2	-0.8
Output per work hour (nominal)	5.0	5.0	4.2	3.0	0.4	2.8
Labor compensation per hour worked (nominal)	4.3	5.4	3.1	2.7	1.7	2.5
Real unit labor cost	-0.6	0.4	-1.0	-0.2	1.3	-0.3
Labor compensation rate in the business sector (level)	63.5	60.8	60.2	60.0	60.8	60.4
Output gap	-0.1	0.8	0.0	-0.2	-0.8	-1.1

SOURCE: Based on Central Bureau of Statistics.

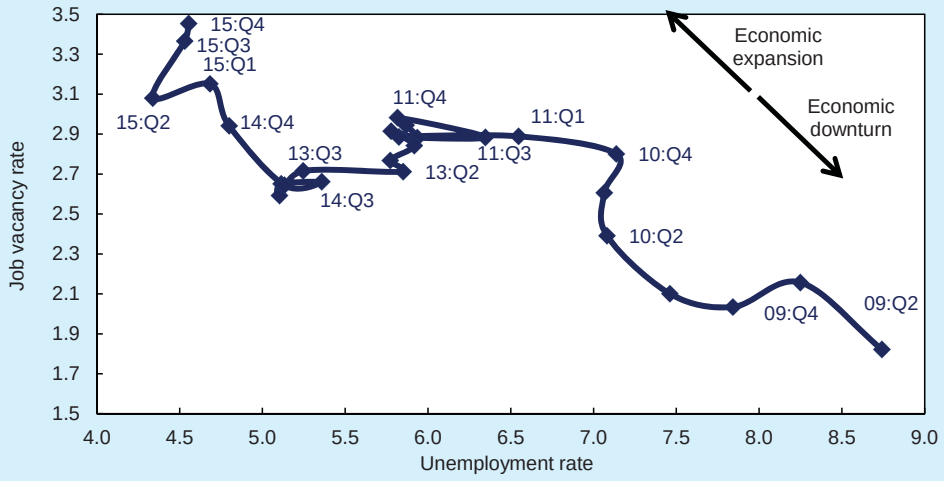
[43] A more in-depth discussion of the issue appears in Bank of Israel (2013), *Recent Economic Developments*, number 136.

b. Equilibrium and the output gap

The excess production capacity in the economy continued to increase this year.

Since the actual GDP growth rate was 2.5 percent in 2015, and remained lower than the potential GDP growth rate (about 2.8 percent), the negative output gap widened (Table 2.8). In other words, there is excess production capacity in the economy—some of the factors of production (workers and capital stock) are utilized with lower than average intensity—and the excess capacity has widened in recent years. The negative and widening output gap is consistent with the following phenomena: a low inflation environment, stagnating investment despite low real interest rates, the unit labor cost did not increase even though unemployment is low, labor productivity stagnated and total factor productivity declined, and import volumes increased by a relatively moderate rate, which supported the increase of the current account surplus. However, how does the negative output gap reconcile with indications of labor market tightness (low unemployment and an increase in the job vacancy rate; Figure 2.13)?

Figure 2.13
Unemployment in the Prime Working Age Range (25–64) and Job Vacancy Rate in the Business Sector, 2009–15 (seasonally adjusted quarterly data)



SOURCE: Based on Central Bureau of Statistics.

It seems that the explanation has to do with the duality that exists in the labor market—the differences between the domestic oriented industries and the technologically advanced export industries.[44] The main negative shock to hit the Israeli economy in recent years was the decline in global demand for Israeli exports. It is possible that despite this extra-ordinary shock, employers in the industries exposed to the decline in

[44] A comparison of the tradable and nontradable industries in Israel shows a decline in mobility. The phenomenon is described in Brand, G. and E. Regev (2015), "The Dual Labor Market: Trends in Productivity, Wages, and Human Capital in the Economy", *State of the Nation Report*, Taub Center for Social Policy Studies in Israel, pp. 185–230

Table 2.9
Savings, investment and the current account, 1995–2015

(percentage of national income)

	1995–2010	2011	2012	2013	2014	2015
Gross national savings	21.4	22.4	22.6	22.8	23.1	23.7
of which: Public	0.3	0.3	-1.0	-0.4	0.2	0.4
Private	21.1	22.0	23.6	23.2	23.0	23.3
Gross investment	21.0	19.8	20.9	19.9	19.5	19.1
of which: In principal industries	14.8	14.1	14.4	13.6	12.8	12.2
In housing	5.4	5.8	6.2	6.4	6.1	6.0
In inventory	0.8	0.0	0.4	0.0	0.6	0.9
Net current account	0.3	2.6	1.6	2.9	3.6	4.6
of which: Balance of goods and services	-1.5	0.6	1.3	1.8	1.6	2.8
Net income account	-2.8	-1.3	-2.7	-2.0	-1.2	-1.3
Net current transfers	3.7	2.9	2.3	2.7	3.1	2.5
Terms of trade[a]	-0.3	-4.8	2.8	1.1	0.6	8.6
Real effective exchange rate[a,b]	30.4	-1.1	5.3	-5.7	-1.3	-0.1

[a] Percent change in annual terms.

[b] An increase refers to depreciation.

[c] The figure relates to the years 1999–2010.

SOURCE: Based on Central Bureau of Statistics.

global demand preferred to avoid decreasing their workforce, particularly in the case of workers with a high level of human capital, and to allow productivity to moderate due to the assessment that the global weakness is temporary (see Section 3). In the high technology manufacturing industries, there was also an adjustment by reducing the number of hours per employee. The accommodative monetary policy in Israel and abroad, which was reflected in interest rates being reduced to near zero, made it possible for firms to maintain the existing factors of production, and even to invest in new capital stock due to very low costs of financing.

In contrast, the increase in domestic uses—there was a particular increase this year in current private consumption[45]—led to relatively rapid growth in the output of the services and trade industries, and until two years ago in the output of the construction industry as well (Table 2.7). These industries are characterized by relatively low labor productivity. Therefore, the increased demand for the product of firms in these industries forced them to increase the number of employees. In other words, the change in the composition of demand—the movement from industries exposed to conditions abroad that are characterized by high value added to labor-intensive domestic industries—led to a cyclical equilibrium in which there is excess production capacity at the aggregate level, while the labor market as a whole reflects a particularly high level of employment. It is not inconceivable that there is variance in the excess

The change in the composition of demand—the movement from industries exposed to conditions abroad to domestic industries—led to a combination of a negative output gap and a particularly high level of employment.

[45] Until 2013, the increase in investment in construction was prominent.

capacity at the industry level, with industries that showed a rapid growth in demand, such as the construction industry, or industries that encountered a supply limitation as a result of frictions in the adjustment of human capital intensive employment, actually characterized by a positive output gap that limited their ability to expand.

c. The current account and the real exchange rate

The current account surplus strikes a balance between national savings (private savings—of households and of the business sector—and public savings) and domestic investment. Similar to the previous two years, the current account surplus increased in 2015, to about 4.6 percent of national income (Table 2.9). During those years, there were a number of developments that contributed to the increase in private income: the start of natural gas production from the "Tamar" reservoir (2013), the sale of "Waze" (2013), and the increase in net receipts by Israelis from direct investments and investments in securities abroad (2014). This year, the decline in energy and commodity prices that began in mid-2014 was prominent, and saved the economy $5 billion net in import expenses, the equivalent of about 1.6 percent of GDP (2015 compared with 2013). These savings had a direct impact on increasing real private income in the economy.[46]

Despite all of these developments, private savings barely increased during this period. This may be a result of the low level of the real interest rate, and it may be that this year, it was also a result of savings in the cost of energy being directed to private consumption. In contrast, public savings increased due to fiscal consolidation, which was reflected in the reduced public deficit. As a result, there was an increase in the national savings in the past three years.[47] Since the composition of demand in the economy changed—moving from capital intensive tradable industries to labor intensive industries—Israel showed a decline in investment as a share of national income during these years, similar to the rest of the world. In other words, the decline in the weight of investment, and the increase in public savings led to a marked increase in the current account surplus at the end of the period.

The decline in the proportion of investments and the increase in public savings contributed to an increase in the Current Account surplus.

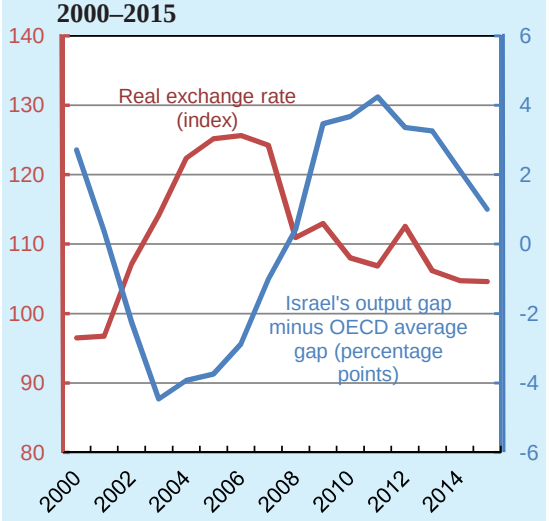
The excess production capacity in Israel is apparently low relative to the rest of the world. The Global Financial Crisis of 2008 impacted first and foremost Israel's main trading partners—the US and Europe. Israel was only moderately impacted by the crisis, with the impact mainly a result of the decline in real global demand for Israeli exports. At first, while domestic demand for consumption and investment declined due to global pessimism, the accommodative response of monetary policy, the flexibility of the labor market, and the understanding that the financial system in Israel was successfully managing the crisis, led rapidly to an acceleration in domestic demand, particularly consumption, which offset some of the global effects. Thus, a

[46] The effect of the decline in energy prices on the current account and on the economy as a whole is discussed from a broad perspective in Chapter 7.

[47] Since this is a reduction in the structural deficit, it is possible that the reduction also contributed to the fact that private savings did not increase (the Ricardo effect).

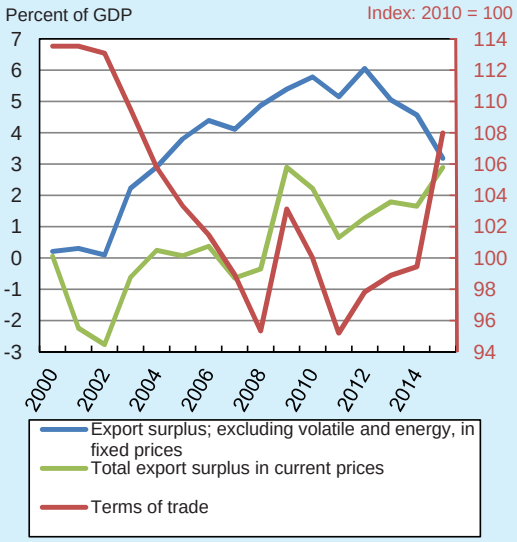
situation was created in which the output gap in Israel was less significantly impacted than the gap in other advanced economies (Figure 2.14).

Figure 2.14
Difference Between the Output Gap in Israel and the Average Gap in the OECD, and the Real Exchange Rate, 2000–2015



SOURCE: Based on OECD Economic Outlook (November 2015) and Central Bureau of Statistics.

Figure 2.15
Terms of Trade and Surplus of Goods and Services Exports, 2000–15



Volatile and energy includes: ships and aircraft, defense imports, diamonds, sales of startup company, and energy materials.

SOURCE: Based on Central Bureau of Statistics.

The growing current account surplus, together with the relatively low rate of excess capacity in Israel, have since 2008 created continued pressure for capital flows into the economy, and these capital movements led to a real appreciation of the shekel. Israel's real effective exchange rate (in CPI terms) strengthened by about 10 percent in the immediate aftermath of the outbreak of the Global Financial Crisis in 2008. From then until 2011—the year in which Israel's output gap advantage reached its peak of about 4 percentage points—the appreciation continued at a more moderate pace—an average of about 1.2 percent per year. This appreciation was part of the economic process that balanced between the activity levels in various countries. However, as long as the world did not recover from the crisis, the appreciation served to import the global weakness into the Israeli economy. And so, Israel's output gap advantage began to erode from 2012, reaching one percentage point in 2015. This decline, alongside the Bank of Israel's foreign exchange purchases, moderated the real appreciation forces, and between 2012 and 2015, there was moderate real appreciation of 0.5 percent on average[48] (Table 2.9 and Figure 2.14). Even though the appreciation

The decline in Israel's output gap advantage, alongside the Bank of Israel's foreign exchange purchases, moderated the real appreciation forces.

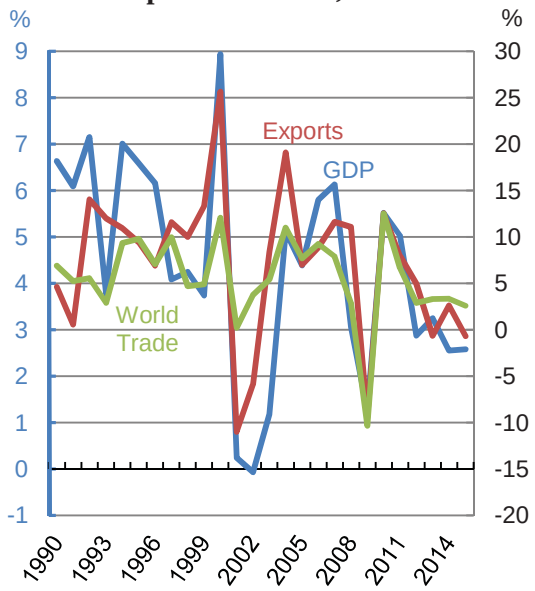
[48] Following the continued appreciation, there was a significant depreciation in the second half of 2014, which was apparently influenced by short-term financial forces and not by real forces. During 2015, the appreciation resumed, and offset this depreciation, as the real exchange rate returned to close to its pre-depreciation level.

had an immediate negative impact on the profitability of exports and increased the worthwhileness of imports, it may be reflected in a deterioration of the quantitative export volume surplus only after time, due to rigidity and various frictions. As Figure 2.15 shows, the quantitative export surplus began to decline about three years ago, after the main appreciation.[49]

Box 1: The Weakness of World Trade

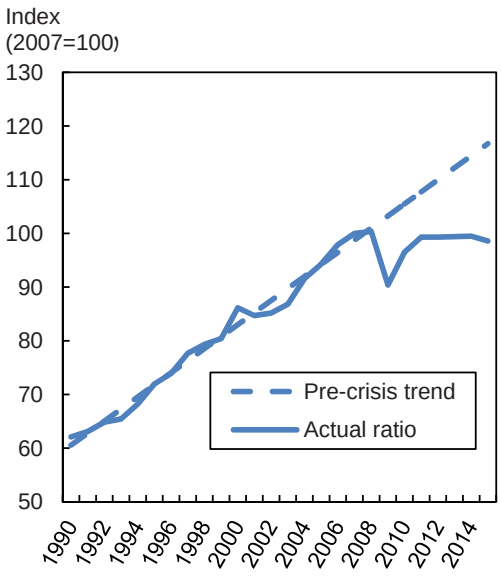
World trade is equal to the total imports or the total exports of all economies in the world. This is one of the most important variables in explaining real economic activity in Israel and its business cycles. Figure 1 illustrates the close connection between changes in world trade and Israeli exports, and also shows that the growth cycles of Israel's GDP are closely linked to exports. This has been brought into sharper relief since the beginning of the Global Financial Crisis. In 2009, the growth rates of the three variables dropped, recovering in the next two years. In the four years following that (2012–2015), growth rates were moderae relative to the previous growth rates.

Figure 1
The Growth of World Trade and of Israel's Exports and GDP, 1990–2015



SOURCE: Based on IMF, OECD, and Central

Figure 2
Ratio of World Trade to World GDP[a] in Fixed Prices 1990–2015



[a] World GDP in terms of Purchasing Power Parity (PPP).
SOURCE: Ollivaud and Schwellnus (2015) (revised).

[49] The quantitative export volume surplus analyzed here is in 2010 prices, and macroeconomically significant items such as ships and aircraft, defense imports, diamonds, the sale of startup companies, and energy products, were deducted from it since outlier developments in these items are not generally a result of macroeconomic factors the effects of which are being analyzed here.

During this period, there were two significant changes in world trade. First, it increased by about 3 percent per year, after having grown an average of 7 percent per year in the two decades preceding the crisis. Moreover, while the growth of world trade was more than twice the growth rate of world GDP in terms of purchasing power parity (PPP) in the two decades preceding the crisis, since 2009 the growth rates evened on average, such that the ratio between the variables is no longer increasing (Figure 2). In other words, the elasticity of world trade relative to world GDP declined from around 2 to unity. In view of this, the question arises as to whether the weakness of trade relative to GDP reflects cyclical factors or whether we are witnessing a structural change in the elasticity of trade relative to GDP. This box discusses the two approaches based on recent studies.

The structural approach

The structural approach was formulated by Costantinescu, Mattoo and Ruta (2015)—hereinafter CMR—and posits that the decline in elasticity is mainly the result of a structural change in the international production chain, which is particularly prominent in the US and in China.[1] CMR attribute the high level of elasticity in the 1990s to technological improvements and to liberalization, since these accelerated international vertical specialization and led to an increase in the proportion of imported parts and components as intermediate inputs.[2] They claim that this process has reached its maximum. First, industrial imports as a share of total imported goods has been declining in the US and in China since 2000—moderately in the US and more sharply in China. Second, the gap between the elasticity of world trade as measured in terms of value added relative to GDP and the elasticity of world trade as measured in the normal method relative to GDP is narrowing.[3]

CMR also examined and rejected alternative explanations for the weakness of trade[4]:

The composition of aggregate demand—The various components of aggregate demand differ in their import intensiveness. Investment is more import-intensive than private consumption, and private consumption is more import-intensive than public consumption. Therefore, the decline in elasticity may be the result of the transition from investment-rich aggregate demand to consumption-based demand. CMR recognize the importance of this explanation, but posit that it cannot be sufficient since in the years preceding the crisis, investment as a share of aggregate demand increased, and elasticity did not increase accordingly.[5]

Protection of domestic products—Policies that create import barriers became more common as a result of the Global Financial Crisis. The World Trade Organization (WTO) counted about 1,000

[1] The analysis and its conclusions were presented in *Global Economic Prospects*, published by the World Bank in January 2015.

[2] In vertical specialization, the production chain is built of many stages that are carried out in different countries.

[3] In the normal method, any transfer of inputs between countries is recorded in world trade at its full value, even though each stage contributes slightly to the value added (meaning to the GDP).

[4] They rejected them at least as main explanations.

[5] This approach is also discussed in *World Economic Outlook* published by the International Monetary Fund in April 2015. Summing up the discussion, the IMF concluded that the cyclical factors—including the decline in global demand and the change in its composition—explain about half of the slowdown in the growth of trade, and that the structural factors also contributed to the slowdown.

restrictions imposed since 2008 that have not yet been removed. These include, for instance, a change in customs fees and the opening of an investigation against dumping, which may lead to preventive measures. However, the new trade restrictions are valid regarding 4 percent of world trade, and therefore cannot explain most of the weakness in it.

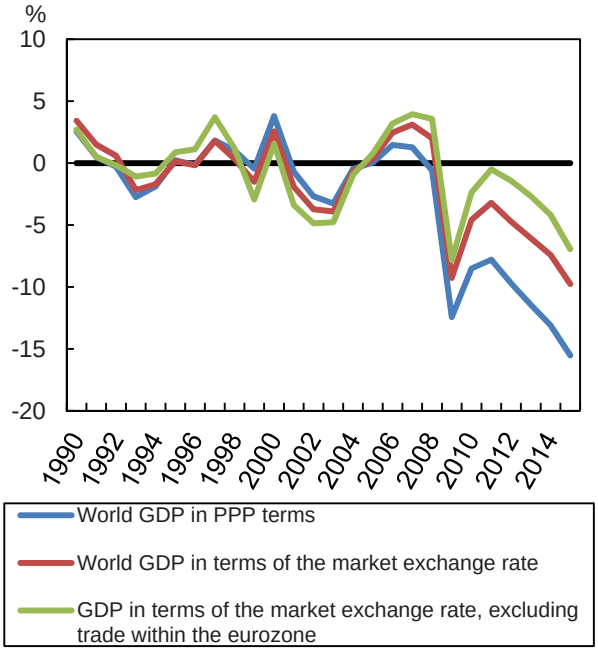
The composition of world trade—World trade is composed of goods and services, and the elasticity discussed here is equal to the weighted average of the elasticity of the components. Therefore, a decline in elasticity may be the result of an increase in the proportion of components with low elasticity, or a decline in the elasticity of some of the components. The data presented by CMR show that during the past two decades, services as a share of world trade remained stable (about 20 percent), and the decline in elasticity is therefore not the result of a change in composition, but rather of a decline in the elasticity of the industrial goods component.

The cyclical approach

In response to CMR, Ollivaud and Schwellnus (2015) present a different picture[6] and argue that the weakness in world trade since the crisis must be attributed to low aggregate demand more than to structural change. The authors indicate two main principles that differentiate between CMR's analysis and theirs:

GDP and world trade should be measured on the same basiss. It is common to measure world trade in terms of the market exchange rate (MXR), with the view that the Law of One Price applies to tradable goods.[7] Ollivaud and Schwellnus argue that it is proper to measure GDP in the same manner as well. This is a reasonable argument, since demand for trade depends mainly on the value of domestic product (as opposed to its quantitative volume)—which is apparent from the fact that the proportion of nominal expenditure on trade in the advanced economies (60 percent) is similar to its proportion in the rest of the world. However, CMR used data on GDP in

Figure 3
Deviation from the Trend of the World Trade to World GDP Ratio, 1990–2015



SOURCE: Ollivaud and Schwellnus (2015) (revised).

[6] This analysis was presented in *Economic Outlook* published by the OECD in February 2014. The article was published as a discussion paper in May 2015, and relies on data from the period until 2013 and on estimates for 2014. Figures 2 and 3 present an updated version of the data, including estimates for 2015.

[7] Since world trade is measured on the basis of import or export values at port prices, it is not directly affected by indirect taxes or marketing margins—the factors that explain why the Law of One Price does not apply within the economy.

terms of purchasing power parity (PPP), which generated a downward biased estimate of elasticity. In particular, when measuring world GDP in PPP and not in MXR, a higher growth rate is obtained, since the measurement in PPP increases the weight of the developing economies, which grow more rapidly on average. Since the advanced economies receive a lower weight in the PPP measurement, and since the Global Financial Crisis was mainly reflected in the initial years in a slowdown in the growth rate of those countries, the gap between the growth rate of world trade and that of GDP (measured in PPP) narrowed. Figure 3 indicates that the measurement of world GDP in MXR narrows some of the deviation that occurred in the trend of the trade to GDP ratio.

The effect of internal trade within the eurozone should be excluded. Trade within the eurozone constitutes about 10 percent of world trade, and suffered a serious negative impact during the last crisis mainly because demand in Europe declined. Due to statistical convention, internal trade within the eurozone is included in world trade, even though based on its characteristics—uniform currency, lack of tariffs, low shipping costs—it can be viewed as internal trade between different areas within a country, such as the United States. As Figure 3 shows, after excluding internal trade within the eurozone from world trade estimates, the decline in the volume of world trade relative to GDP is much less significant (and basically marginal until 2012). Thus, the weakness in world trade reflects statistical convention more than it does a structural change.

Since these corrections affect the estimate of elasticity at least until 2013, Ollivaud and Schwellnus conclude that there was no significant change in the long-term elasticity of world trade relative to GDP. They agree that a clear deviation from the trend developed with the outbreak of the crisis, but they argue that it is a sudden and limited deviation that can be explained by cyclical factors—mainly a change in the composition of aggregate world demand. Excluding the Chinese economy, expenditure on public consumption and private consumption excluding durables (two components of demand where the import component is low) increased at the expense of investment (where the import component is high). In China, while investment increased markedly, that increase reflected broad investment in infrastructure, where the import component is lower than the import component in other investments.

In terms of the argument that there was a structural change in the chain of production, it is common to measure the fragmentation in the chain of production through the ratio between gross exports and the value added of exports. According to the authors, this index behaves in a pro-cyclical manner, and the decline in it following the crisis may therefore be the result only of the cyclical behavior of GDP and not of any structural change.

It is difficult to determine which of the approaches is more appropriate for describing the weakness of world trade since the crisis. While Figure 3 shows that the principles proposed by Ollivaud and Schwellnus (2015) correct a significant part of the deviation found in the world trade to GDP ratio, it still seems that there has been a return of the deviation from the trend since 2013. If the cyclical explanation is dominant, world trade can be expected to return to rapid growth, which will enable Israeli exports to lead economic growth and to maintain its level for at least the medium term.[8] In contrast, if there really was a prolonged structural change, the growth rate of exports will not return to its previous level (about 8

[8] Five to 10 years. In the long term, the growth rate is affected more by the rate of increase of domestic inputs, particularly the labor force and technology, than by the composition of demand for uses.

percent) for a considerable time, and since a small economy is limited in its ability to base itself on growth stemming from domestic demand, the growth rate in the medium term can be expected to be slower than in the past. This issue will apparently become clear only when the global crisis is entirely behind us and the extent to which the world trade to GDP ratio has returned to its trend can be assessed.

Bibliography:

Constantinescu, C., A. Mattoo and M. Ruta (2015), "The Global Trade Slowdown: Cyclical or Structural?", IMF Working Paper 15/6.

Ollivaud, P. and C. Schwellnus (2015), "Does the Post-Crisis Weakness of Global Trade Solely Reflect Weak Demand?", OECD Economics Department Working Paper No. 1216.