

The Macro Picture of the Israeli Economy in 2016

Gilad Brand and Avi Weiss*

At the end of 2016, the macroeconomic picture for Israel is mixed. Although there has been a slowdown in economic growth in the past five years (see Spotlight), in the labor market, the situation looks good with signs of movement towards full employment. The data for the first quarter of the year may have raised some concern of a recession, but in the course of the year, the growth figures actually improved and the GDP is expected to grow by 3.5 percent¹ – a somewhat lower rate than in the past but higher than the growth rate of the last two years.

Following the trend of the last few years, the growth in aggregate demand has been supported by the rapid expansion of private consumption this year as well. This expansion was made possible by a relatively sharp rise in wages in the last two years, a rise in employment, and a reduction in the price of consumer credit. At the same time, the slowdown in exports continues, and despite a recovery in investment figures, this stems mainly from the activity of a single major company (Intel) and does not reflect the rest of the companies in the economy.² In 2016 as in previous years, the main barrier to rapid growth of the economy was low productivity, which is expected to be negative this year according to initial estimates.³ Labor productivity in Israel is only 76 percent of the OECD average and 64 percent of the G7 countries' average. An even more disturbing figure is that Israel is not closing these gaps, and the growth of productivity in Israel remains slow relative to other developed countries (Regev and Brand, 2015; Bank of Israel, 2013).

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1 This is according to the Bank of Israel's estimate in December 2016; the Central Bureau of Statistics' estimate is 3.8 percent.

2 In the third quarter of 2016, there was a sharp increase in the imports of machines and other equipment, as a result of investments by Intel. These investments are expected to continue through 2017.

3 According to early estimates for the first three quarters of 2016, there was a 1.5 percent drop in labor productivity compared to the equivalent period last year. See the discussion in the chapter "Growth in the Israeli Economy" in this volume for possible causes for the slowdown in productivity growth over the last five years.

In the labor market, there have been positive developments in the last year. Real wages rose in the first three quarters of the year by 2.3 percent (compared to the same period last year), after rising 3.1 percent the previous year. These wage increases are exceptional when compared with the very low wage rises of previous years. For example, between 2005 and 2014, the average real wage rose at an average annual rate of 0.5 percent. This trend is not caused only from the resilience of the labor market but also from the drop in the ratio between consumer prices and producer prices (see Spotlight).

In addition to the wage increase, there was also an expansion of the labor market, witnessed by a sustained rise in labor force participation rates along with a continued drop in unemployment. The increase in employment was accompanied this year by a rise in the average work hours per employee after several years of decline. There was also an increase in the share of job vacancies. This rise, along with the drop in unemployment, is indicative of a process of a tightening of the labor market (Figure 10 in the chapter “Growth in the Israeli Economy” in this volume).⁴ At the same time, there has been a slowdown in the growth of the work supply: the level of participation in the workforce among women rose moderately relative to previous years, and the participation of men remained almost unchanged (similar to previous years). A slowdown was also seen in the population growth of the main working ages (Figure 15, *ibid*), because of a change in the composition of ages in the economy — a trend expected to increase in coming years.⁵ Taken together, these are all indications that the labor force supply is approaching its limit.⁶ It is important to emphasize that the trend in recent years — a rise in employment along with a drop in unemployment (Figure 1) — is an exceptional phenomenon considering the moderate growth rate of the GDP,

4 Labor market tightness is defined as an increase in the ratio between the rate of available jobs and the employment rate, with a high ratio indicating the difficulty of employers to fill available jobs. Signs of this trend were also found in the Bank of Israel Companies Survey, where companies reported a certain rise in the intensity of the shortage of professional employees in the last two years, especially in the construction, hotel, transportation and communications industries.

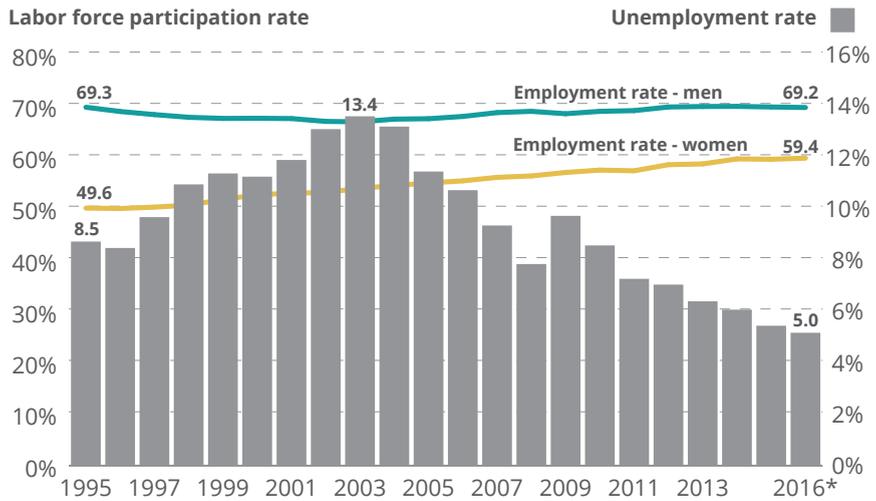
5 It is a reflection of a demographic process arising from the aging of the population. The reason for the strengthening of the trend in the coming years is that the cohorts born in the 1950s are large compared to the other cohorts of working age.

6 The low employment rate in the Arab Israeli and Haredi sectors provides significant potential sources for additional employment. However, since education levels in these populations are relatively low or are irrelevant to the labor market, their potential contribution to growth is limited, unless it also is accompanied by a change in educational patterns.

and arises from the change in the composition of demands in the economy: a transfer from exports, based on high productivity industries, to private consumption, based on labor-intensive industries characterized by low productivity.⁷

Figure 1. Labor force participation and unemployment rates

Data for 2015 and 2016 are from the third-quarter average



Source: Gilad Brand and Avi Weiss, Taub Center.
Data: Bank of Israel website.

The slow recovery in the global environment is hindering the economy’s return to more rapid growth patterns. The Israeli economy is small and open and therefore is significantly impacted by global growth and especially by the volume of global trade, which influences demand for Israeli exports. A long-term view suggests that the problems in the economy are not cyclical and temporary, but arise from structural challenges. Analysis of the growth of per capita product shows that growth in recent years has relied on the sharp and continuous rise in the employment rate, but at the same time there was a certain drop in investments in capital reserves and

7 A discussion and evidence to that effect are presented in the Bank of Israel *Annual Report 2015* (Chapter 2, p. 43). The early figures for 2016 indicate a continuation of the trend.

a slowdown in the growth rate of human capital reserves. The expansion of employment is a welcome trend, but the employment rate cannot rise endlessly and, therefore, should be viewed as only a temporary trend. The decline in the share of the population of the main work ages, along with the rise in the weight of populations characterized by low employment rates and low education levels or levels that are irrelevant to the labor force, could slow down future growth. Therefore, looking ahead, new channels will be required to support economic growth.

The slowdown in investments in most branches of the economy is surprising considering the low interest environment and the relatively reasonable condition of the economy. The danger is a drop in future potential growth. As for investment in infrastructures, the last years have been characterized by general growth, especially in transportation and energy, along with a continued drop in investments in communication infrastructures (Figure 2). The total investment in infrastructures in the economy as a percent of GDP is not high relative to the past (Figure 3), and in certain areas – particularly public transportation – the level of infrastructures is still lower than the level in most developed countries (Bank of Israel, 2015).

Figure 2. Investment in infrastructure as a percent of GDP



Investment in infrastructure includes investment in sea and air as well as land transportation, communication, electricity, and water. The series update was done with the assistance of the Central Bureau of Statistics. The light portion of the line figure indicates the update to the series.

Source: Gilad Brand and Avi Weiss, Taub Center.

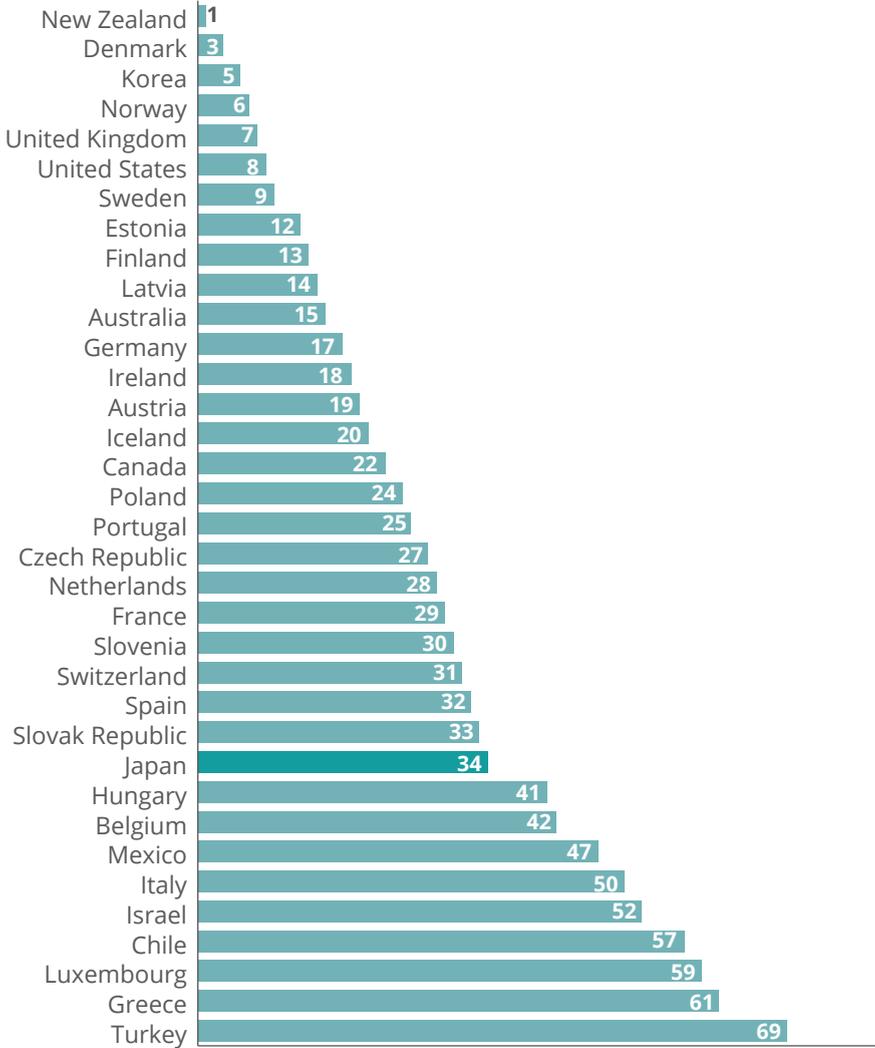
Data: Bank of Israel; Central Bureau of Statistics.

Figure 3. Investment in infrastructure by branch
 Index year: 2002=100



Source: Gilad Brand and Avi Weiss, Taub Center.
 Data: Central Bureau of Statistics.

Another important possible growth engine is improvement in the business climate. Every year, the World Bank publishes its Doing Business report, which rates countries by the level of difficulty of doing business in them. Israel is rated in the low 52nd place on this index (indicating a high level of difficulty) and almost all the other OECD countries have a higher rating (Figure 4). The low rating reflects the need to streamline bureaucratic processes, especially in the areas of real estate, foreign trade, property registration, and tax payment. In these areas, Israel is ranked at the bottom of the countries in the world and will require a dramatic change to help support a more rapid growth of the economy.

Figure 4. Difficulty of doing business, 2016**World Bank Doing Business Index**

Source: Gilad Brand and Avi Weiss, Taub Center.

Data: World Bank, Doing Business Index.

In conclusion, and looking ahead, Israel's demographic changes require investment in physical and human infrastructures, including among populations growing at a rapid pace. An increase in competition in the local business environment, streamlining bureaucratic processes, and lifting import barriers, would also help the economy's growth in the long term. The positive growth of the economy and the current good condition of the labor market are relatively fertile ground for policy makers to deal with the demographic and structural challenges facing the economy. The sooner policies based on a long-term view are implemented, the easier it will be to guarantee balanced growth in the future and optimal utilization of the economy's potential.

Spotlight: The rise in real wages

In the last two years, there has been an acceleration in the growth of the average real wage, after years of slow growth (Spotlight Figure 1). The rise in real wages is surprising considering the low growth rate of labor productivity during that time, and considering the rise in employment rates among employees with low earning potential. What then are the causes of the rise in real wages?

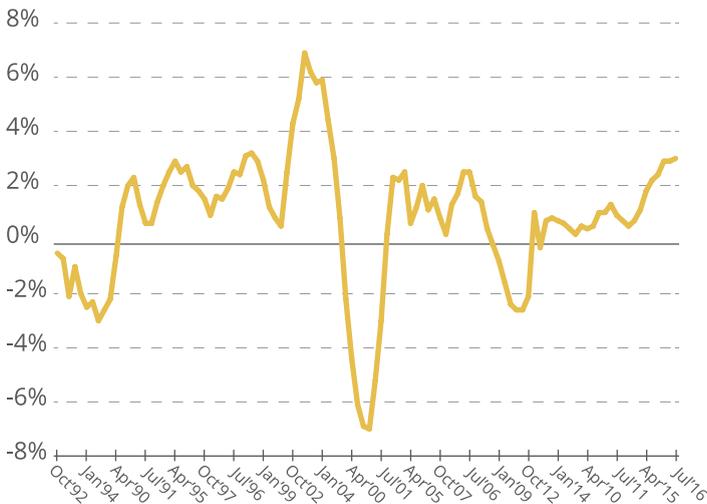
Research literature and experience over time indicate that growth in real wages – the change in wages after accounting for changes in consumer prices – is closely associated with the growth of productivity. This hypothesis is based on the recognition that in a competitive market with a limited supply of labor, one can expect workers' wage level to reflect their marginal productivity.⁸ Another factor that impacts the development of real wages is the ratio between GDP prices (the prices of the products and services produced in the economy) and the market price of consumer products.⁹ This ratio expresses the

⁸ The productivity rate does not represent marginal productivity but rather average productivity. Based on neoclassical economic models, production in the economy can be represented by a Cobb-Douglas function, which maintains a permanent ratio between marginal productivity and average productivity (labor productivity). Corroboration of this assumption can be found, for instance, in Kaldor (1961).

⁹ These assumptions are enshrined in the neoclassical models of the labor market (see, for instance, Blanchard and Katz, 1997).

differences between the value of labor productivity from the production perspective and its value in terms of the typical household's consumer basket. Since the employer and employee face different price systems, the question "by how much did wages rise?" is one of perspective. The real wage, which reflects the compensation from the employee's point of view, depends on the change in consumer prices, whereas the value of wages from the employer's point of view is reflected by the prices of the products and services produced in the economy, measured by the GDP price index. For many decades, the ratio between production prices and consumer prices remained almost unchanged, but in the last decade the two indices developed differently and the difference between them largely dictated the development of real wages.

Figure 1. Annual growth rate of real wages
Real wage per employee post, 12-month moving average



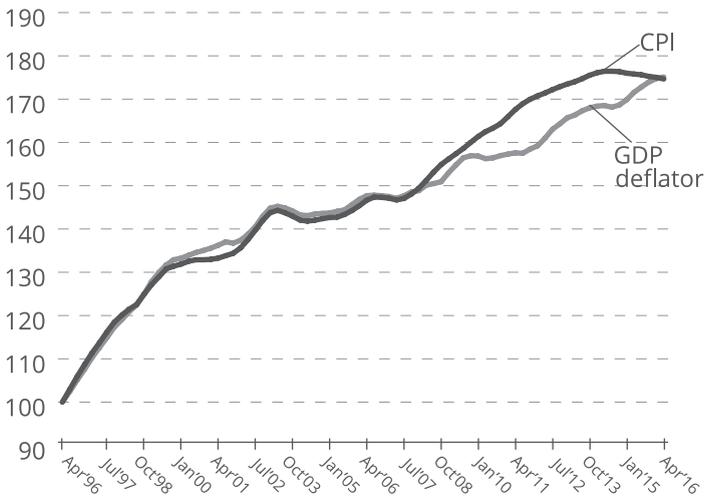
Source: Gilad Brand and Avi Weiss, Taub Center. Data: Bank of Israel website.

The rapid rise of consumer prices relative to production prices between 2009 and 2012 led to a slowdown in the growth of real wages during that period (Figures 2 and 3).¹⁰

¹⁰ Brand (2016) presents evidence that the increase in housing prices, and to a certain extent the increase in food prices as well, contributed to the rise in the ratio between consumer prices and production prices.

Since the last quarter of 2014, the trend changed direction and consumer prices dropped relative to production prices. As a result, the real wage accelerated the pace of its growth. On the other hand, wages from the employer's perspective rose at a rapid pace in those years (2009 to 2012), but have been stagnant since then.

Figure 2. CPI and business sector GDP deflator
 Quarterly data, four-month moving average



Source: Gilad Brand and Avi Weiss, Taub Center. Data: Bank of Israel website

Figure 3. Wages and labor costs
 Real wages from the perspective of employee and employer



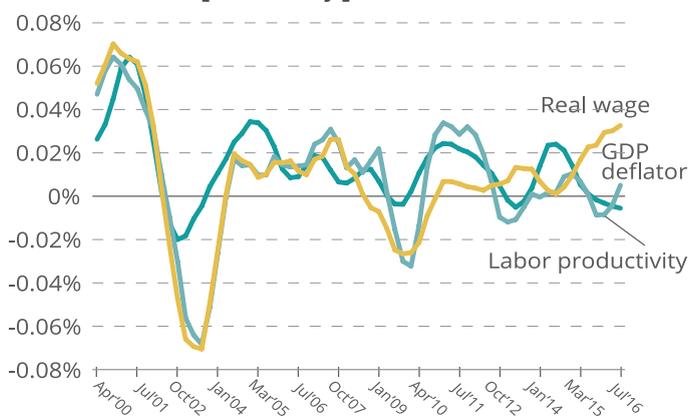
Real wages deflated by CPI.

Source: Gilad Brand and Avi Weiss, Taub Center. Data: Bank of Israel website.

This means that the current wage increase results mainly from a reduction in consumer prices relative to production prices, while wages from the employer perspective remained almost unchanged. That is, there has been a rise in the average worker's productivity value without a corresponding increase in the quantity produced (per worker). This explanation can settle the contradiction between the slow growth of productivity and the current increase in real wages. Evidence is also shown in Spotlight Figure 4, with a short-term look at the annual growth rate of worker productivity relative to the annual growth rate of real wages and production costs.¹¹ The comparison shows the following: (1) The relationship (short-term) between employee wage payments and productivity remains relatively tight throughout the period; (2) Current wage increases are a result of a reduction in consumer prices relative to production prices rather than an improvement in worker productivity, which has been growing slowly in recent years.

Figure 4. Short-term relationship between wages and productivity

Annual growth rate of average wage per post deflated by CPI, GDP deflator and productivity per worker*



* Business sector, four-quarter moving average.

Source: Gilad Brand and Avi Weiss, Taub Ceter. Data: Bank of Israel website.

¹¹ Worker productivity is calculated as the total business sector product divided by the number of jobs (in the business sector). One of the drawbacks of this calculation is that it does not take into account workers who are not salaried employees. However, this approximation is accepted and has appeared elsewhere (this issue is addressed in Brand, 2016).

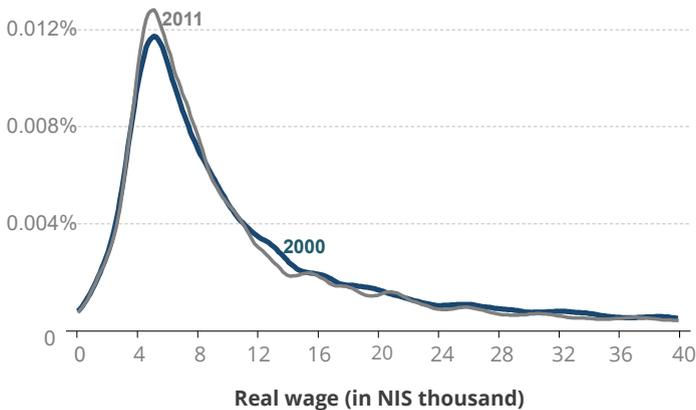
The expansion of the labor market

The rise in the employment rate has led employees with low earning potential to join the labor market, and this may have slowed the growth rates both of productivity and of the average wage. Evidence of this can be found in Spotlight Figure 5, which presents the distribution of wages in 2000-2001 compared to 2010-2011.¹² The figure shows an increase in the medium-low stratum of the wage distribution. The entry of new workers into the low stratum of the labor market slows down the rate of wage improvement and productivity, but on the other hand increases average household income and facilitates an increase in private consumption.

Figure 5. Distribution of average wage per post in selected years

Kernel density estimation

Density



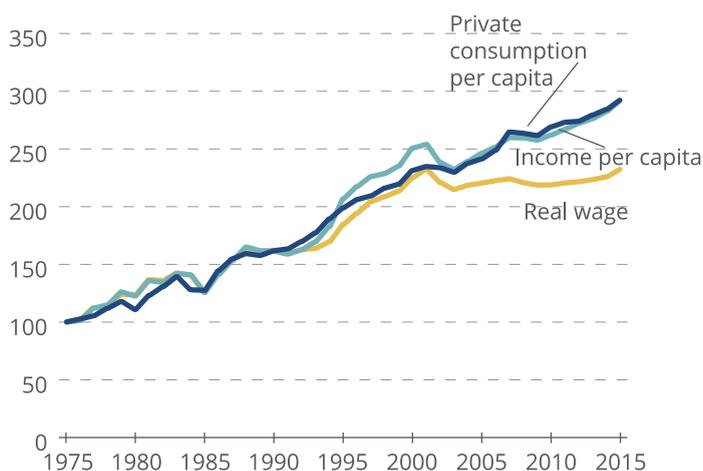
Source: Gilad Brand and Avi Weiss, Taub Center.
Data: Central Bureau of Statistics, Income Survey.

Spotlight Figure 6 presents a comparison between average wage, average income per capita and average consumption per capita. It is evident that in the years in which there was an expansion of the labor market, per

¹² After that year there were changes in the income survey that make it impossible to compare it to later years. The comparison was made with the years 2000-2001 because in these years the average wage for a salaried position peaked and afterwards the pace of its growth slowed.

capita income increased at a higher rate than the increase in the average wage. Furthermore, per capita income and private consumption continued to grow at a similar rate throughout the entire period. This leads to the conclusion that the rise in employment may indeed reflect a slowdown in the growth rate of the average wage, and possibly also in the productivity growth rate. Nevertheless, it served to increase disposable household income and supported an increase in private consumption. In recent years, the increase in consumption was also a dominant factor in GDP growth. However, the continuing trend of wage increase also depends on the improvement of labor productivity, which, as noted, has slowed in recent years.

Figure 6. Average wage, average income per capita and average consumption per capita



Real average wage per job post. Total wage payments and total private consumption.]

Source: Gilad Brand and Avi Weiss, Taub Center.

Data: Bank of Israel website.

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