

Karnit Flug: Productivity in Israel – the key to increasing the standard of living: overview and a look ahead

Speech by Dr Karnit Flug, Governor of the Bank of Israel, at the Israel Economic Association Conference “Productivity in Israel – the key to increasing the standard of living: overview and a look ahead”, Tel Aviv, 1 June 2015.

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Highlights:

- Macroeconomic policy aims to achieve the potential growth in the short term. Potential output is determined on the basis of investment in growth drivers that we first made many years earlier. We need to focus long term policy on an effort to break the productivity barrier, in order to ensure sustainable and inclusive growth, prosperity, and a suitable standard of living.
- Despite the growth in labor input, the output gap between us and advanced economies isn't closing. This is a result of low capital stock and investment, poor infrastructures, inadequate government investment in research and development, and an inefficient business environment.
- Expected trends in world trade, global growth, demographics, and human capital development, will reduce the growth of Israel's economy in the coming decades. The convergence of employment rates among the Arab and ultra-Orthodox sectors, and of the relevant educational patterns among the ultra-Orthodox, to those of the overall population will be able to reduce the extent of the negative impact on per capita GDP and support a broadening of export industries and destinations.
- The economy's relatively good macro situation enables us to focus on dealing with the longer term economic challenges. There are many, complex, challenges, but dealing with them is critical to our success, and to the benefit of the entire population in the coming years.
- In order to ensure our economic and social future, we must courageously look at the current situation, and begin even now to work to ensure an increase in productivity that will allow an extended increase in the standard of living of all citizens of the country.

Israel's economy, as is known, made it through the global crisis better than most other advanced economies, and we benefit from a relatively good macroeconomic situation, among other things due to proper macroeconomic management in the years prior to the crisis, and determined management of policy during and after the crisis. Correct macroeconomic policy is obviously a very important component in ensuring growth and prosperity. However, it must be remembered that at any given time, macroeconomic policy acts within a framework of long term economic variables. Macroeconomic policy, and monetary policy in particular, leads to full utilization of potential output in the short term – but that same potential output is determined, at the end of the day, on the basis of investments in education, infrastructures, and other growth drivers that were made more than two decades earlier.

In my remarks, I will focus on the issue of productivity, which has challenged us for years, and as we will see, is expected to continue to challenge us in the future in view of the global environment, as well as in light of long term processes occurring in Israel. The analysis I will present indicates that continuing the present conduct will ultimately lead us backward. We must focus policy on efforts to break the productivity barrier, in order to ensure inclusive and sustainable growth, prosperity, and a suitable standard of living, and at the same time to

continue to maintain macroeconomic stability and strengthen the economy's resilience to shocks.

GDP per capita in Israel is around \$32,500 in purchasing power parity dollars, compared with close to \$38,000, on average, in OECD countries, or \$53,000 in the US. This is a significant gap, and it can be seen that while the labor input has increased relatively rapidly since 1995, and has made a marked contribution to per capita GDP growth, GDP per hour of work, or labor productivity, nonetheless grew at a very moderate rate. The relatively rapid increase that we saw in labor input was reflected in a relatively rapid increase in the employment rate, even compared with the growth rate of employment in OECD countries, and despite our having two population groups with especially low employment rates, we have reached an employment rate that is high compared with other countries. In contrast, labor productivity is especially poor, and is about 13 percent lower than the OECD average, and more than 40 percent lower than the productivity level in the US. This is the source of the gap in GDP per capita, and thus in the standard of living, between us and other advanced economies.

The fact that there is a gap would trouble us less if we would be seeing that the gap is closing. We would have expected a process of convergence – that is, a situation in which a country with relatively low productivity sees a higher rate of productivity growth. However, the rate of productivity growth in Israel is markedly lower than that derived from the low level of productivity. Clearly, that is an aggregate view, and at high resolution differences can be seen in the productivity level of different industries. In industries in which a large part of output is export oriented, and that are exposed to competition from abroad, there is a positive productivity gap – that is, their level of productivity is greater than the OECD average. In contrast, in industries that are oriented to the domestic market and are less exposed to competition from abroad, or to any competition, such as construction, electricity, water, and food, the level of productivity is lower than the OECD average. As such, I will focus on an attempt to answer the question of what has caused the output per hour of labor in Israel to grow relatively slowly and to be lower in Israel than in other advanced economies.

I'll present now a schematic diagram of the factors impacting on productivity and on GDP. GDP is affected first by factors of production – capital, human capital, and labor. These enter the production function – technology – and are affected as well by frictional factors, such as regulation, the business environment, etc. All these ultimately impact on output per hour of labor, which is the main factor in determining wages. Likewise, each one of the components in the production function is likely to be affected by policy. Thus, for example, the quantity of production factors available to the economy is impacted on by the level of investments, the labor input is impacted on by the government's labor market policy and by the quality of education, and policy can also influence the production function itself – on the adoption of technology, and of course on the business cycle as well.

Capital stock per employee in Israel is markedly lower than in advanced economies – and not only is there a gap in the stock of capital, but the gap is not closing because the rate of investment is lower than in advanced economies. The level of investment in infrastructures is also low, and in most years is around 2.5–3 percent of GDP. Extensive government investment in infrastructure is a complementary factor to investment by the business sector in productive capital. In a recent report, the International Monetary Fund found that investment in infrastructure makes a marked contribution to GDP growth. As such, the low level of investment adversely impacts labor productivity in Israel. The relatively poor investment in infrastructure is also reflected in the poor level of quite a few infrastructures in Israel, particularly in the areas of transport and shipping, and perhaps surprisingly, even the share of Internet users in Israel is low in comparison with other countries. As noted, the labor input is relatively high, and the number of work hours per employed person in Israel is also relatively high. Employees thus contribute their share to production; however, taking into account that at a given level of capital stock and infrastructures, the marginal product of labor eventually declines, the high number of work hours contributes to relatively low output per hour of labor.

One of the factors impacting on productivity – technology – is the expenditure on research and development. In this parameter, Israel is among the leaders since the share of R&D in output is relatively high, as a consequence of the high share of ICT industries in Israel. Some of the knowledge acquired within the framework of these industries' R&D eventually is expressed in production abroad, but there is no doubt that the fact that the development centers of major international companies are located in Israel has positive external effects. In any case, this is mainly private R&D. Government expenditure on R&D is relatively modest, at only one-half a percentage point of GDP, compared to 0.7 percent, on average, in the OECD, or 0.9 percent in the US. The importance of government expenditure on R&D can be important particularly for the low technology industries that are not at the forefront of technology, and for whom assistance with R&D can contribute to increasing innovation and improving competitiveness vis-à-vis foreign competitors.

Policy also impacts on the environment in which the business sector works, and in this regard I will again note Israel's not-respectable rank – 40th place – in the World Bank's Doing Business index, which measures the bureaucratic burden in the economy. To my regret, this is a marked decline in the ranking relative to our place 7 years ago – 26th place – not because we are moving backward, but because the improvement, if any, in the bureaucratic burden for us is slower than in other countries. In view of the fact that the business sector competes with manufacturers in other countries, it is of course another disquieting finding. There are areas such as registering property, dealing with construction permits, and others, in which there are more than 100 countries that are in a better situation, in this regard, than Israel, which obviously has an impact on economic activity.

Until now we have discussed the supply side, but growth in Israel is very affected by the demand abroad for Israeli products, and thus is aligned with global growth. In recent years, the connection has become even tighter, as the share of exports in GDP is increasing, and there is a high correlation between Israeli exports and world trade. Accordingly, the forecast for world trade is another factor that we need to take into account when we think about the future of Israel's economy.

Let us now examine which **factors are expected to continue and affect productivity and growth** in the coming years. The **first factor** is the **development of the global economy**, and it is not heartening – in recent years there has been a marked slowdown in growth of advanced economies and some slowdown in emerging markets, and the forecast is for the growth rate to increase slowly in advanced economies, and to continue to decline in emerging markets. There is broad agreement on the assessment that the rate of global growth over the next 5 years will be markedly lower than that of the decade before the crisis. Different economists use different terms in order to describe this – Summers speaks of “secular stagnation” and forecasts a marked moderation for a considerable time, while Rogoff is slightly more optimistic and speaks of a “super debt cycle”, a process in which high levels of debt are what lead to, at least in the medium term, expected moderate global growth. In any case, the moderate expected global growth will impact on Israel's growth as well. Moreover, the assessment based on the IMF's analysis is that the connection between global growth and world trade has weakened in recent years, and is expected to be weaker than in the past. Some countries whose past contribution to growth of world trade was very high are going through a growth reorientation process toward domestic market oriented growth, and therefore for given global growth we will see a more moderate increase in world trade. Due to the fact that global growth is translated into demand for Israeli output through world trade, this development is expected to be significant for the Israeli economy. It should be emphasized that this is a slowdown in the long term component of world trade, beyond the short term cyclical slowdown. We have thus surveyed two global trends that are expected to act adversely on growth in Israel – a slowdown in global growth, and a slowdown in world trade for a given level of growth. The estimated combined impact of both these trends is that they will reduce growth in Israel by 0.4–0.8 percentage points, relative to the growth seen in the decade prior to the crisis.

A **second factor**, which is also behind some of the trends in the slowdown of global growth, is **the demographic factor**. In Israel, based on Central Bureau of Statistics projections, two intertwined trends are expected. The first is a change in the composition of the population: within 50 years, the share of non-ultra-Orthodox Jews will decline from 70 percent to around 50 percent, the share of the Arab population will increase slightly, and the share of the ultra-Orthodox population will increase from 10 percent to around 27 percent. The second trend is of course the aging of the population – the share of the population over the age of 65 will increase from around 10 percent to around 17 percent. The significance is that there will be a slowdown in the rate of growth of the working age population. In addition, if there will be no change in the employment rate of the Arab and ultra-Orthodox sectors, aside from the trend of slow improvement seen in recent years, the increase in the share of these groups in the population will also lead to a decline in the participation rate and the overall employment rate. These demographic changes, which are seen already today, are also expected to impact markedly on future growth. Thus, if there won't be a continuation of the process of rising participation rates of the Arab and ultra-Orthodox populations, the combined demographic changes are expected to reduce future annual growth by around 0.6 percentage points. In contrast, if the process that has begun – of an increase in the participation rates of these groups – will persist, the negative impact on growth can be reduced by about a third, to 0.4 percentage points per year.

The **third factor** that impacts on growth here and worldwide is **the rate of increase of the population's human capital**, as measured by years of education. After an extended process of notable increase in the population's education level, a marked slowdown in this process is expected, because the increase in higher education attainment by most of the population is expected to reach exhaustion. Based on research by Eyal Argov of the Bank of Israel Research Department, if there is no change in the ultra-Orthodox population's patterns of attaining education that is relevant to the labor market, the trend of slowdown in the human-capital growth rate is expected to reduce per capita GDP growth by around 0.2 percentage points per year in the coming years. If there is a change in the patterns of educational attainment among this population, so that the education attained is relevant to the labor market to an extent that is similar to the rest of the population, the change may be reduced to about half, meaning 0.1 percentage points per year.

What is the significance of these trends?

If we won't affect the underlying factors that lead to our productivity being low and slow-growing, not only will we not reach GDP per capita levels that are similar to the most advanced economies, but the demographic trends and the process of exhausting the increase in the educational attainment that we have described so far are expected to act toward a notable slowdown in the future rate of GDP per capita growth. A scenario of convergence – of both employment rates and the relevance of education – to the patterns of the general population will reduce part of the negative impact on GDP per capita. Global economic trends are also, as noted, a headwind to growth. These all sharpen the need to use all the instruments available to us in order to encourage the growth of productivity in the economy, in a manner that allows the continued rapid growth of standard of living, at a rate we have seen until now, and maybe even higher.

So what needs to be done?

Populations should be integrated into employment – including active labor market policy

The expenditure on services supporting employment in Israel is low relative to levels generally seen in advanced economies, and thus it is even more important to formulate a policy that is effective, consistent, and focused on providing an incentive for employment. In

this regard, it is important to maintain the link between the provision of services supporting employment and actual employment. For example, **linking the subsidy for daycare centers to the employment of both parents** is an important device for encouraging integration into the labor market; it is a mistake to abandon it. In addition, the **earned income tax credit** (negative income tax) – a mechanism that deals with the problem of the working poor and does not adversely impact the incentive to work – should be increased. At times, in the first stages of entering the labor market, there is actually a decline in output per worker, since usually it involves unskilled workers, and it is likely that the improvement in the economic situation is not large, or is even minimal, in view of the fact that going out to the labor market involves costs, such as childcare, etc. With time, the workers acquire the required skills, which improves their output and wages, and as a direct result, overall welfare in the economy. Furthermore, joining the labor supply has an impact on the next generation, including values, education, and more.

There is further potential for increasing employment rates, among older workers. It is important to implement policy measures that support the ability of such workers to reach their full potential, and in this regard I again note the need to increase the retirement age.

Human capital should be increased, with an emphasis on education and professional training

- Improve the education system and the schooling infrastructure
- Furnish the skills that are critical to successful integration into the labor market, such as math, science, and English, to the ultra-Orthodox population as well
- Reduce the high-school drop out rate, strengthen science and technology abilities, and improve Hebrew language skills in schools in the Arab sector
- There is room to markedly expand the technological professional education. At the high school level, general scientific and technological content should be provided, which will allow a choice between a professional track and an academic track at a later stage, and to concentrate the professional education primarily on focused training after military service (and not by placing students in specific tracks). In the dynamic modern labor market, professional training in school is likely to be obsolete by the end of youths' military service.

Factors supporting growth and productivity should be dealt with:

- Infrastructure
- Improve the business environment and reduce regulation
- Competition – in those industries that are not exposed to domestic or foreign competition
- Promote reforms (ports, electricity, and the energy and gas industry)
- Improve and increase efficiency of public services systems – education, health (with a view to the aging population), welfare (by improving employment tests that allow increased focus of support)

Expand export industries and destinations. We have seen that in export industries, the need to compete vis-à-vis abroad leads to higher productivity.

- New markets: Israel's exporting has gone a long way to gain access to new markets, and we should continue to work to expand the range, especially against the background of the low potential growth of our traditional export destinations.

- New exporters: We should provide assistance to small/medium manufacturers to deal with difficulty of breaking into global markets, through already existing government mechanisms as well.
- Encourage R&D not only for high technology industries, but also for low and medium technology industries in which innovation can make the difference between success or failure, and to improve the ability to export and compete abroad.

Against the background of Israel's relatively good macroeconomic situation, low unemployment, and moderate (but positive) growth, we are not required, as many other countries are, to deal with an immediate crisis. Therefore, we have the ability, but the obligation as well, to focus on dealing with the longer term challenges to the economy. As I have shown, they are many and complex, but dealing with them is critical to the success of the economy and to the welfare of the general population in the coming years.