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Aaron Institute for Economic Policy

In the name of Aaron Dovrat z"l

The Challenges Facing the Israeli Economy in Turbulent Times

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Aaron Institute for Economic Policy

Dedicated to the memory of Aaron Dovrat

The vision of the Aaron Institute for Economic Policy in the Tiomkin School of Economics is to support sustainable economic growth and social resilience, along with poverty reduction. To achieve these goals, the institution strives to design a strategy based on measurable goals, which can be subjected to international comparison, and propose detailed plans for economic policies based on the most updated international knowledge. We focus primarily on reforms towards economic growth stemming from increasing employment and raising the GDP per hour worked (labor productivity) in Israel.

The key measure of sustainable economic growth – GDP per capita – is still low in Israel compared to leading developed countries, and so is labor productivity. Through its economic studies, the Aaron Institute presents goals, innovative policy tools, and reforms to promote growth, high-quality employment, and labor productivity.

The Institute's mission is to help shaping the socioeconomic policy in Israel through the development of long-term plans that address the full range of economic and social issues facing the Israeli economy. Our main focus is families with less than median income, who comprise significant parts of the Arab and Haredi (ultra-Orthodox) populations. In these groups specifically, increasing employment and productivity would greatly contribute to achieving the goals of growth, social resilience, and poverty reduction. In addition, our studies aim to influence the professional discourse, and to stimulate discussion based on reliable information and socioeconomic research that offers practical tools to achieve these goals.

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The Challenges Facing the Israeli Economy in Turbulent Times

The growth data of the Israeli economy for 2022 indicate a complete recovery of the economy from the COVID-19 crisis, with real growth rates of 6.5% in terms of GDP and 4.4% in terms of GDP per capita. This growth stemmed from an increase in employment across the economy (in terms of hours worked), which was higher than it had been prior to the crisis, along with a significant increase in labor productivity, defined as GDP per hour worked. These data encapsulate highly favorable years (2017-2022) for the Israeli economy, despite the COVID-19 crisis (in 2020), marking a trajectory of high growth with an average annual growth rate of 4.2% in terms of GDP and 2.3% in terms of GDP per capita. The level of GDP per capita increased to USD 42,000, hence the gap in the standard of living between Israel and the benchmark countries (Austria, Denmark, Finland, Sweden, and The Netherlands) has continued to decrease, from 35% in 2007 down to 25% in 2017 and 20% at the end of 2022 (OECD data from 2022, in 2015 prices, PPP).[1]

These recent years also reflected a shift in the growth mix, as due to the growth in labor productivity, its contribution to the growth in GDP reached around 64%, nearly double the corresponding figure for the preceding decade. The economic sectors leading this improvement in productivity are the high-tech sector, whose share in employment increased and its share in the GDP rose to 17%, and the financial sector which was streamlined thanks to a change in the mix of workers and investments in ICT (Information and Communication Technologies). In general, we observe a continuation of the improvement of human capital, along with an ongoing increase in the positive difference in the share of workers with ICT skills, as well as a narrowing of the gap in private capital per hour worked, which is still 46% lower than that of the benchmark countries.

Further economic growth and reduction of the standard-of-living gap between Israel and the benchmark countries depend on growth engines – further increase in employment rates and an increase in the growth of labor productivity. Despite the positive trends mentioned above, the GDP per hour worked in Israel is still low – USD 47.5 as opposed to USD 70.2 in the benchmark countries – a 32% gap. This gap, although gradually decreasing (in 2021 the gap was 37%), is the reason for Israel's inability to match the standard of living enjoyed by the benchmark countries.

[1] The Average GDP per capita in the benchmark countries was around USD 55,800 in 2022 (constant 2015 dollars, PPP).

Two major events at the end of 2022 threaten to divert the Israeli economy from the strong growth trajectory of recent years: the political crisis in Israel, which began as soon as election results were announced, and gained further momentum following the formation of the government and the unveiling of its judicial reform plan; and the decrease in the rate of capital raising by the high-tech sector.

The aim of this policy paper is to propose a comprehensive economic strategy for the Israeli economy, based on economic analysis and identification of the economy's weakness points compared to the benchmark countries, including an analysis of economic growth scenarios for the years 2023 to 2025, according to the two events threatening Israel's growth trajectory. Our policy recommendations in the various areas include actionable measures, as well as monitoring and measuring the progress and effectiveness of implementation.

The essence of our recommendations for increasing labor productivity and reducing the cost of living: investing in human capital in order to maintain high employment rates, while also increasing employment rates among Haredi and Arab men as well as Arab women; in regard to public capital, we recommend improving the level of transportation access to match that of leading metropolitan areas around the world, through the removal of barriers to the implementation of investment plans in transport infrastructures, including private sector investments in the domain of urban development; and increasing the stock of public ICT capital per capita, through the development of a multi-year plan for the advancement of digital transformation, accelerating digitalization processes, and reducing bureaucracy in public services. In order to increase the worthwhileness of business sector investments, we recommend optimizing regulation, cutting down on bureaucracy, and reducing the barriers to entry of foreign firms. Finally, we recommend a series of necessary measures to address the housing market, which is a major component of the cost of living – primarily setting housing targets, which would include among other things reforms in the funding of local authorities, in the Israel Land Authority, in the incentives for construction, and in urban renewal schemes.

1. Summary and Conclusions

The growth data of Israel's national economy for 2022 indicate a complete recovery of the economy from the COVID-19 crisis, with real growth rates of 6.5% in terms of GDP and 4.4% in terms of GDP per capita. This growth stemmed from an increase in employment across the economy (in terms of hours worked), which was higher than it had been prior to the crisis, along with a significant increase in labor productivity, defined as GDP per hour worked. These data encapsulate highly favorable years (2017-2022) for the Israeli economy, despite the COVID-19 crisis (in 2020), marking a trajectory of high growth with an average annual growth rate of 4.2% in terms of GDP and 2.3% in terms of GDP per capita. The level of GDP per capita increased to USD 42,000, hence the gap in the standard of living between Israel and the benchmark countries has continued to decrease, from 35% in 2007 down to 25% in 2017 and 20% at the end of 2022.[2] The benchmark countries (Austria, Denmark, Finland, Sweden, and The Netherlands) are countries resembling Israel in population size and in the structure of their economy, which we aspire to resemble in terms of the standard of living and poverty rates.

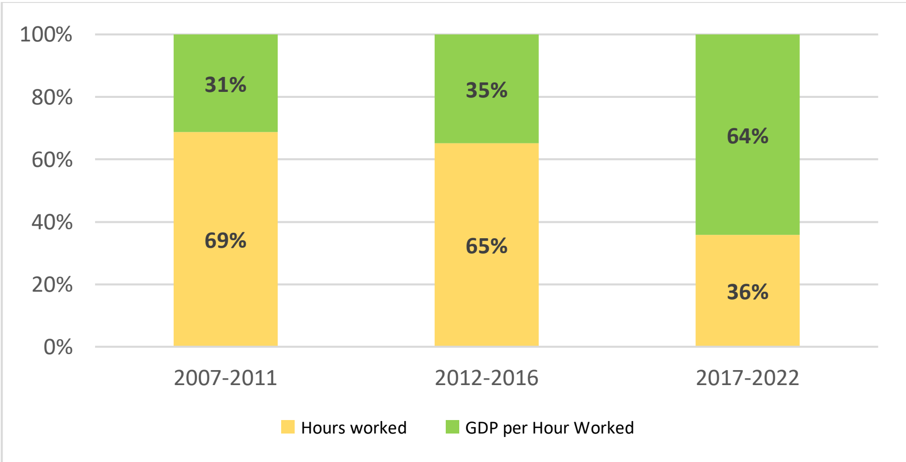
The strength of the Israeli economy is also reflected in the state budget policy data, with a sustainable trajectory of deficit-to-GDP ratio, which despite the sharp increase during the COVID-19 crisis (in 2020) stood at 60.1% at the end of 2022. These data are the result of many years of fiscal responsibility, which has been manifested in debt reduction during years of growth, complemented by expansion to support the demands in the economy in years of crisis. These aggregate data suggests a stable fiscal situation which is reliable for investors, as duly reflected in the prices of CDS referencing Israeli government debt, which reached a historically low level – around 40 basis points – at the end of 2022.

[2] The real GDP in Israel, in US dollars, is matched to 2015 prices in PPP terms, and thus reflects price gaps in dollar terms vis-á-vis the United States, for Israel and for the benchmark countries.

Further economic growth and reduction of the standard of living gap between Israel and the benchmark countries depends on growth engines – further increase in employment rates and an increase in the growth of labor productivity – and on the enactment of a professional economic policy which would boost them. Despite the positive trends, the GDP per hour worked in Israel is still low – USD 47.5 as opposed to USD 70.2 in the benchmark countries – a 32% gap. This gap, although gradually decreasing (in 2021 the gap was 37%), is the reason for Israel's inability to match the standard of living enjoyed by the benchmark countries. Labor productivity, which reflects the productive power of the economy at the given scope of employment, is the main barrier to growth facing the Israeli economy, and the economic policy should advance the necessary reforms to further reduce this gap.

Our analysis reveals shifts in the growth mix of the Israeli economy: between 2007 and 2016, GDP growth stemmed predominantly from an increase in employment rates and in the number of hours worked (around 65% of growth), while the growth rate of labor productivity was low and its contribution to GDP growth was only 35% (Figure 1). This trend changed during the following six years, from 2017 to 2022, and the growth in labor productivity led to an almost twofold increase in its contribution to GDP, which reached around 64%.

Figure 1: GDP growth in Israel, by contribution of labor productivity and hours worked



Source: authors' tabulations of OECD data.

The improvement in labor productivity across the economy, which started prior to the COVID-19 crisis, was facilitated by the continuing growth of the high-tech sector (6.6% per year), whereby at the end of 2021 the rate of high-tech employees out of the whole economy was 10%. These workers are characterized by high educational levels and high skills (around 70% of workers in the high-tech sector work in high-tech occupations), as well as high labor productivity. Analysis of productivity on the sectoral level reveals an increase in productivity levels in the finance, commerce, construction, and manufacturing sectors. The growth in labor productivity in these sectors was facilitated by workforce optimization processes (commerce, construction, and manufacturing), investments which included investing in ICT, and improvement in the quality of human capital (finance). The share of workers with ICT skills ("technological workers") continues to rise, and is high in international comparison, even compared to the benchmark countries (OECD data, 2022). A complementary analysis we conducted emphasizes the fact that these workers are integrated not only in the high-tech sector, but in other sectors as well. For example, in 2012 the ratio between non-technological and technological workers in the financial sector was 14.3, and by 2021 this ratio sharply decreased to 7.4. The assimilation of these skilled workers, alongside large investments in ICT capital (Israel Central Bureau of Statistics [CBS] data, 2022) are the engines driving the increase in productivity in the financial sector.[3] In general, the economy has seen an increase in the quality of human capital, manifested among other things in the ratio between non-technological and technological workers across the economy as a whole, which decreased from 8.8 in 2012 to 6.2 in 2021. We expect these data, which indicate an improvement in the quality of human capital in Israel, to be also reflected in Israel's PIAAC score, which is due to be published in 2024 and has become a key component of the metric regularly used in economic literature to assess human capital quality. The most recent PIAAC data were published in 2014 and are still used as the basis for various analyses made by economic bodies, including the Bank of Israel, as well as the principal macroeconomic model devised by the Aaron Institute.[4]

[3] These investments were facilitated and expedited thanks to some reforms which have been implemented in this sector in recent years. For further information on these reforms, see The Committee for Examining Competition in the Credit Market (2020).

[4] The results of this metric, which represents the skills and educational level of the workforce, indicate that the outcomes of workers in the benchmark countries are 12% higher than those of Israeli workers. Although the human capital disparities are smaller in comparison to the gaps in the levels of public and private capital, the impact of the disparity in human capital quality is substantial, due to the intensity of human capital (0.68).

The data also points to a significant increase of 25% in the private capital per hour worked within the business sector (IMF data, 2022). This increase has narrowed the gap between Israel and the benchmark countries in the stock of private capital per hour worked, yet it is still 46% lower, at USD 110 as opposed to USD 204 in the benchmark countries. Improving labor productivity depends of course on the continuing improvement in the quality of human capital and on the narrowing on the gap in the stock of capital across the economy – both private and public. Policymakers should increase investments towards core infrastructures, in particular transport infrastructures; and act resolutely to increase competition in the economy and to remove barriers to entrepreneurship and investments.

Israel's economic policy must continue to endeavor to expand the workforce and to train it in a manner which would facilitate high-quality, high-income employment. The steady rise in employment rates in Israel over the last decade has been made possible by the integration of new population groups into the labor market, such as Haredi women, whose employment rate in 2022 is almost as high as that of non-Haredi Jewish women (Table 1). Employment rates are not expected to keep growing at a similar rate in the future, due to the expected saturation in the employment rates of non-Haredi Jewish men. Therefore, measures should be taken to further the integration of population groups who are still characterized by low employment rates – Haredi Jewish men (55%) and Arab women (42%). The integration of these groups in high-quality employment is key to sustainable economic growth, due to the particularly high birth rates in the Haredi population.

Table 1: Employment rates by population groups

	2012	2022
Non-Haredi Jewish men	85.0	87.5
Haredi Jewish men	45.9	54.9
Arab men	74.1	77.2
Non-Haredi Jewish women	78.2	84.3
Haredi Jewish women	65.0	80.3
Arab women	29.3	42.4

Source: authors' tabulations of CBS workforce surveys.

In general, the data suggest that given the support of a professional economic policy which would incentivize high-quality employment, steer investment in human capital to match demands, reduce the gap in the stock of public capital, and remove barriers to investments in private capital – the strong growth in Israel may be sustainable in the medium and long term as well. However, two major events at the end of 2022 threaten to sidetrack the Israeli economy from the strong growth trajectory of recent years: the first is the political crisis in Israel which began in November 2022, as soon as election results were announced, and gained further momentum following the formation of the government and the unveiling of its judicial reform plan; and the second is the decrease in the rate of capital raising by the high-tech sector – this slump is global, yet the data shows that capital raising in the Israeli high-tech sector has dropped in 2023 beyond the global trend.

These developments have led us to update our "Pyramid of Growth and Poverty Reduction" – a model which visually depicts the conceptual framework for the planning of economic strategy. We found it appropriate to update the basis of the pyramid, which represents the fundamental institutional preconditions which are essential for the proper functioning of a modern economy, including the independence of the judicial system. So far, the position of Aaron Institute has been that the Israeli judicial system, despite its inherent flaws,[5] have met the threshold conditions, in the sense that the existing infrastructure have provided checks and balances on the elected government and protected minority rights, and generally have not constituted a significant barrier to economic growth.[6] According to economic literature, the changes which the ruling coalition seeks to implement in the judicial system may negatively affect the economy, as there is a lot of research evidence showing the positive association between the quality of a state's institutions and the levels of labor productivity and investments in its national economy. Those institutions (the "social infrastructure") include indices of government policies regarding law and order, the quality of government bureaucracy, corruption levels, ability to enforce contracts, the country's level of openness to international trade, and so forth. In view of the recent developments on the political level, we have deemed it necessary to monitor the judicial system more methodologically.

[5] For example, the lack of a constitution, which has implications on the stability of the judiciary governance of a liberal democracy with limited involvement of the ruling majority.

[6] We would like to stress that certain specific features of the judicial system, which have direct impact on the activity of the business sector, are contained within the pyramid, albeit in higher tiers, and mostly refer to the efficiency of the judiciary and regulatory system, e.g., the length of time required for contract enforcement procedures, or the duration of insolvency processes, etc.

The primary concern is that the coalition's initiatives would bestow excessive power on the executive authority. Given the political realities of Israel, in particular the existence of political parties which promote sectoral interests, unconstrained power may enable a narrow majority group to channel resources into personal and sectoral needs, to develop "a rentier capitalism benefiting cronies", to infringe upon the rights and the economic interests of groups who are not represented in the coalition, and to corrupt the public service. Such outcomes will hinder economic growth and might also cause a significant brain-drain. **For the Israeli economy, which is currently at its best economic situation ever, with a strong growth trajectory and robust fiscal stability, reforms advanced by the current coalition may lead to a substantial loss of value. Even if the proposed changes to the judicial system are not enacted, the economy has already suffered damage.** Furthermore, the latest state budget implies a shift by the Ministry of Finance, from running a professionally managed economic policy aiming to enhance growth, to a ministry which serves narrow sectoral interests rather than those of the wider Israeli public. This state budget is devoid of any substantial structural reforms to support growth; contains sections meant to placate coalition partners which hamper incentives for employment; and provides budgetary support for a religious school system which does not teach mathematics and English, thus significantly reducing the chances of its graduates for future integration in a modern labor market. The uncertainty and unrest have caused foreign investments and capital raising in Israel to drop beyond the global trend, and needless to say – dealt a severe blow to Israel's social resilience. Additional ramifications can be seen in the capital markets, as reflected in the USD/ILS trading, with "excessive" devaluation of the Shekel and underperformance by the leading Israeli stock indices (TA-35) in comparison to stock indices overseas (S&P 500). This excessive devaluation of the Israeli currency, which makes imports more expensive, hinders the mitigation of the inflation and prevents the central bank from lowering the high interest rate (4.75% as of August 2023).[7]

[7] Excessive devaluation is the gap between the projected exchange rate given the value of the NASDAQ Index, and the actual exchange rate. According to the Bank of Israel (June 2023), excessive devaluation is estimated at 10% at least.

Considering the significant importance of the high-tech sector for Israel's economic growth, for the continuing development of human capital, and for social empowerment and mobility, and considering the judicial reform being advanced, we performed several simulations to assess the future economic growth of the Israeli economy between 2023 and 2025. These scenarios are based on the expected changes in the foreign investments obtained by the Israeli high-tech sector, and in the scopes of employment and productivity in this sector and in the rest of the economy. We examined two primary scenarios: the first looks at the effect of the global crisis in the high-tech sector, caused by the decline in demands following the increased demands during and immediately after the COVID-19 crisis. In this scenario, we assume that investments in the high-tech sector will recede to their pre-crisis level, i.e., back to 2019 levels. The second scenario is more severe, as alongside the global crisis we assume that the political shifts in Israel will have a negative effect, beyond the global trend. In this scenario, we assume that the volume of investments will drop back to its average level in the years 2015-2017. The outcomes of these two scenarios are presented in Table 2, which shows a decline in growth rates, whereby in the first scenario the GDP per capita in Israel will contract by 0.3% on average between 2023 and 2025, and in the second scenario by 1.6%.

Table 2: Macro scenarios and GDP growth projections

	Crisis in High-Tech Sector	**Crisis in High-Tech and Continuing Political Crisis**
Base assumption: the decline in capital investments (USD, millions, total for 2023-2025 in comparison to total for 2020-2022)	33,502	39,175
(%)	(65%)	(76%)
Decline in number of employed persons 2023-2025	65,076	84,246
Share of high-tech in employment in 2025	8.2%	7.9%
(Change in PP compared to 2022)	(1.74)	(2.07)
Annual GDP growth rate 2023-2025	1.5%	0.2%
(Change in PP compared to 2017-2022)	(2.88)	(4.06)
Annual GDP per capita growth rate 2023-2025	-0.3%	-1.6%
(Change in PP compared to 2017-2022)	(-4.68)	(-6.01)

Source: authors' tabulations of CBS data and data of foreign investments in Israel (IVC) according to the scenario's assumptions.

The last part of this paper presents the reforms and policies required to support the continuing growth of the Israeli economy: encouraging employment and improving human capital quality to facilitate high-quality employment; increasing investment in public capital, particularly in transport infrastructures and digital infrastructures; and structural reforms which would encourage competition and public investments in the missing transport infrastructures. This paper also refers to the necessary measures for addressing the housing market – a major component of the cost of living. The proposed policy, backed by the many studies conducted by Aaron Institute, is essential to maintain the positive trends of economic growth. Adopting the policies we recommend in this paper to tackle the existing gaps in investments and in the quality of human capital within the Israeli economy, on top of its expected contribution to the growth of the economy, will also improve the poverty situation, as the bulk of the growth in productivity and wages will manifest among workers below the median income level.