



# Integrating Arab Young Adults in STEM Education and High Quality Employment

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This is a short summary, for the full paper (in Hebrew) see  
<https://www.runi.ac.il/research-institutes/economics/aiep/policy-papers>

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# Aaron Institute for Economic Policy

## In the name of Aaron Dovrat ז"ל

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, by designing a strategy based on measurable targets which can be subjected to international comparison, and proposing detailed plans for economic policies which are based on the most current international knowledge. We focus primarily on reforms towards economic growth which would stem 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 in relation to leading countries in the developed world, and this is also the case with labor productivity. Through its economic studies, the Aaron Institute presents targets, 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 which would address the full range of economic and social issues facing the Israeli economy, particularly among families below the median of the income distribution, who comprise significant parts of the Arab and Haredi (ultra-Orthodox) populations, where 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 on socioeconomic research which offers practical tools to achieve these goals.

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## **The Center for Economic Policy of the Israeli Arab Population**

The Aaron Institute has established The Center for Economic Policy of the Israeli Arab Population with a vision of advancing the manufacturing and business economy in Israeli-Arab population, and enhancing its integration in the Israeli economy. The center's advisory committee is headed by former Supreme Court Justice Salim Joubran, and comprises several key figures from various fields in the Arab population. Every year, the advisory committee assembles to decide on the center's research plan, based on outcomes and accumulated knowledge.

The activity of this center is part of Aaron Institute's comprehensive economic strategy for the Israeli economy, which aims to achieve sustained growth in GDP and labor productivity, along with reduced poverty and inequality. The center's activity focuses on presenting government decision-makers with recommendations for implementation of long-term economic policies for Israel's Arab population, and promoting their enactment in practice. In accordance with the center's vision, activity revolves around designing strategies and devising policies in the fields of education, employment, and infrastructure, through collaboration with various government offices, and particularly the Ministry of Finance and the Economic Development Authority of the Minority Sector. Policy recommendations include proposals for detailed programs which are based on up-to-date data regarding the Arab population in Israel, as well as economic knowledge acquired nationally and internationally, while taking into consideration existing customs and cultural norms in Israel, including political limitations. Research findings and recommendations are presented at public roundtable discussions held in Arab localities, with participants including Arab and Jewish professionals such as researchers, decision-makers, and senior figures from the business and public sectors.

Our collaboration with government offices, especially the Ministry of Finance, enables us to enhance the center's impact and to translate its proposals into government decisions with allocated funds, which engender the implementation of long-term policies in various fields.

## **Integrating Arab Young Adults in STEM Education and High Quality Employment**

There is a significant gap between the Arab and Jewish societies in Israel with regard to average household income, stemming mostly from barriers to human capital acquisition which lead to disparities in educational attainment and skill levels. Encouraging excellence in STEM fields (Science, Technology, Engineering, and Mathematics) has the potential to significantly improve the chances of Arab young adults for successful integration into higher education in fields with high earning potential, thus enhancing the integration of Arab young adults in Israel's society and economy. The goal of this study is to map and identify the barriers which young adults in Israel's Arab society face in the course of their life, from high school completion through their integration into higher education in STEM fields, during the course of their studies, up until their high-quality integration in employment.

This study comprises two parts. The empirical part consists of an analysis of administrative data compiled by the Israel Central Bureau of Statistics (CBS), which enable tracking the course of life of each individual. The administrative data are annual individual data of the entire Israeli population (panel data), which include demographic information, education system data, tertiary education (vocational and academic), and employment and income data. The qualitative part includes an extensive review of literature from around the world concerning the struggles and difficulties experienced by minority groups in secondary and tertiary education; interviews with officials in academia and in civic organizations dealing with integration of graduates with academic degrees into employment – the barriers and challenges encountered by Arab students and graduates in STEM fields during their studies, and in their integration into employment upon graduation; and feedback from participants in the roundtable discussion where the study findings were presented.

Examination of the life experience of Arab young adults with regard to integration in STEM fields shows divergence between men and women. Among men, the rate of eligibility for STEM matriculation is very low; a small share of eligible high school graduates move on to STEM academic studies; among those who integrate into academic studies, the majority opt for STEM disciplines which yield higher returns in the labor market; and there are significant wage gaps between Arab and Jewish graduates in these disciplines. Among women, on the other hand, the rate of eligibility for STEM matriculation is very high, but they tend to study mainly chemistry and biology, and a very small share is eligible for “high-tech matriculation”; a small share of those eligible integrate into STEM academic studies; among those who integrate into academic studies, the majority opt for STEM disciplines which yield lower returns in the labor market; and there are significant wage gaps between Arab and Jewish women in all STEM disciplines apart from biology and chemistry, in which wages are low for Jewish women as well.

Increasing the share of Arab young adults who integrate in STEM fields requires intervention and guidance throughout the various phases, starting at high school and all the way up to their integration into high quality employment. Therefore, we recommend: (1) providing counselling and information regarding academic STEM courses; (2) increasing the rate of eligibility for STEM matriculation, in particular high-tech matriculation; (3) filling in on skills and proficiencies with an emphasis on Hebrew language, life skills, and soft skills, which are essential both for successful academic graduation and for high quality integration in employment; (4) exposure to relevant academic institutions as well as role models; (5) ongoing guidance for students throughout the course of their academic studies, while addressing any needs which may arise up to graduation and integration in employment; (6) setting measurable targets throughout the various phases of life – matriculation performance, integration in academic education, and graduation – and monitoring the achievement of these targets.