

# **Immigration, Occupation, Education and their influence on the Human Capital in Israel**

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## **Abstract**

Measurement of human capital in a country is dependent on the characteristics of the country's population and labour force, the structure and condition of the economy and the available data sources. Since the mid 1980's, analysts from various countries have been researching and developing the measurement of human capital for the purposes of integrating that measurement into the System of National Accounts. The work began with the seminal paper of Jorgenson and Fraumeni (JF-1989) which used a model of aggregated lifetime income of individuals for estimating the value of the human capital stock for a specific year. Analysts from several countries have attempted to adapt the approach to their own situation. In Israel the project of measuring the human capital is being done for the first time. This paper will report on the Israeli project and moreover, how it takes into account a unique Israeli situation. This unique Israeli case can potentially enrich the measurement of human capital and contribute some methodological insights to the practices of measuring human capital in other countries as well.

Israel is a country of immigrants: 33.1% (as of 1.1.2008) of its current population were born abroad; beginning in 1989 and continuing through the decade of the 90's a huge wave of immigration numbering over 1 million people, mostly from the former Soviet Union arrived in Israel, bringing about a 20% increase in Israel's population. The share of highly educated and skilled people among these immigrants was

significantly higher than in the veteran population. This obviously had a significant impact on the value of human capital in the country.

In recent years the world has been experiencing immigration in large scales. The globalization process and policies of open borders encouraged international migration. In this perspective Israel's experience seems to be valuable and insightful.

One specific characteristic of immigrants, and especially of educated immigrants, is a gap between their formal education level and its utilization in work de facto, during their first years after migration. This gap is narrowing in the process of gaining local labor market experience and gradual upgrading of skills and knowledge up to the level of equally educated local workers. The issue of changes in evaluation of immigrants' human capital and its impact on the aggregate estimates has not been addressed so far within the models of HC accounting based on the JF framework.

This study aims to explore the differences between the human capital of the Israeli-born and immigrants within the JF model calculated for Israel's 1995 and 2008 Censuses.

The study will combine two analyses. In the first analysis we first estimate the human capital level of the whole population without dividing the population into specific groups. These estimates will be compared to the estimates for three separate groups defined by immigrant status: the veteran Israeli population; those who immigrated before 1989 and those who immigrated after 1989. The difference should be interpreted as the impact of introducing the dimension of immigrant status and years since migration into the standard HC model.

In the second analysis we estimate human capital by the means of the use of immigrants' occupations and discrepancies between occupations and educational level. In particular, we compute the immigrants' human capital twice: first by their "nominal" years of education, under assumption of its full utilization in the local labor market; second – by imputing a lower level of education, in accordance with immigrants' actual occupations and the level of education among the veteran population that is prevalent in the given occupation. The difference between the two sets of estimates will teach about the extent of underutilization of immigrants' education in terms of national human capital stock. Further, considering a change in

this value between 1995 and 2008, we can infer the long-term effects of immigrants' human capital adjustment.

The Israeli study will potentially be a powerful one in particular because of its sources of data. Israel has a well developed system of administrative data. In this study we will link Population Census data for 1995 and 2008 with data from the newly developed Matched Employer- Employee that includes data from the income tax system, the national insurance institute and the value-added tax.

While the basic approach of our human capital work is an adaptation of the Jorgenson- Fraumeni framework for labor market activity, our specific study on immigrants and its implications for human capital can serve as a template for similar studies in other countries that experience sizeable immigration and wishing to incorporate this factor explicitly in the human capital accounting. It could be proposed also that the same methodology is useful in analyzing the extent of over-education—the phenomena of under-utilization of education—that is widening on par with ever rising levels of educational attainment.