

## Economics Project III

### Project Summary

Title: School-Level Determinants of Vulnerable Students' Success

In contribution to enhancing equality of opportunity in education, this proposal will: first, estimate the extent of inequality of opportunity in educational outcomes across countries, using student-level test scores and information about their socio-economic background, geography, and gender; second, focus on what policymakers can do at the school level to bring about more equality of opportunity in education, using school-level practices associated with high scholastic achievement among the most-deprived cohorts.

### Introduction

Promoting equity is an important challenge facing policy-makers, in part because of recent developments in the labor market, and in part by missing information about the magnitude of inequality of opportunity in education and its determinants. Modern labor markets are increasingly characterized by rapid technological change where high-skilled knowledge-intensive jobs are highly rewarded. At the same time, lower levels of education are increasingly becoming detrimental to individuals' long-run economic outcomes. Ensuring that educational outcomes are designed to keep up to pace with these labor market developments across all individuals is necessary to ensure that no one falls through the cracks, especially that adverse circumstances tend to be cumulative, and hence the earlier the policy-intervention, the better. Opportunity-deprivation at an early stage could further lead to social vulnerability, marginalization, as well as a loss to economic growth.

### Problem Statement

Promoting educational opportunities, in particular for vulnerable groups, plays an important role in enhancing intergenerational mobility. In the MENA region, so far, we know about the circumstance variables most associated with inequitable opportunities for educational attainment (Salehi-Isfahani et al., 2014), and that when governments have sought to enhance equitable opportunities by providing free higher education, these have proven de facto regressive by benefitting those best off (Krafft and Alawode, 2018). One area less understood both in the region, as well as internationally, is what can be done at the school level to best support the most disadvantaged individuals. This is the focus of this proposal. It examines what school level characteristics have enabled students from disadvantaged backgrounds to overcome their adverse circumstances and perform at a high level.

### Background

The conceptual framework behind equality of opportunity holds that outcomes are, on the one hand, a function of the circumstances an individual is born into and has no control over, and on the other hand, their level of effort. Inequality due to circumstances is viewed as unjust and to be compensated for, while inequality due to effort is deemed fair and should be permitted.

Empirical approaches to measuring equality of opportunity seek to identify how much of overall inequality is due to circumstances, and efforts. In doing so, numerous techniques exist, including parametric measurements, nonparametric types and tranches approaches or estimating stochastic dominance. This research proposal opts to utilize parametric measurement techniques as they allow for the decomposition of inequality of opportunity into constituent categories. Practically, this enables us to state for instance that of total inequality of opportunity, a quarter is due to geography, a quarter to gender, and half to socio-economic background. The basic intuition of

the parametric approach is that circumstance variables are included as dependent variables in the regression equation, and effort is the residual. Results, therefore, represent lower bounds on the true level of inequality of opportunity, as including more circumstance variables would enable us to account for a greater share of inequality of opportunity.

### **Significance**

The value added of the proposed research is twofold: Firstly, it would expand the literature on inequality of opportunity in educational attainment complementing work on the MENA region (Salehi-Isfahani et al., 2014; Krafft and Alawode, 2018) and internationally (OECD, 2017; De Carvalho et al., 2013; Ferreira and Gignoux, 2011). The analysis would cover Algeria, Jordan, Lebanon, Tunisia, and Turkey, which are included in the latest 2015 PISA survey. Secondly, the identification of school practices and characteristic most conducive to improved achievement would offer policymakers a menu of options to bring about greater equality of opportunity. This line of inquiry would validate existing empirical evidence, which has shown that interventions that rely on increasing the availability of resources are not successful or cost-effective as is commonly assumed (Glewwe and Muralidharan, 2016; OECD, 2013). However, institutional and organizational features of schools related to competition, accountability, and autonomy are strongly linked with student achievement (Woessman, 2016; Chetty et al., 2011). Factors like instruction time and class size certainly have a positive effect (Lavy, 2015; Altinok and Kingdon, 2012), but as noted by Freeman and Viarengo (2014), differences at the school-level explain a large share of the variation in educational outcomes, but the causal mechanisms that drive these differences are not well understood.

### **Project Description**

Given these challenges, two important questions arise. What are the main determinants obstructing students' opportunities for strong performance in education? And what can be done to overcome these obstacles? The first question is addressed by estimating the determinants of inequality of opportunity in educational attainment. The proposed research will adopt a parametric estimation strategy to calculate the contribution of socio-economic background, geography, and gender. The second research question aims to build on this diagnostic of inequality of opportunity to find out what can be done at the school level to overcome adverse circumstances. By constructing profiles of opportunity-deprived individuals, we can explore what school-level characteristics enabled worse-off individuals to succeed. The proposed research will utilize the individual and school level questionnaires of the PISA dataset. These datasets are ideally suited for the proposed research as they include detailed information about students' scores, their family background, and information about school characteristics. The coverage of the analysis will include five countries in the MENA region available in the 2015 round of the data, namely Algeria, Jordan, Lebanon, Tunisia, and Turkey. The duration of the project is 12 months. The first 9 months will be for the graduate student to conduct the research work and the following 3 months will be for finalizing the thesis document.

### **The Advancement of Scientific Knowledge and Broader Impact**

In terms of the advancement of scientific knowledge, this proposal will contribute to the knowledge of what are the school-level drivers of opportunity-deprivation. The findings will inform policymakers on insights about the factors at the school level that can best help the worst-off. This can be particularly useful as reforms at the school level can be more amenable to change than national or institutional reforms.

### **Biographical Sketches**

Rami Galal is an Assistant Professor of Economics at The American University in Cairo. His research covers issues in development economics, labor economics, and inequality in the Middle East and North Africa. He has also worked with the World Bank, European Bank for Reconstruction and Development, and United Nations Economic and Social Commission for Western Asia. He received his PhD in Economics from University of London (SOAS) and holds an MA in Economics from the American University in Cairo, and a BSc in Economics and Philosophy from Boston University.

### **Leveraging Resources**

This work will utilize publically available datasets for research purposes in the OECD's PISA datasets. It will make a significant contribution to capacity building of engaged MA students.

### **Deliverables**

Deliverables include a master thesis deposited at the Digital Archive and Research (DAR) Repository of the American University in Cairo, publically accessible. In addition, the results of the research project will be disseminated through recognized venues in the field, such as international conferences, journals, and/or policy briefs.

### **Professional Development and Mentoring Plan**

The Co-PI will be committed to the close mentoring of the graduate student through thesis research supervision, in order to have him/her develop the required skills for successfully carrying out the research, in addition to mentoring, support and guidance for results dissemination at local and international venues of relevance. The graduate student engaged in this project will be involved in all stages of research including data collection and statistical analysis using STATA, in addition to writing the different outputs.

### **References**

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