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Inequality of Opportunity in South Caucasus

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Abstract

This paper discusses equality of opportunity in Armenia, Azerbaijan, and Georgia, with an emphasis on access to labor market opportunities. It develops an inequality of opportunity index on access to good jobs and decomposes the contributing factors in the prevailing inequality. Then, it discusses the extent to which inequality in accessing human capital inputs among individuals during the early formative years may affect access to good jobs. The main takeaways are as follows. First, connections play an important role in obtaining access to good jobs in the South Caucasus, highlighting the unfairness in processes in the sub-region's labor markets. Second, access to good jobs—defined as work for 20 hours or more a week and work under contract or with tenure—is low in the South Caucasus in comparison with other parts of Eastern Europe and Central Asia. Third, even among people who have access to these jobs, the share of the total inequality of opportunity that may be characterized as unfair is relatively high. Armenia and Azerbaijan stand out for the significant share of inequality in access to good jobs associated with gender differences. Fourth, the analysis on access to education and basic human capital inputs in the earlier, formative stages of life shows that learning performance in the South Caucasus tends to be poor and unequal across the life circumstances of children. Nonetheless, the coverage rates of basic human capital inputs are generally high; the relatively narrow inequalities arise mostly from spatial disparities. These results indicate that addressing the deep structural inequalities shaping the landscape of opportunity in the South Caucasus must be a key consideration in any strategy to share prosperity sustainably.

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Inequality of Opportunity in South Caucasus

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1. Introduction

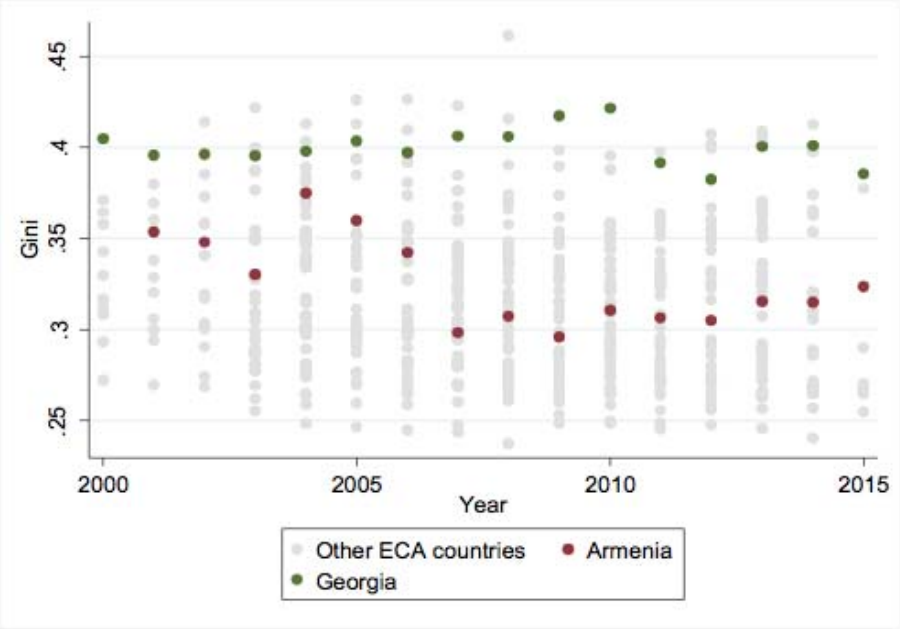
For the countries of the South Caucasus sub-region, the issue of inequality is particularly important because of their trajectory as economies in transition from a planning system with a strong tendency to redistribution to a market-oriented economy. As in any country in transition, the expectation of economic improvement is high. Reform takes time, and adjustment may lead to adverse short-run distributional effects unknown in the past. In fact, a rise in inequality in outcomes may reflect increasing returns to assets, including human capital, indicating improvement in economic conditions and a functioning market mechanism. Nevertheless, perceptions of inequality in opportunities or outcomes may also become more salient during transition considering that populations in the South Caucasus regard their family life and the lives of their parents before the transition as the crucial benchmark in evaluating current life situations (Tiwari et al. 2018).

Inequality in outcomes such as income or consumption may influence other economic indicators of progress. For example, pressure for political redistribution that distorts the labor market or credit market imperfections that prevent the poor form investing in high return-human capital, can impact rates of investment and economic growth, thus lowering average productivity (Alesina and Rodrik 1994; Piketty 1997). However, the empirical findings are mixed. Barro (2000) finds that initial inequality has adverse effects on growth in developing countries, but not in developed countries. Forbes (2000) uses panel data to control for time-invariant characteristics and eliminate potential sources of omitted-variable bias to find that the relationship between inequality and growth is positive. Banerjee and Duflo (2003) note that it is not possible to interpret any of this evidence as causal because variations in inequality are likely to be correlated with a range of unobservable factors associated with growth.

Nonetheless, inequality in outcomes is probably not a pressing issue in South Caucasus. While countries in Eastern Europe and Central Asia show some degree of heterogeneity in terms of inequality, with Gini coefficients ranging from 0.25 to 0.45, the long-run trend of the Gini in Georgia has shown no discernible sign of deterioration over the last 15 years (figure 1). In Armenia, the Gini coefficient based on consumption has hovered between 0.30 and 0.35, which puts the country at a moderate level of inequality within the region in 2000–15. Armenia also saw a declining Gini in 2000–09. Data of the Commitment to Equity Institute show that, as of November 2017, inequalities of outcomes in incomes in Armenia and Georgia are well below the average among the 30 low- and middle-income countries the institute surveyed.[2] For example, the Gini coefficients of final income, treating contributory pensions as deferred income, in Armenia and Georgia are 0.36 and 0.38, respectively, in comparison with the 0.41 average Gini of the 30 countries.

[2] See CEQ Standard Indicators (database), Commitment to Equity, Inter-American Dialogue, Washington, DC; Center for Inter-American Policy and Research and Department of Economics, Tulane University, New Orleans, http://www.commitmentoequity.org/data/.

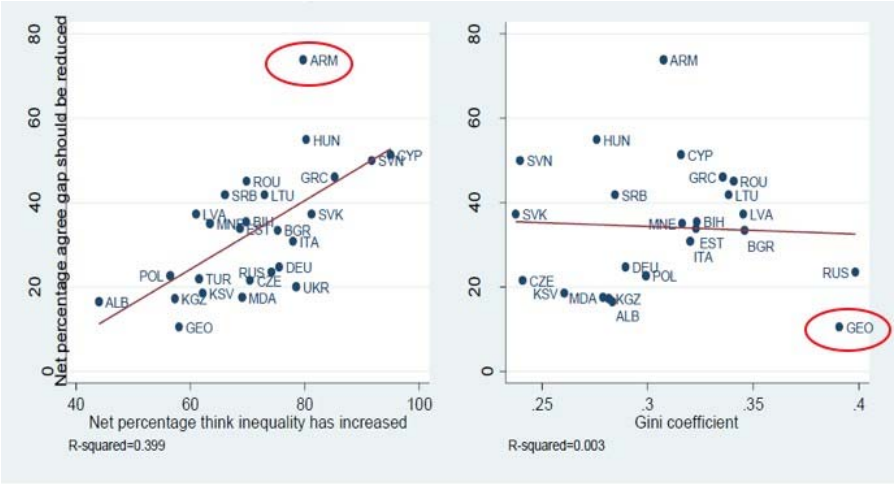
Figure 1: Inequality in the Europe and Central Asia Region, 2000-2015



Source: Adopted from ECATSD calculations using ECAPOV and EUSILC data.
Note: Aggregate: gallT (food + nonfood consumption + durables + rent + health expenditure) using ECAPOV harmonization (for more details please see ECATSD, 2014). Income is used in selected ECCU5 countries (EUSILC; survey period of reference for income is used to identify the spell). For more information on the underlying microdata used please visit the http://ecadataportal/. Vintage: April 18, 2017

Moreover, citizen perceptions of inequality are often more important than a country's actual inequality because perceptions are more closely related to effective political action, such as voting behavior or public policy, on preferences in redistribution (Engelhardt and Wagener 2014; Niehues 2014). Figure 2 confirms that, in Eastern Europe and Central Asia, the correlation between the net percentage share of the population perceiving that inequality has increased (left-hand panel) and the demand for redistribution, defined as the net percentage share of the population agreeing that the gap between the poor and the rich should be reduced, is greater than the correlation between the country's actual income inequality, measured by the Gini coefficient, and the demand for redistribution. Nonetheless, despite quite unremarkable trends in actual measured consumption inequality, the perception that inequality is widening is quite extensive among Armenians and Georgians. More than 75 percent of respondents in Armenia and 60 percent in Georgia feel that inequality is widening. Also, the differences in the preference for redistribution between these two countries are quite stark. Thus, Armenia stands out because the net proportion of the population that believes the gap between the rich and the poor should be reduced (more than 80 percent of respondents) is among the largest in the region, while Georgia is among the countries in the region with a relatively smaller proportion of the population holding this view.

Figure 2: Inequality and demand for redistribution, 2015



Adapted from Bussolo et al (2017)

Figure 2 does not clarify the sort of inequality that people in South Caucasus perceive as widening. However, given the prevailing governance issues, especially in Armenia and Azerbaijan, it seems that inequality in opportunity and the less-transparent allocation of resources, rather than inequality in outcomes, more likely create dissatisfaction among the populations. This is particularly evident in Armenia, where the Gini coefficient based on income, a measure of inequality in outcomes, is low, but the pressure for redistribution is high. Also, in Armenia, the relevant gap responsible for the popular demand for redistribution is probably not so much the gap between the poor and the rich, but the gap between the poor and the middle class and the gap between the poor and the oligarchs who used excessive and uncontrollable privatization during the early 1990s to accumulate incredibly vast amounts of wealth. The social contract collapsed when the rest of the population realized they would face hard times because of unequal market access in a context of a lack of competition and inadequate regulation, creating a process wherein even a good education and substantial effort do not facilitate welfare improvements among individuals given the severe governance problems generated by political and economic elites. In many ways, such sentiments about inequalities in the process, rather than outcomes, are likely relevant in Azerbaijan and Georgia as well because these countries share similar institutional problems resulting from imperfect political and economic transition during the 1990s.

Against the backdrop of the recognition that, in South Caucasus, inequality in opportunity resonates more than inequality in outcomes, this paper joins a new direction in recent research focusing on inequality in opportunity (Barros et al. 2009; Ferreira and Gignoux 2011). According to one line of argument in this literature, the source of inequality may be divided into two elements: first, differences in effort, choice, and talents (a good sort of inequality) and, second, predetermined circumstances such as ethnicity or gender (a bad type of inequality). Thus, inequality of opportunity denotes the extent to which inequality in outcomes can be attributed to

circumstances over which individuals have no control. Addressing inequality of opportunity—the bad inequality—therefore has universal appeal regardless of any differences in political spectrum. Early empirical findings also show that inequality in opportunity has negative effects on income (Molina, Narayan, and Saavedra-Chanduví 2013).

This paper focuses on inequality of opportunity, particularly in labor markets, based on the idea that the ability of individuals to access labor markets and obtain jobs based on their skills and work experience (human capital), irrespective of their circumstances, is critical to economic mobility and the reduction of inequality. In the context of transition economies, the effect of market reform depended on whether the countries were able to reorganize the labor market into more efficient and fair labor allocation processes. The discussion in this paper is structured around the main concept that fairness in processes is determined by the underlying equality or inequality of opportunity in society. Specifically, the paper examines, first, the extent to which fairness—the role of skills and effort versus connections in obtaining job—is perceived to exist in such processes by people in South Caucasus; second, whether access to good jobs is determined by effort and choice or by circumstances independent of the control of individuals; and, third, the extent to which inequality in the access to basic human capital inputs affects inequality in obtaining good jobs.

The study finds that inequality of opportunity in labor markets is a serious issue among the countries of South Caucasus. The access to good jobs in South Caucasus is not only limited relative to other countries in Eastern Europe and Central Asia, but also circumstances beyond the efforts individuals may undertake—the unfair element—have a substantial impact on inequality in the access to good jobs. The paper also highlights that some parts of the unobserved inequality in labor markets appear to be associated with inequalities in gaining access to education and basic services during the formative stages of life.

2. Methodology

The data used in this paper are taken from the 2015–16 round of the Life in Transition Survey (2015 LiTS) carried out by the European Bank for Reconstruction and Development in collaboration with the World Bank. This round of the survey was conducted in 34 countries, mainly in Eastern Europe and Central Asia, but also including Cyprus, Germany, Greece, Italy, and Turkey, and covered around 51,000 households. This paper utilizes the household survey not only because of the rich questions on the socioeconomic background and labor market status of respondents, but also because of the extensive information on attitudinal perspectives and perceptions of the social, political, and economic situation in the countries.

The first part of the analysis is devoted to identifying how people perceive fairness in processes. A simple gauge of fairness in processes is the perceived role of hard work, effort, and skill as a means to achieve one's goals in life and to gain access to success in life. This concept of fairness is contrasted with the elements of processes or social arrangements that may unfairly help

individuals achieve better lives. The paper shows how the population of a country may perceive the balance between fair factors and unfair factors in accounting for the success of individuals.

A proxy for unfairness in processes is the perceived role of connections. Perceived fairness is therefore reflected in the extent to which people believe that hard work and effort are more important than connections in realizing success in life. In practice, connections are defined as, first, political connections, whereby people can use political power to influence decisions. The study involved observing whether people perceive such connections as generally helpful in gaining success in life. Second, another, more general sort of connection, not necessarily supported by political power, is associated with people who hold special functions or positions within a community and who may be asked by community members for help in influencing decision making. In particular, the paper examines the extent to which people believe this type of connections can help secure access to government or private sector jobs. Acemoglu et al. (2016) and Fisman (2001) have documented the role of political connections in providing people with valuable noncompetitive market advantages. While there is a possibility of an endogeneity problem associated with the reinforcing causality between belief in the role of connections and the efficacy of connections in providing access to jobs, this paper does not parametrically estimate the effect of connections on specific economic outcomes or apply a specific identification strategy to deal with the endogeneity and omitted variable bias problems. Instead, it simply offers a descriptive analysis of people's perceptions of the role of connections in securing jobs to generate preliminary ideas on popular sentiments about fairness in processes in South Caucasus.

The more substantial analysis is in the second part of the paper where the fairness in processes is evaluated by measuring the inequality in opportunity in obtaining good jobs in the labor market. The main analytical tool is the human opportunity index (HOI) framework developed by Barros, Molinas Vega, and Saavedra-Chanduví (2010) and Barros et al. (2009), which has been adjusted so it is more applicable to labor markets (box 1). The HOI for children in the original framework is relabeled here as inequality-adjusted coverage in the labor market because, besides circumstances beyond the control of individuals, the analysis explicitly recognizes the role of effort and choice in obtaining good jobs.

Box 1. The HOI Methodology

The HOI has been developed as part of the World Bank initiative to measure the equitable provision of opportunities among children. Since its introduction, the HOI methodology has been used widely in the literature to analyze the inequality of opportunity among children. (See, for example, Dabalen et al. [2015] for applications in Africa and Krishnan et al. [2016] for applications to the Middle East and North Africa.) The key premise of equality of opportunity among children is that basic services providing critical human capital development inputs, such as quality education, good health care, or water and sanitation, should be available to all children, irrespective of their birth circumstances, including gender, urban-rural residence, parental wealth, and so on. Thus, equality of opportunity means that the playing field should be level, and basic opportunities should be independent of initial circumstances. The HOI methodology is one tool to measure the extent to which the reality deviates from this ideal.

In general, the HOI for a given opportunity—for example, access to quality education—is a single index that captures both the opportunity's universality (the share of children who enjoy the opportunity) and any inequality in access (variations according to circumstances in access among children to the opportunity). The penalty factor arises if the inequality in access is calculated based on an index of dissimilarity (D-index), which equals zero if the access to opportunity is independent of the circumstances of respondents. The underlying purpose of constructing the HOI is to generate a scaled measure that rises as opportunity increases but falls as inequality becomes wider in the coverage among groups characterized by differences in circumstances. Once an index score has been obtained, a Shapley decomposition procedure is applied to apportion the inequality across various circumstances.[a] Although causality cannot be ascribed through the Shapley decomposition; quantitative statements may be made, such as that a certain percent of the inequality in opportunity, for example, access to school, is associated with children's circumstances, such as gender, birth location, and so on.

More formally, the inequality-adjusted coverage rate, H, is defined as follows:

$$H = \bar{C}(1 - D),$$

where $\bar{C}$ represents the coverage rates of access to good jobs, and D is the dissimilarity index (D-index), calculated as follows:

$$D = \frac{1}{2\bar{C}} \sum_{k=1}^{m} \alpha_k \, |\bar{C} - C_k \, |,$$

where k is a type of circumstances-group; C_k is the coverage rate of group k; α_k is the share of group k in the total labor force; and m is the number of circumstances-groups.

a. The Shapley decomposition in Shorrocks (2013) is a method to overcome the problem that a change in a dissimilarity scalar measure because of the addition of a circumstance depends on the initial set of circumstances that are changed. In this procedure, intuitively, the effect of a circumstance is calculated as the average value of all changes that occur if the circumstance is added to all possible subsets of initial circumstances.

This paper adopts the HOI methodology to measure the inequality of opportunity in obtaining a good job in the labor market and labels it as inequality-adjusted coverage. It adopts this terminology to accommodate two important considerations in interpreting inequality of opportunity measures. First, it is necessary to shed the normative baggage of the notion of opportunity in a labor market. In the original setting of the HOI among children, defining opportunity as children's access to education is untainted by the effect of the effort and agency of individuals and thus has a universal appeal: every child should have access to quality education. But any labor market outcome is a function of accumulated opportunities, plus what individuals have done with the opportunities through effort and choices. The issue then becomes whether everyone is entitled to employment and jobs in the same manner. Perhaps some people with a certain desired, necessary, and appropriate level of education, skills, and temperament do deserve some set of jobs, but not everyone. For this reason, this paper adopts the HOI measurement tool sans the normative baggage. Second, the analysis maintains a sharp focus on

good jobs. Access to any kind of job is not always the most desirable state for everyone. People who are working and who are observed as participating in employment because they have no other choice are distinctly less well off than people who are not working and are thereby observed as not participating in employment precisely because of their high reservation wage or because they are seeking better outside options. To minimize this measurement error, the analysis focuses on good jobs.

However, defining selected types of employment as good jobs is not a straightforward exercise. Purely from the perspective of the development payoff, the definition of a good job varies by context. For example, the World Bank (2012) finds that, in agrarian societies, a job may be more productive if it is in smallholder farming or involves urban employment that is well connected with global markets. In countries with high youth unemployment, it may be a job that is not supported by rents or not allocated based on connections. In aging societies, it may be a job that keeps the skilled active at older ages. From the perspective of the individual, a good job may have desirable monetary and nonmonetary attributes such as good earnings, benefit stability, social prestige, and dignity. But a good job is also associated with positive spillovers in society. The World Bank (2012) addresses several potential mechanisms through which a good job may promote a better society. Thus, jobs that are filled by women may empower women's position in society by rebalancing intrahousehold resource distribution and enhancing the role of women in decision making, both of which benefit children. Jobs integrated in world markets may also generate knowledge spillovers and help firms realize increasing returns to scale. Jobs that reflect a sense of fairness, especially in fragile and conflict-affected societies, may help maintain social cohesion. Meanwhile, the International Labour Organization (ILO 1999, 3) describes decent work as "opportunities for women and men to obtain decent and productive work in conditions of freedom, equity, security and human dignity." In a slightly expanded version, the International Labour Organization defines decent work as "work that is productive and delivers a fair income, security in the workplace and social protection for families, better prospects for personal development and social integration, freedom for people to express their concerns, organize, and participate in decisions that affect their lives, and equality of opportunity and treatment for all women and men."[3] Decent work is therefore instrumental in reducing poverty and achieving equitable, inclusive, and sustainable development.

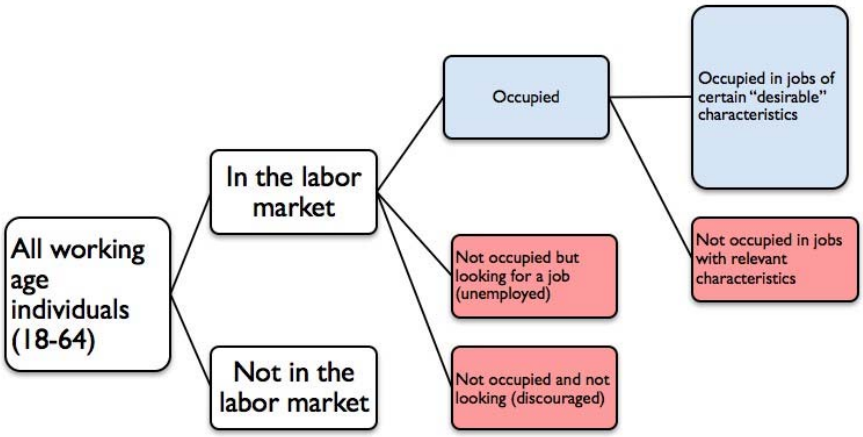
This paper relies on three desirable characteristics to define a good job, as follows: (1) a job that allows the jobholder to work 20 or more hours per week, (2) salaried work through a contractual arrangement, and (3) salaried work that provides some measure of tenure. The assumption associated with the first criterion is that everyone would like to be employed full time if given the opportunity. This is a strong assumption because there may be specific instances in which people prefer to remain in part-time work or temporarily unemployed. However, the data on the types of jobs held by individuals do not indicate whether some people may not be working because they are waiting for better jobs or they may be staying at a job simply because there is no alternative. The study classifies such people as participants in the labor force who do not have appropriate jobs. The analysis also assumes that most people prefer jobs providing salaries under

[3] See "Decent Work," International Labour Organization, Geneva, http://www.ilo.org/global/topics/decent-work/lang--en/index.htm.

contracts and on a full-time, permanent basis. While the self-employed may have higher incomes or better arrangements, the data do not permit the identification of the contractual or tenure status of the self-employed. Arguably, jobs in the formal waged sector in labor markets characterized by a high degree of informality are generally better jobs.

Figure 3 is a schematic description of the sample categories and the definition of a good job in the employment module of the 2015 LiTS. This paper defines individuals as participants in the labor force or within the labor market if they are between 18 and 64 years old and were working during the 12 months previous to the survey or, if not working during the previous 12 months, were discouraged in seeking work, were actively looking for work, or were waiting to learn if they had been accepted for a job. Individuals are considered to hold a job if they report they were working during the 12 months prior to the survey, at least one hour in the seven days prior to the survey, and for more than at least one hour in a typical week. Individuals are considered to have lower- or higher-quality jobs according to whether they were working for more than 20 hours a week, in wage employment for 20 or more hours a week with a contract, or working in wage employment for 20 or more hours a week permanently or with tenure.

Figure 3: Schematic definition of good jobs



In the next step, the analysis identifies and separates out cases in which the efforts or choice of individuals (labeled behavior or characteristics) are important and cases in which circumstances that may be beyond the control of individuals may drive inequalities in gaining access to good jobs. The proxy for the characteristics of individuals is educational attainment and work experience. To determine circumstances, the analysis investigates variations by gender, parental educational attainment, parental political affiliation, and ethnicity. Based on the 2015 LiTS, the educational attainment of individuals and their parents are divided into seven categories, from

no education to a postgraduate degree. For working experience, the ages of respondents are used as a proxy on the assumption that older workers generally have more work experience.

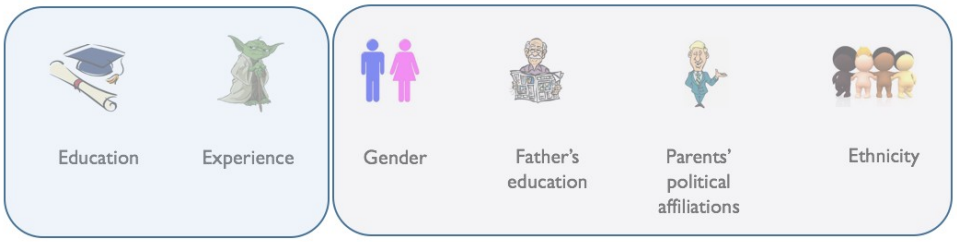
Parental educational attainment is defined as the educational attainment of the father or mother, whichever is greater, and this is also an aspect of the socioeconomic background of individuals. Parental political affiliation is identified according to the responses to questions about whether the parents of respondents were members of the Communist Party, which is particularly relevant because Armenia, Azerbaijan, and Georgia were part of the Soviet Union, and this is also used as an indicator of social status.[4] There is no direct measure of the ethnicity of individuals; so the language spoken by a respondent is taken as a cue, especially depending on the country of residence of the respondent.[5]

Figure 4 illustrates the conceptual framework. An assumption supporting the framework is that educational attainment—an important marker of skills and experience—should be a major determinant of the ability to obtain a good job in the labor market. Therefore, a labor market that places a premium on education and experience can be regarded as a fair labor market. In contrast, a labor market that allocates opportunities based on the gender, ethnicity, paternal educational attainment, or parental political affiliation is deemed an unfair labor market, although, in many cases, this is not due to discrimination, but the unequal effect of an incomplete transition to equitable access to opportunities. The World Bank (2015) finds that, in Armenia and Georgia, education helps in gaining access to jobs, although the unemployment rate among the well-educated is relatively high in comparison with the average in the Organisation for Economic Co-operation and Development (OECD), and a significant share of workers (29 percent in Armenia and 33 percent in Georgia) consider themselves overeducated for their current jobs. The World Bank study also shows that, while skills matter more than educational attainment in explaining the variance in hourly wages among youth (ages 15–29), the role of education in explaining wage variance is higher among prime workers (ages 30–44).

[4] Parental affiliation with the Communist Party can be considered an unfair advantage in the labor markets of former communist countries especially among people in older birth cohorts who entered the labor market during the communist era. Parental affiliation with the Communist Party might also affect labor market access negatively, an unfair disadvantage, among people who entered the labor market in the first years after the collapse of the Soviet Union. Yet, the analysis here is aligned with the view that social status is a durable institution that persists in the aftermath of a political crisis, especially if the crisis leads to more labor market imperfections because of the destruction of information networks. Another interpretation is that parental affiliation is a signal of motivation, especially in a situation in which the only opportunity for upward social movement is associated with Communist Party membership.

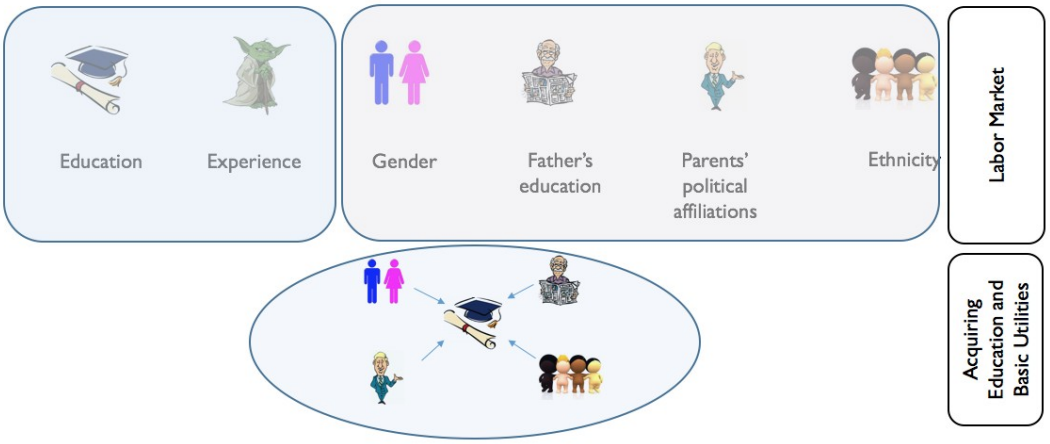
[5] This paper reflects an acknowledgment that there is a possibility that ethnicity does not play a major role in accessing good jobs because of the effect of ethnic cleansing in the 1990s that effectively eliminated minorities.

Figure 4: Dimensions of inequality of opportunity in labor market



The next step in the analysis involves a longer, life-cycle view aimed at assessing the extent to which inequalities in the earlier, formative stages of life may play a role in inequality of opportunity in a labor market. It extends the conceptual framework by measuring inequalities of opportunity during the formative years based on the notion that inequality in access to good jobs may be even more unfair if one considers the indirect effects of circumstances on educational attainment and other human capital inputs earlier in life or during childhood (figure 5). Although the inequality of opportunity in labor markets that is attributable to an individual's educational attainment may be regarded as fair, not everyone enjoys equal access to good-quality education during the formative years. Thus, the effects of inequality may also be evident earlier in life. The differences in the access of individuals to education and human capital inputs at the moment of entry into the labor market may reflect these unobserved and unfair sources of inequality.

Figure 5: Dimensions of inequality of opportunity in labor market, extended framework



The scores achieved in the tests of the Program for International Student Assessment (PISA) of the OECD in Georgia and Azerbaijan in 2009 and 2015 are used to estimate the level of access to quality education. Gathered in 2015, data of the Integrated Living Conditions Survey in Armenia, the Monitoring Survey for Social Welfare in Azerbaijan, and the Monitoring of Households Survey in Georgia are used to estimate human capital inputs. The standard HOI among children is applied to examine the dimensions along which the inequality of opportunity in access to basic human capital inputs during the formative years may be most salient. Specifically, in this framework, opportunities are defined as access to running water and sanitation among children ages 0–16 and reflect the quality of health services in the early years of life.

The circumstances that may affect the access of children to running water and sanitation, are measured with the following variables: the number of 0- to 15-year-olds in the household, the educational attainment of the household head, the gender of the household head, the household consumption quintile, the gender of the child, and the location of the household (urban or rural area and province or region). Unlike the HOI framework for determining the access to a good job, all factors contributing to inequality, that is, the circumstances, are independent of the choice of children. Without a panel data structure, the HOI on human capital can only be generated for the current young generation, which is not directly relatable to the current labor force on which the HOI estimation of good jobs is focused.

3. Results

The empirical findings of the study are organized into three topics: the perceived fairness of the process, inequality of opportunity in the labor market, and inequality in human capital inputs (see the Methodology section). In this section, how people in South Caucasus generally perceive fairness in the processes involved in obtaining access to good jobs is described by way of perceptions on the role of connections. The next and more substantial part of the section highlights the level of access to good jobs in South Caucasus, measures the inequality of access to good jobs, and uses the HOI framework to decompose the sources of inequality and to determine the level of unfair inequality in accessing good jobs. The last part of the section presents the results produced by applying the HOI framework to determine the amount of the access of children to basic human capital inputs and provide some early indication on the extent to which inequality in access to good jobs is associated with inequality in access to human capital inputs.

3.1. Perceptions of the fairness of processes

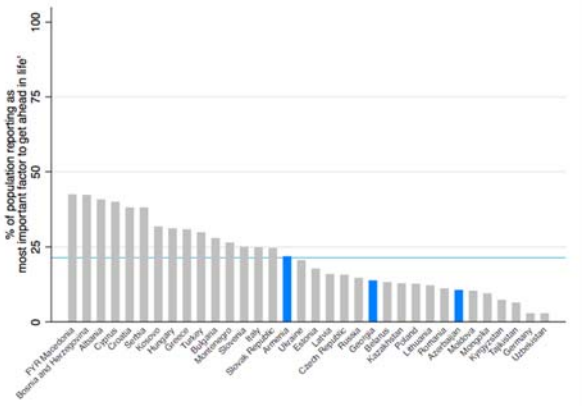
The analysis generally finds that the populations of the countries of South Caucasus perceive that connections play a crucial role in gaining access to good jobs. Among Eastern Europe and Central Asia countries, the share of the population that believes connections are essential or important in obtaining good jobs in both the private sector and the public sector is the largest in

Armenia. This represents an indication of the potential problem of unfairness in labor market processes in the countries of South Caucasus.

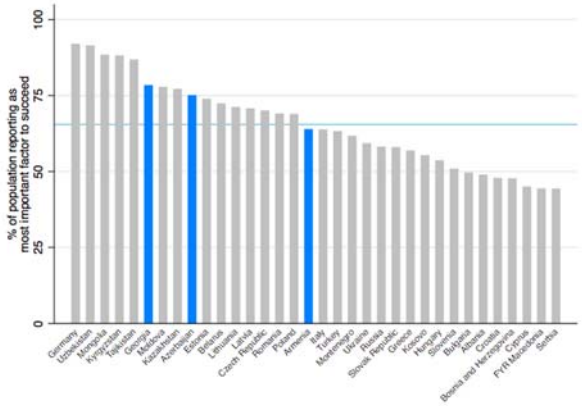
In the broadest sense of opportunity defined as the ability to get ahead or achieve success in life, a larger share of the population of South Caucasus still believe that an individual's hard work and effort play a greater role than political connections. Only 22 percent of Armenians, 11 percent of Azerbaijanis, and 14 percent of Georgians believe political connections are the most important vehicle for getting ahead (figure 6, panel a). In contrast, 64 percent of Armenians, 75 percent of Azerbaijanis, and 78 percent of Georgians regard hard work, effort, skills, and intelligence as the most important factors in achieving success. The numbers suggest that people in South Caucasus consider society fair in providing opportunities in terms of upward mobility or achieving success in life (figure 6, panel b).

Figure 6: Perceived role of connections and efforts in achieving success in life, 2015

6.a Perceived role of political connections in getting ahead in life



6.b Perceived role of effort and skills in achieving success



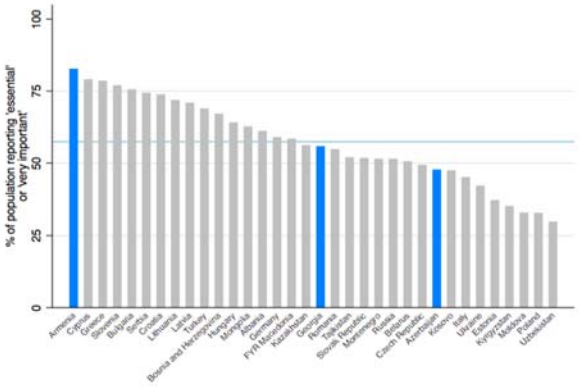
However, the perceived fairness in access to opportunities for good jobs on the labor market is mixed among the people of South Caucasus. On the basis of a slightly expanded definition of connections to include the support of people who have been asked to exert influence to obtain a favorable decision about securing a good job, Armenia stands out with 83 percent of the population rates connections as essential or important in acquiring a good government job, the highest share among 34 countries surveyed (figure 7, panel a).[6] In Azerbaijan and Georgia, the

[6] In the 2015 LiTS, respondents rated the importance of connections from not important to essential. The ratings were 1 = not important, 2 = somewhat important, 3 = moderately important, 4 = very important, and 5 = essential. It was also possible to respond "don't know."

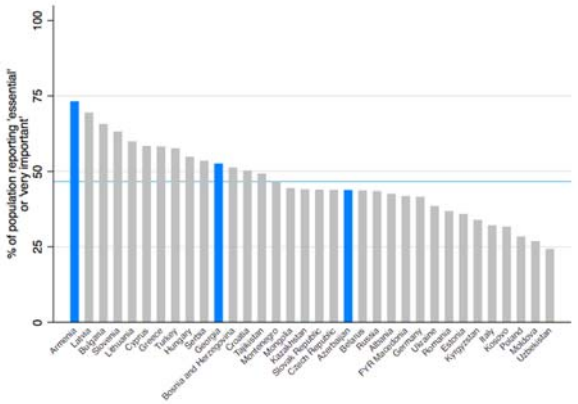
shares were well below or close to the average among the 34 countries.[7] A similar pattern also emerges on the perceived role of connections in obtaining a good job in the private sector, although the importance of connections is generally lower in this instance than in obtaining government jobs (figure 7, panel b). These more typically negative perceptions on the role of connections serve as an approximate indicator of inequality in the labor market in the region.

Figure 7: Perceived role of connections in getting job, 2015

7a: Perceived role of connections in getting government job



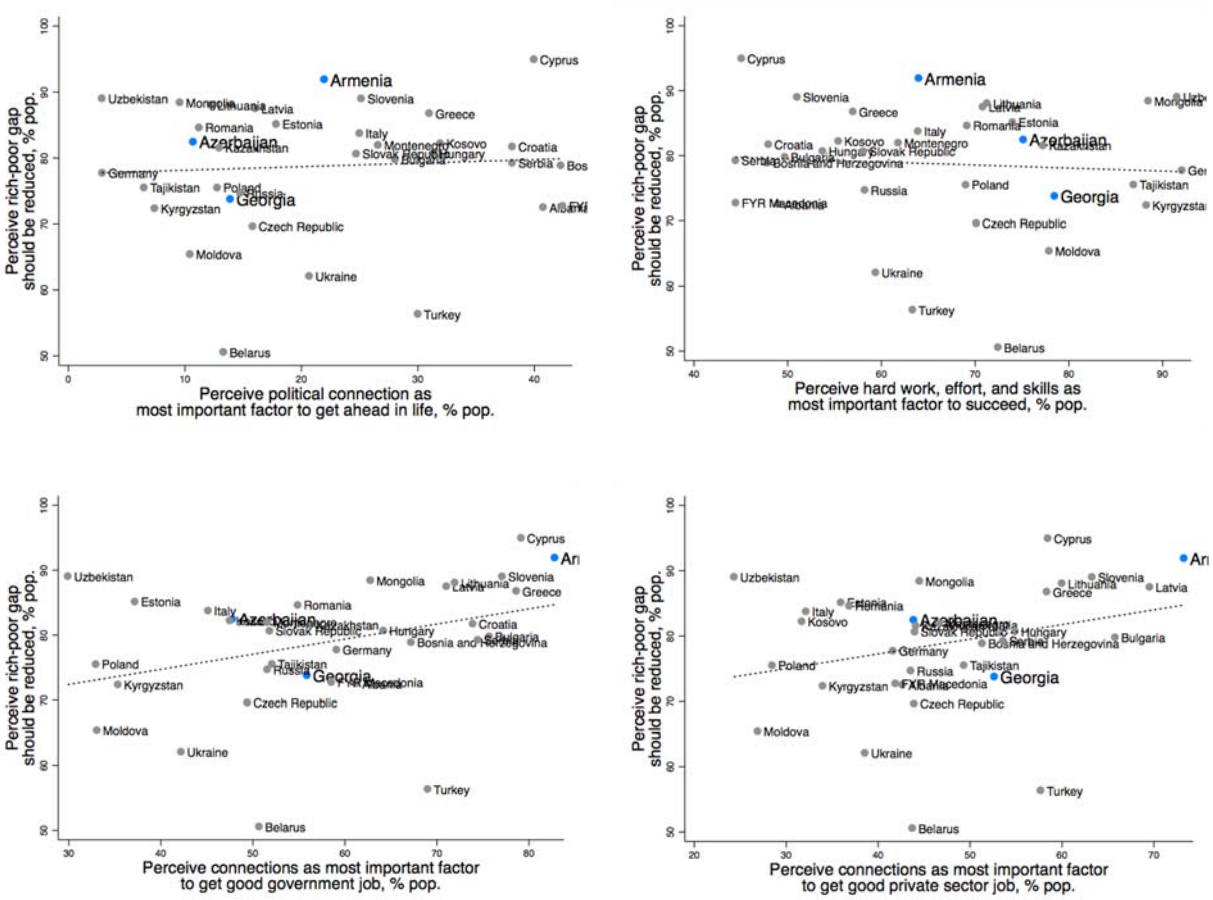
7b: Perceived role of connections in getting private job



The data on the 34 countries surveyed in the 2015 LiTS show that the demand for redistribution—defined as the share of a population believing that the gap between the rich and the poor needs to be reduced—is positively correlated with the perceived importance of connections in obtaining jobs. In contrast, it appears there is no correlation between perceived fairness in achieving success in life and the demand for redistribution (figure 8). These correlations suggest that perceptions about mechanisms—defined as connections that determine success in gaining access to good jobs—are more strongly correlated with the preference for redistribution. The prevalence of reliance on connections is not necessarily a pernicious symptom of an ailing economy because connections may be important in compensating for imperfect or distorted labor markets that lack formal means of intermediation. Nonetheless, not everyone possesses the same access to connections regardless of the possible positive role of connections in an economy. The fact that the correlation between the demand for redistribution and the role of connections in obtaining jobs is more evident relative to more general perceptions about the role of political connections in achieving success in life suggests that, in the countries surveyed, the demand for redistribution, as an indicator of perceived unfairness, is sensitive to perceived opportunities to participate in the labor market.

[7] In interpreting the responses in Azerbaijan, the fact that, among the countries covered in the 2015 LiTS, Azerbaijan exhibits one of the largest population shares responding "don't know" or only "moderately important" should be taken into account. Thus, in this case, the results in Azerbaijan are probably underestimates.

Figure 8: Demand for redistribution and perceived fairness in access to private sector job, 2015



3.2. Inequality in the labor market

This subsection extends the analysis beyond approximate measures of perceived unfairness in the labor market to a more systematic examination of this area of inequality by implementing the HOI framework. It starts with coverage rates, that is, the percent share of the labor force that has access to good jobs, which is the simplest measure of beneficial access to the labor market. It then presents the results of the application of the inequality index (the D-index), which is a measure of between-group inequality among those people who obtain the access. This index is the basis for adjusting the simple coverage rates by a measure of the inequality in access to generate an augmented indicator of access to good jobs that is labeled the inequality-adjusted coverage rate. The subsection presents the results of the decomposition of contributing factors in inequality and assesses the extent to which the unfair component of circumstances contributes to inequality in the access to good jobs. The study concludes that not only do people in South Caucasus have

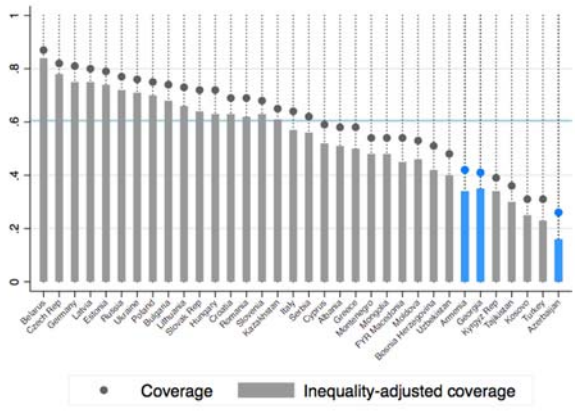
relatively little and highly unequal access to good jobs, but also that this sort of inequality makes a substantial contribution to the total inequality of opportunity characterized as unfair.

Coverage rates

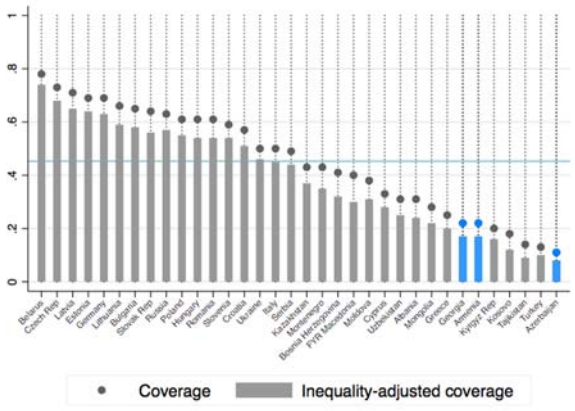
Gauged by coverage rates, the labor force in South Caucasus exhibits low access to good jobs relative to the 34 countries surveyed in the 2015 LiTS (figure 9). Based on the paper's simplest definition of a good job, the share of the labor force working 20 or more hours a week in South Caucasus is small in comparison with the regional average across Eastern Europe and Central Asia (61 percent). Only 26 percent of the labor force in Azerbaijan report they are working at least 20 hours a week. The shares are higher in Armenia (42 percent) and Georgia (41 percent), but still well below the regional average. Indeed, the countries of South Caucasus, together with Kosovo, the Kyrgyz Republic, Tajikistan, and Turkey, are among the countries in the region with the lowest population shares working 20 hours or more a week.

Figure 9: Share of labor force population working in a good job

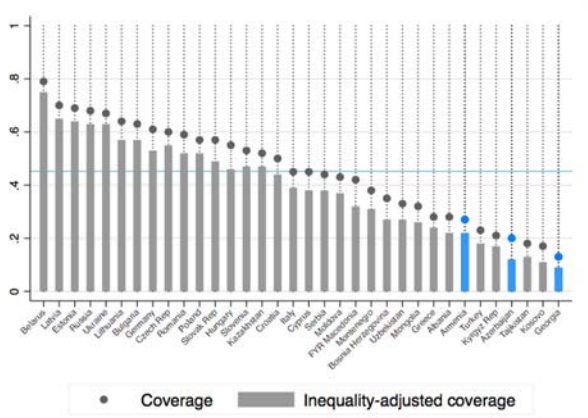
9a. Working 20 and more hours a week



9b. Working 20 and more hours a week and with contract



9c. Working 20 and more hours a week and with security of tenure



In the countries of South Caucasus, access is also much lower to salaried jobs of 20 hours or more a week with contracts, a type of job that is more likely to be in the formal sector and to be associated with benefits. Only 22 percent of the labor force in Armenia and Georgia and 11 percent of the labor force in Azerbaijan hold this type of job. These coverage rates are distinctly lower than the regional average across Eastern Europe and Central Asia (45 percent). The same pattern of low coverage emerges in the countries of South Caucasus in the case of jobs requiring 20 hours or more of work a week that are associated with tenure security and permanent contracts. In Armenia, 27 percent of the labor force holds tenured jobs of 20 hours or more a week, while, in Azerbaijan and Georgia, the shares are 20 percent and 13 percent, respectively. The average coverage rate is 45 percent across the countries surveyed in the 2015 LiTS.

The coverage rates are measured using data from the 2015 LiTS. How do the coverage rates compare with the results of the National Labor Force Survey? Applying similar age-group classifications, the coverage rates for each definition of good jobs calculated using the LiTS are close to the figures using the National Labor Force Survey in Armenia. However, the rates are substantially different in Georgia, most probably because of the data limitation. Instead of using the standard Labor Force Survey, the comparable coverage rates are calculated from the Monitoring Household Survey, which is not specifically designed as a labor force survey. Meanwhile, the Azerbaijan Labor Force Survey is not currently available. (See annex 1 for the complete comparison of coverage rates and the accompanying notes.)

Inequality index and inequality-adjusted coverage rates

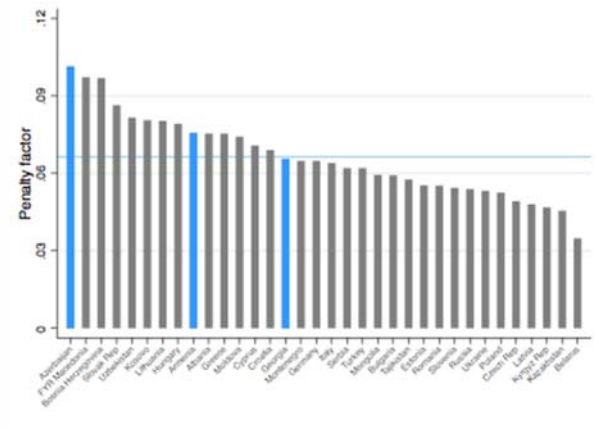
While coverage rates provide a simple measure of the universality of access to good jobs, evaluating inequality among those people who gain access to good jobs is also important. Ideally, access to good jobs should be independent of the circumstances over which workers have no control. Following the HOI framework, this paper uses the D-index to measure between-group inequality differentiated by individual effort and choice and by circumstances in accessing jobs. It finds substantial inequality in the coverage among groups in South Caucasus that are

characterized by different circumstances. Thus, coverage rates among each circumstance-group (age, educational attainment, parental educational attainment, parental political affiliation, gender, and ethnicity) differ appreciably from the overall coverage rate of a country, indicating that one's position in circumstance-groups matters in gaining access to good jobs. Indeed, there are sizable differences in access across population subgroups in South Caucasus.

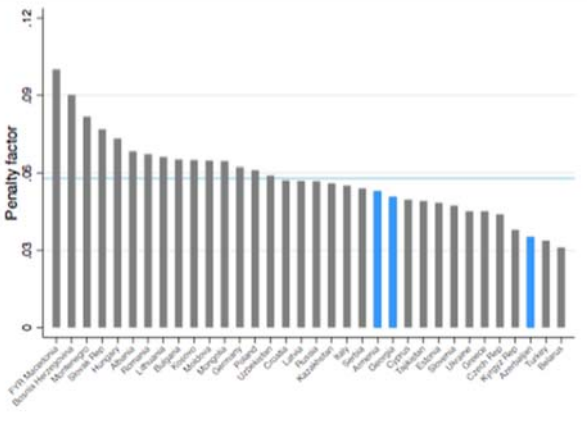
The inequality index is remarkably high in Azerbaijan and, in Armenia and Georgia, well above the average across the countries surveyed in the 2015 LiTS (figure 10). Within the possible range of 0 to 1 on access to good jobs involving work for 20 hours or more a week, the D-index is 0.39 in Azerbaijan, the highest score among countries surveyed in the 2015 LiTS. The scores of Armenia and Georgia are lower, at 0.18 and 0.16, yet these scores are still higher than the average of 0.12 across surveyed countries. Similar patterns emerge in jobs involving 20 hours or more a week under contracts and 20 hours or more a week with tenure, although, in the case of good jobs with contracts, Azerbaijan has the third-highest inequality score after Kosovo and Tajikistan among the countries surveyed. Therefore, the countries of the South Caucasus belong to a group of countries with high between-group inequality in access to good jobs (according to effort and according to circumstances). In addition, the stricter the definition of a good job, the greater the inequality except in Azerbaijan, where, across all categories of good jobs, the inequality index is highest in the case of the least strict category of good jobs, that is, jobs involving work for 20 hours a week or more.

Figure 10: The inequality index (D-index)

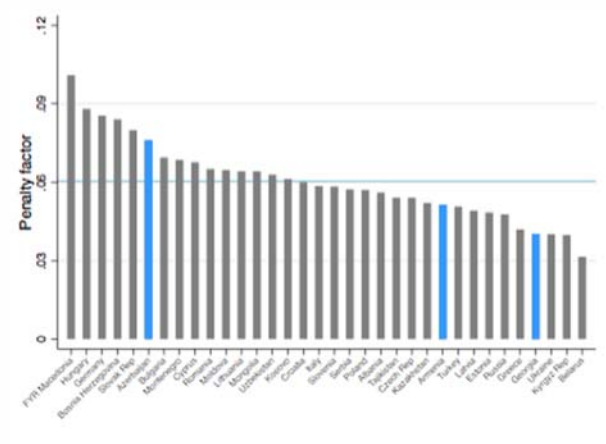
10a. Working 20 and more hours a week



10b. Working 20 and more hours a week and with contract



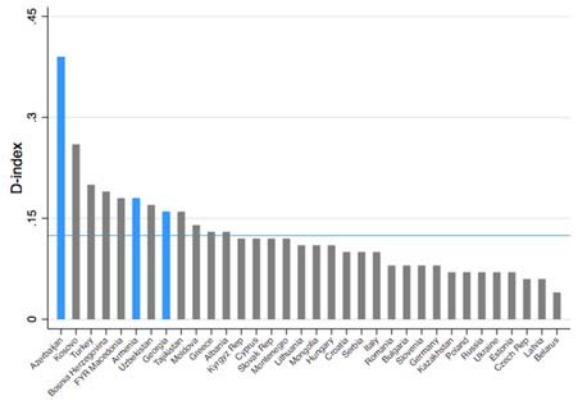
10c. Working 20 and more hours a week and with security of tenure



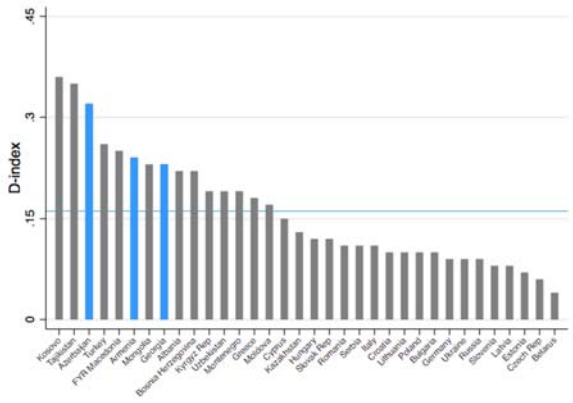
The conversion of the inequality index into an effective penalty factor could be applied directly to adjust the coverage rate. Such a penalty factor would be constructed by interacting the inequality index with coverage rates for good jobs (the D-index, multiplied by the coverage rate). Any differences between the coverage rate and the inequality-adjusted coverage rate—the penalty factor—would arise from between-group inequality, illustrating the influence of inequality on obtaining good jobs. Indeed, in Eastern Europe and Central Asia, Azerbaijan would be associated with the highest between-group inequality penalty factor (10 percentage points) in acquiring a good job involving work for 20 hours or more a week (figure 11). The penalty factors for this type of good job in Armenia and Georgia would be 7.6 and 6.6 percentage points, respectively, while the average in the 2015 LiTS countries would be 6.6 percentage points. The high penalty factors in the countries of South Caucasus is remarkable because it implies that the inequality in access overwhelmingly offsets the low coverage rates in these countries. The penalty factors associated with good jobs involving work for 20 hours or more a week with contracts or with tenure are lower than the one involving only work for 20 hours or more a week (figure 11). In these stricter categories of good jobs, the penalty factors among the countries of South Caucasus are generally below the average among the 34 countries surveyed in the 2015 LiTS, which is as expected given the low coverage rates in the former.

Figure 11: The penalty factor (D-index times coverage rate)

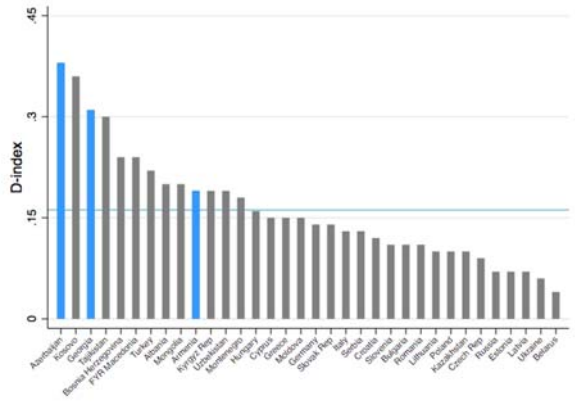
11a. Working 20 and more hours a week



11b. Working 20 and more hours a week and with contract



11c. Working 20 and more hours a week and with security of tenure



Subtracting the penalty factor from the coverage rates gives the inequality-adjusted coverage rate, an indicator of the access to good jobs that takes into account the inequality in access among people who have the good jobs. As expected, the inequality-adjusted coverage rates are lower than the simple coverage rates (see figure 9). For example, the inequality-adjusted coverage rate among people working 20 hours or more a week is 16 percent in Azerbaijan, 34 percent in Armenia, and 35 percent in Georgia. The coverage rates in these countries are 26 percent, 42 percent, and 41 percent, respectively. The relatively high between-group inequality in South Caucasus does not help in improving the rank of the countries in the subregion in inequality-adjusted coverage. In fact, the relative ranking of these countries in inequality-adjusted coverage rates remains generally the same as the ranking on the coverage rate indicator, except for

Azerbaijan, where the inequality index is so high that it leads to a significant discount even on the low coverage rate (see figure 9). Similar to the situation in the coverage rate indicator, these countries belong to the group with low inequality-adjusted coverage rates as well.

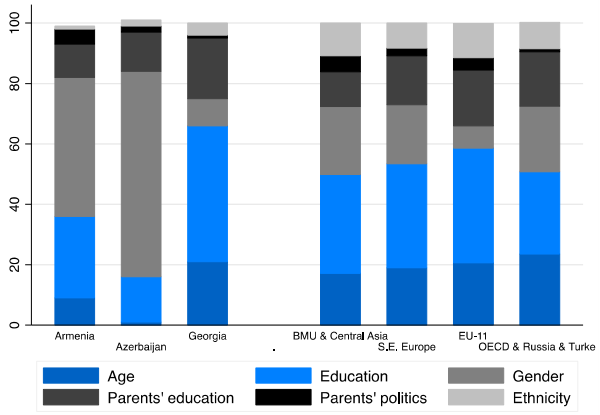
Inequality index decomposition

This paper finds that countries in South Caucasus have low coverage rates for good jobs and high inequality among population subgroups in the access to good jobs. The analysis now addresses the extent to which differences in individual circumstances beyond personal effort and choice (the unfair elements) contribute to the wide inequality in the access to good jobs. First, following the Shapley decomposition method outlined in Shorrocks (2013), between-group inequality in labor markets (D-index) is decomposed into two major contributing components: i) the behavioral characteristics of individuals related to their efforts and experience and, ii) the circumstances beyond the control of individuals, namely, gender, ethnicity, parental educational attainment, and parental political affiliation. The first component (broadly, effort and experience) is considered the fair element contributing to inequality in a labor market, while the second component (circumstances) is the unfair element. To assess the relative fairness of labor market inequality in the countries of South Caucasus, the shares of the two contributing factors in inequality in these countries are compared with the average shares in all countries surveyed in the 2015 LiTS, as well as with the averages in Belarus, Central Asia (Kazakhstan, the Kyrgyz Republic, Mongolia, Tajikistan, and Uzbekistan), Moldova, and Ukraine; Southeastern Europe (Albania, Bosnia-Herzegovina, Cyprus, Greece, Kosovo, FYR Macedonia, Montenegro, and Serbia); the European Union–11 (Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic, and Slovenia); the European Union (represented by only Germany and Italy), the Russian Federation, and Turkey.

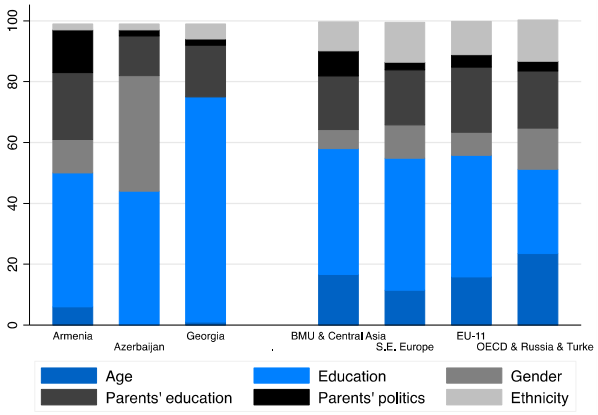
An important finding of this paper is that a sizable share of the inequality in access to good jobs is unfair in Armenia and Azerbaijan, while the share is moderate in Georgia (figure 12). To illustrate, on the access to the first category of good jobs (those involving work of 20 hours or more a week), the share of the unfair element of inequality is small in Georgia, at 34 percent, but it is not small for Armenia and Azerbaijan. At 63 percent and 85 percent of total between-group inequality, respectively, the countries show the highest level of unfairness in the 34 countries of Eastern Europe and Central Asia, where the average share of the circumstances component in total inequality is 47 percent. The shares of circumstances in total inequality in Azerbaijan and Armenia are also higher than the averages in other sub-regions. Similar patterns in the share of the unfair element in inequality are observed in the access to good jobs involving work of 20 hours or more a week with contract and, especially, with tenure. In the category of good jobs involving work of 20 hours or more a week with contracts, Georgia registered the smallest share of the unfair element in between-group inequality.

Figure 12: Decomposition of inequality in access to good job – working 20 hours or more per week

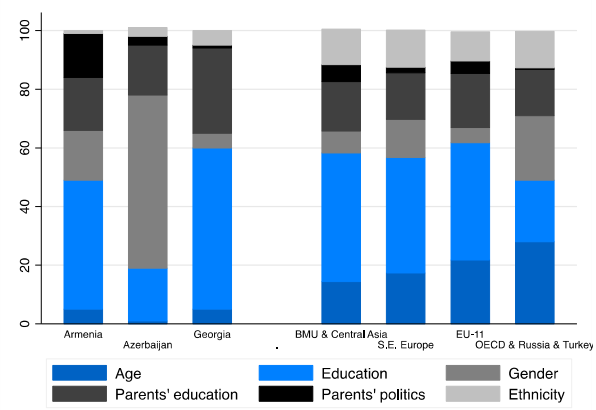
12a. Working 20 and more hours a week



12b. Working 20 and more hours a week and with contract



12c. Working 20 and more hours a week and with security of tenure



Across different categories of good jobs, the unfair elements—the circumstances—matter less in accessing good jobs involving work of 20 hours or more a week with contracts. Yet, the notion of less unfairness in obtaining a better good job is difficult to establish because the share of unfair elements in the strictest category of good jobs—the ones with tenure or permanent status—is not substantially different from the share in the least strict category, jobs involving work of 20 hours or more a week (see figure 12, panels a and c; table 1). Neither labor market discrimination or market imperfection seems to diminish clearly with the quality of the job (such as jobs with better contracts or better tenure security) in South Caucasus; the diminishing role of the unfair element

in inequality among better secured good jobs is evident in Armenia, but not in Azerbaijan or Georgia.

Table 1: Contribution of effort and hard work and circumstances to total inequality in access to good jobs (%)

	Efforts and hard work									Circumstances									Total unfair element		
	Age			Education			Gender			Father's education			Parent's political affiliation			Ethnicity					
Type of good job*	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
Armenia	9	6	5	27	44	44	46	11	17	11	22	18	5	14	15	1	2	1	63	49	51
Azerbaijan	1	0	1	15	44	18	68	38	59	13	13	17	2	2	3	2	2	3	85	55	82
Georgia	21	1	5	45	74	55	9	0	5	20	17	29	1	2	1	4	5	5	34	24	40
.																					
BMU & Central Asia	17	17	14	33	41	44	23	6	8	12	18	17	5	8	6	11	10	12	50	42	42
S.E. Europe	19	12	17	34	43	39	20	11	13	16	18	16	3	3	2	8	13	13	47	45	43
EU-11	21	16	22	38	40	40	7	8	5	18	21	18	4	4	4	11	11	10	41	44	38
GER, ITA, RUS, TUR	24	24	28	27	28	21	22	14	22	18	19	16	1	3	1	9	14	13	50	49	51

Note: *Type 1 is working 20 hours or more a week; type 2, working 20 hours or more a week with contract; type 3 working 20 hours or more a week with tenure

Nonetheless, the share composition of the various factors contributing to the unfair element in the inequality in access to good jobs in South Caucasus varies across categories of good jobs and across countries. The gender factor plays a sizable role in Armenia and Azerbaijan, while Georgia is among the countries with the smallest share of the gender factor in the inequality in the labor market. Thus, 68 percent of the inequality in access to jobs involving work of 20 hours or more a week in Azerbaijan derives from differences in gender, while this is true of a smaller, but still considerable share of jobs of 20 hours or more a week with contracts or tenure (see table 1). Armenia shows a slightly different pattern: in jobs of 20 hours or more a week, the share of the gender factor in inequality is 46 percent, but this declines significantly, to 11 percent and 17 percent, respectively, in jobs of 20 hours or more a week with contracts and tenure.

Parental educational attainment, one of the proxies for family social status, plays a considerable role in inequality, especially in Georgia. The shares of the differences in parental educational attainment in inequality in Georgia are 20 percent for jobs of 20 or more hours a week, 17 percent for jobs of 20 or more hours a week with contracts, and 29 percent for jobs of 20 or more hours a week with tenure. The contribution of parental educational attainment to labor market inequality in Armenia and Azerbaijan is between 11 and 22 percentage points depending on the category of good jobs. Meanwhile, parental political affiliation is a relatively important

contributor to inequality in Armenia, especially in the access to good jobs with contracts (14 percent) or tenure (15 percent). Parental political affiliation and the ethnicity of an individual seem to have only a small role in inequality in the access to all categories of good jobs in the three countries in South Caucasus.

Among the fair components of inequality, education generally matters a great deal, especially in securing a good job with a contract or with permanent tenure (see table 1). In the case of the basic definition of a good job, 20 hours or more a week, the contribution of educational attainment to inequality in Armenia and Azerbaijan (27 percent and 15 percent, respectively) is limited relative to the gender differential factor (46 percent and 68 percent, respectively). In the stricter category of good jobs, the ones associated with contracts or tenure, the contribution of education generally increases. Yet, it appears that, in South Caucasus, differences in educational attainment contribute less to inequality in the access to good jobs with permanent tenure than to inequality in securing jobs with contracts. Another fair component of inequality, age (as a proxy for work experience), generally contributes less to inequality, except in Georgia in the access to jobs involving work of 20 hours or more a week (21 percent). The educational attainment of both respondents and parents appear to contribute substantially to inequality in the labor market according to the HOI approach. To check the robustness of this finding, the analysis included a probit regression run on access to good jobs with similar relevant variables (effort and circumstances), which found that the education variables of respondents and their parents are equally significant in driving the access to good jobs (see annex 2).

The research makes two assumptions about the fair component of inequality. First, work experience is important in obtaining access to good jobs. However, among transition economies such as those in South Caucasus, the massive disruption and exogenous economic restructuring in the 1990s may have rendered the role of work experience in gaining access to good jobs meaningless. For example, when Armenia became independent, the share of the manufacturing sector in total output shrank from 70 percent to 20 percent; so, skills and work experience in manufacturing suddenly became less relevant. To address this issue, the research also tests the assumption that work experience remains relevant in the region. In particular, this study observes the variations in the contributions of age as a proxy for the value of work experience in gaining access to good jobs in industries in which experience is still important after the massive restructuring (manufacturing) or in sectors characterized by human capital intensity, such as high-quality services (finance and public administration). The research also compares the contributions of age in accessing good jobs among younger cohorts among which work experience may matter more (see annex 3). The evidence shows that the age of respondents as a proxy for work experience does not contribute more to inequality in manufacturing and high-quality services than in other industries. It also does not exhibit a greater share in inequality among younger cohorts.

Second, the research assumes that educational attainment is a valid measure of skills. However, many studies in the countries of South Caucasus point to a significant skills mismatch because of poor teaching quality and outdated curricula that often do not allow for a smooth school-work transition. To confront this problem, the research also tests if educational attainment among individuals is correlated with work skills by observing differences in the contributions of

education to access to good jobs across industries showing skills mismatches. If there were a skills-mismatch problem, industries in which the skills-mismatch is more severe, such as agriculture and low-quality services, would exhibit relatively greater contributions of educational attainment to labor market inequality, that is, workers would tend to be overeducated relative to the skills required by their jobs in these industries. The research finds that educational attainment among respondents, as a proxy for skills, does not have a greater effect on inequality in the access to good jobs in industries with more severe skills mismatches (see annex 4, table A4;).

3.3. Inequality in human capital inputs

The observed fair inequality component of the access to good jobs, that is, the component involving the effort, experience, and choice of individuals, may be affected by inequality in the access to human capital inputs among individuals during their formative years. The research extends the analysis by evaluating learning performance in Azerbaijan and Georgia based on the PISA test scores to describe access to education. The analysis also relies on the application of the HOI approach to the measurement of inequality in children's access to basic utilities in South Caucasus. The study finds that, first, educational performance appears relatively poor and unequal depending on the life circumstances of children. Second, the coverage rates of basic human capital inputs such as access to gas and water and sanitation are generally high, although inequalities remain an issue in the countries, especially in higher-quality services. The inequalities are mostly associated with geographical disparities.

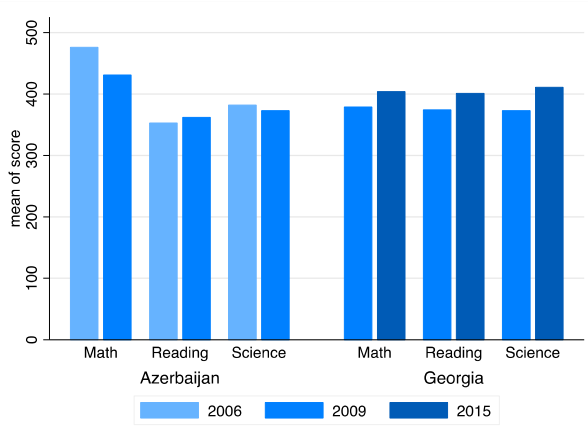
Learning performance

While school attendance rates are high in the countries of South Caucasus, learning performance shows mixed results.[8] Only Azerbaijan and Georgia participate in the PISA test; the test was conducted in Azerbaijan in 2006 and 2009 and in Georgia in 2009 and 2015. The average PISA scores rose noticeably in Georgia between 2009 and 2015: by 38 points in science, 25 points in mathematics, and 27 points in reading (World Bank 2016) (figure 13). Because every 30-point difference in a PISA score corresponds to about one year of schooling in the 2015 round of the PISA, the improvement in Georgia is substantial. Meanwhile, in the two rounds of the PISA test in 2006 and 2009, the performance in Azerbaijan was less impressive. The country's average score in reading rose by 9 points, but the mathematics score dropped rather significantly, by 45 points. Overall, these levels of educational achievement in the countries of South Caucasus are still far below the averages in the OECD and in Eastern Europe and Central Asia. For example, the science score in Georgia in the 2015 round of PISA was 411, while the regional average was 454, and the OECD average was 493. More than half of 15-year-olds in Georgia scored below basic proficiency in science, reading, and mathematics.

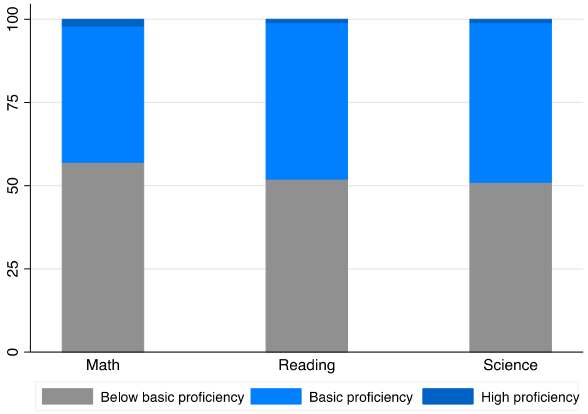
[8] See, for example, UNESCAP (2017), which shows high attendance rates in secondary education.

Figure 13: Learning performance: PISA scores

13a. PISA scores by subject

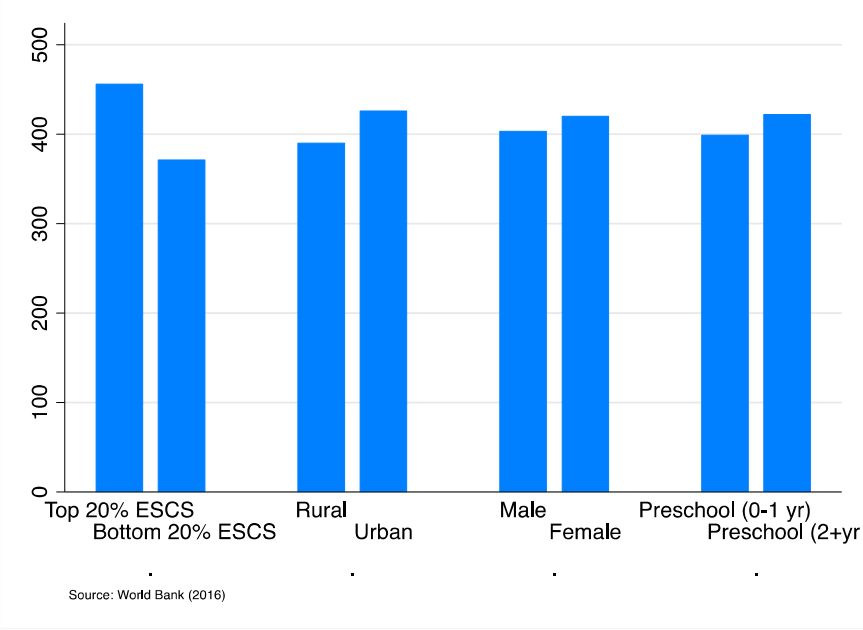


13b. Proficiency among 15-year-olds, Georgia



Even more concerning, the educational disadvantages among the working-age population appear to emerge in Georgia early in life. While school attendance seems to be universal, the quality gaps are rather large, given that learning outcomes vary dramatically by the circumstances of children (figure 14). The 30-point difference in the PISA score equivalent in science between students of the same age and grade at the top and the bottom of the scale of economic, social, and cultural status is roughly equivalent to a difference of three years of schooling. The score differences by urban-rural location (36 points), gender (17 points), and the duration of exposure to preschool (23 points) are also substantial.

Figure 14: Equity profile, PISA science score, Georgia, 2015



Children's access to basic utilities

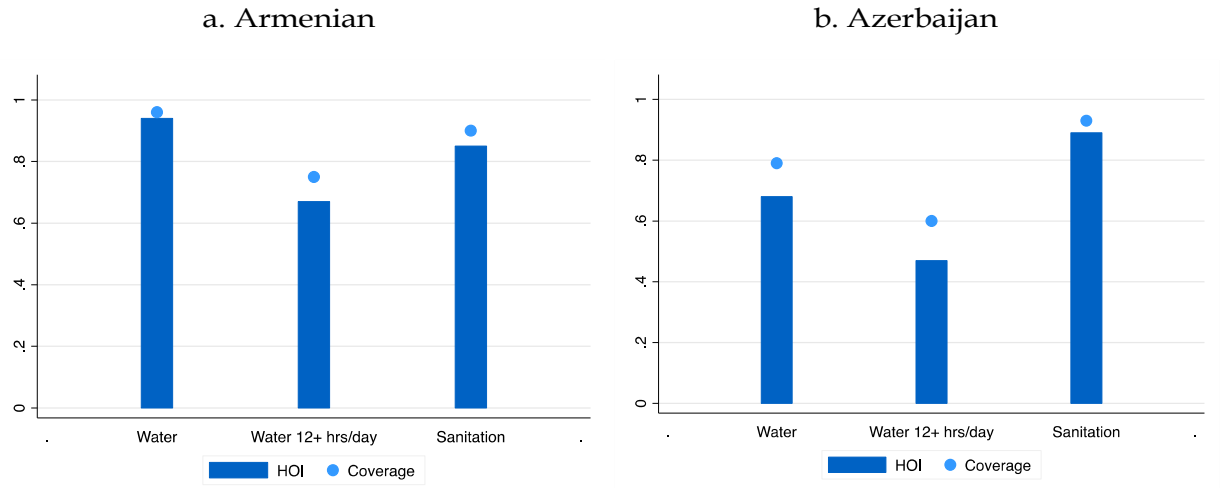
The inequality in the access to basic human capital inputs among children ages 0–16 measured using a standard HOI on access to water and sanitation is generally low and mostly derives from spatial disparities.[9] In this analysis, the life circumstances of children are based on the number of children in the household; the educational attainment, age, and gender of the household head; the household consumption quintile; the gender of the children; and the urban-rural and provincial location of the household.

Among the three countries, the share of children who have access to water appears to be highest in Armenia (figure 15). In 2015, 96 percent of Armenian children had access to water, and the HOI for access to running water was approximately the same, at 94 percent, highlighting the narrow between-group inequality in access to the service. However, these large shares may

[9] Because the data are generated though separate household surveys across the countries of South Caucasus, the definitions of access to water and sanitation are also slightly different. In Azerbaijan, the definition revolves around whether children have access to water in their dwellings, though the survey does not specify the source of the water. In Armenia, children are considered to have access if their households obtain water from a central supply. In Georgia, access refers to whether the households have water systems within the home or outside in the vicinity. Likewise, in Azerbaijan, children are considered to have access to sanitation if there are toilets in their dwellings. In Armenia, access refers to whether the households have local or centralized sanitation utilities. In Georgia, where all households claim to have toilets, children are considered not to have access to sanitation if the household toilets are latrines emptying into a river, channel, or ravine, and so on.

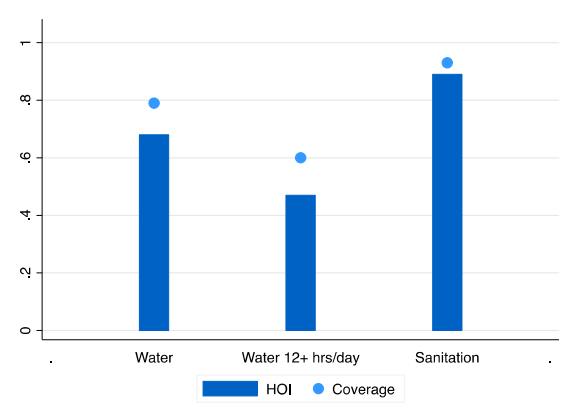
derive from the broader definition of access to water in the case of Armenia. In Azerbaijan, using the definition of access to a central water supply, the coverage rate is 90 percent, while the HOI is 85 percent. Using the definition based on whether households have access to a water system, Georgia's coverage rate is 79 percent, and the HOI is 68 percent. These relatively high rates of access are in line with the data of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP 2017) on household access to improved drinking water among 41 Asia-Pacific countries that show coverage rates in Armenia and Georgia at nearly 100 percent and in Azerbaijan at above 80 percent. All three countries also managed to meet the relevant Millennium Development Goal (WHO and UNICEF 2015).[10]

Figure 15: Access to water and sanitation (0-16 years old)



[10] The notion of coverage rates of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP 2017) and the World Health Organization and the United Nations Children's Fund (WHO and UNICEF 2015) is different from the notion here. The definition in the former two sources is the percentage of the population having access to water or sanitation, while the definition here is the percentage of children with access. The definitions of access to water and sanitation differ as well.

c. Georgia



Among lower-middle-income countries, indicators of service quality, such as whether running water is available for more than 12 hours a day, are more relevant. Based on these indicators, the coverage rates are lower, and the inequality gaps are wider than the results of indicators simply on access to running water. The coverage rate declines substantially, from 96 percent to 76 percent in Armenia, from 87 percent to 65 percent in Azerbaijan, and from 79 percent to 60 percent in Georgia (table 2). Inequality (D-index) also rises considerably, and, combined with the lower coverage rates, this leads to an increase in the penalty factors associated with greater inequality, that is, the gap between coverage rates and the inequality-adjusted HOI.

Table 2: Contribution of effort and hard work and circumstances to total inequality in access to good jobs (%)

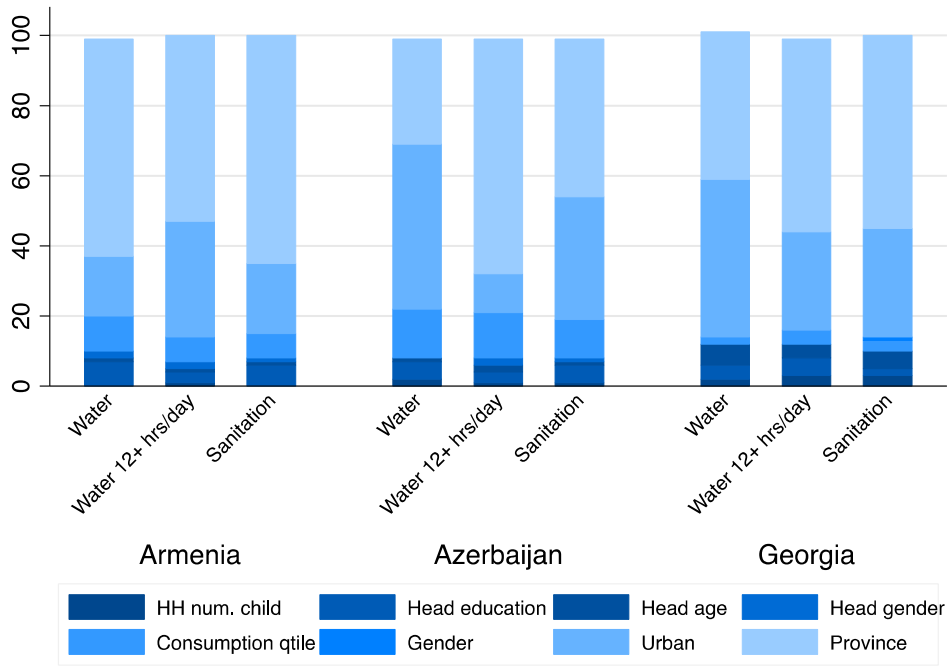
	Running water				Running water - 12hrs more more/day				Sanitation			
	Coverage	HOI	Penalty	D-index	Coverage	HOI	Penalty	D-index	Coverage	HOI	Penalty	D-index
Armenia	0.96	0.94	0.02	0.02	0.75	0.67	0.08	0.11	0.90	0.85	0.05	0.06
Azerbaijan	0.87	0.82	0.06	0.06	0.65	0.58	0.06	0.10	0.92	0.90	0.02	0.02
Georgia	0.79	0.68	0.11	0.14	0.60	0.47	0.13	0.22	0.93	0.89	0.04	0.04

Despite the differing definitions of access to sanitation, sanitation coverage rates are high in South Caucasus: 90 percent in Armenia, 92 percent in Azerbaijan, and 93 percent in Georgia (see table 2). Between-group inequality in children's access to sanitation also appears to be narrow as shown by the low D-index. Indeed, the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP 2017) also assigns Armenia and Georgia among the countries with the highest household sanitation coverage rates in the Asia-Pacific region. Regarding

coverage rates between 1990 and 2015, only Azerbaijan managed to meet its Millennium Development Goal target, while Armenia and Georgia fell short (WHO and UNICEF 2015).

The striking feature of the composition of factors contributing to the penalty index is the substantial role of spatial differences—whether children reside in urban or rural areas or in a particular province—in opportunities in all three South Caucasus countries (figure 16). For example, in access to water for at least 12 hours a day, 33 percent and 53 percent of the total between-group inequality in Armenia arises from differences in urban-rural and provincial residence, respectively. In Azerbaijan, the shares are 11 percent and 67 percent, and, in Georgia, 28 percent and 55 percent. The relatively high contribution of location may suggest a spatial discrepancy in the supply of basic human capital inputs in the South Caucasus countries. In Azerbaijan, the discrepancy reflects a regional disparity between Baku and the Absheron region and the rest of the country. Moreover, while the contributions of other circumstances are relatively small, differences in per capita incomes appear to play a considerable role in Azerbaijan, where the differences in household income quintiles account for more than 10 percent of the inequality in access to water and sanitation among children.

Figure 16: Inequality decomposition (0- to 16-year-olds)



The research thus finds that educational performance still requires major improvement, and children's access to education is unequal. Meanwhile, children's access to basic utilities are generally high, although there is a spatial disparity in supply. Therefore, the fair component of inequality appears to derive from a learning gap associated with children's circumstances.

4. Conclusion and Policy Discussion

The main takeaways from the document are as follows. First, connections play an important role in obtaining access to good jobs in South Caucasus, highlighting the unfairness in processes in the sub-region's labor markets. Second, access to good jobs—defined as work for 20 hours or more a week and work under contract or with tenure—is low in South Caucasus relative to other parts of the Europe and Central Asia region. Third, even among the people who have access to good jobs, the share of the total inequality of opportunity that may be characterized as unfair is relatively large. Armenia and Azerbaijan stand out for the significant share of inequality in access to good jobs associated with gender differences. Fourth, the analysis on access to education and basic human capital inputs in the earlier, formative stages of life shows that learning performance in South Caucasus tends to be poor and unequal across the life circumstances of children. Nonetheless, the coverage rates of basic human capital inputs are generally high; the relatively narrow inequalities arise mostly from spatial disparities.

To some extent, these prevailing inequalities in access to good jobs suggest that there is a labor market failure in South Caucasus, that is, the inability of the labor market to allocate the labor force to the most efficient uses based on skills, efforts, and talents. The accompanying labor market policies or reform in South Caucasus needs therefore to be directed toward addressing this issue and ensuring that opportunities to participate in the labor market are not determined by circumstances such as gender or parental social status, but, rather, skill and effort. It is important that non-merit–based and discriminatory mechanisms do not distort the entry and exit associated with good jobs (promotion), and wage rate policies.

In practice, policy makers in the countries of the South Caucasus need to promote policies that enhance advancement based on the skills and effort of labor market participants, without overreliance on potentially distorting signals, to sort out who deserves the access to good jobs. One example of such policies is to ensure that school diplomas reflect the quality of an education system that provides the skills necessary for the labor market. Various smaller initiatives and campaigns to promote fairness in worker recruitment and promotion are also feasible and can be effective in reducing inequality of opportunity in the labor market, especially if such initiatives are based on credible evidence on the efficiency loss arising from unequal access associated with circumstances beyond effort and skills. Technology and scientific findings can also be used and promoted to help labor market actors design more efficient mechanisms to identify available skills and match them with demand.

Labor codes and laws can also be enforced to eliminate discrimination in the labor market, thereby reducing inequality of opportunity in the labor market. A legal framework fostering equal opportunity and equal treatment in employment is available in South Caucasus, for example, Armenia's 2004 Labor Code (amended in 2011) and Azerbaijan's 1999 Labor Code, 2001 Employment Act, and 2006 Law on the Guarantee of Gender Equality (ILO 2011, 2012). These legal codes explicitly include legal equality in working relationships regardless of gender, social status, political affiliation, and so on. However, reports of the International Labour Organization (ILO 2011, 2012) suggest that the effective implementation of labor codes remains an issue. Thus, enforcing the already available legal codes is the logical next step in labor market reform to reduce the inequality in access to good jobs.

The empirical results described in this paper show that gender inequality is the main contributor to inequality in access in South Caucasus. The International Labour Organization (ILO 2011, 2012) finds that Armenia and Azerbaijan have low female employment rates and wide gender pay gaps. This highlights that, among the types of inequality hindering the access to good jobs, it is necessary to prioritize policies that address gender-based inequality. The empirical findings outlined in the paper also suggest that it is important to increase the quality of learning and to focus on eliminating spatial disparities in the supply of education and basic utilities. Similarly, policies should be oriented towards improving connections and matching of specific skills with employment where these are needed. Finally, constant updating and upgrading of human capital through 'on the job training' can help improve perceptions and actual quality of employment in the South Caucasus.

As in any reform effort, the challenges are numerous. However, the benefits of addressing the inequalities in the labor market are tangible in South Caucasus. First, reforms would be economically rewarding because they would remove labor market distortions and increase the incentives for investment in human capital and thus promote long-run growth. Second, reforms would also be politically rewarding because the perceived inequality in the labor market is positively associated with the public's demand for redistribution. As the forces of globalization, technological change, and aging continue to shape the economic and social landscape of the broader Eastern Europe and Central Asia region, perceptions of reduced social mobility and inequality of opportunity are generating distributional tensions that will likely exert greater pressure on the existing social contract. Addressing the deep structural inequalities that are shaping the landscape of opportunity in South Caucasus must be a key consideration in any strategy to share prosperity sustainably.

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Annex 1

How do the coverage rates based on the 2015 LiTS compare with the results of the national Labor Force Survey?

In Armenia, the LiTS-based coverage rates are similar to the ones calculated from Labor Force Survey. In Georgia, the coverage rates differ, but it is important to keep in mind that the comparing coverage rates are calculated using Monitoring Household Survey, which is not specifically designed as a Labor Force Survey. Azerbaijan's Labor Force Survey, or similar survey, is not available. See Table A1 for the complete figures.

Table A1: Coverage comparison (% of labor force, 18-64 years old)

	Worked 20hrs/week		Worked 20hrs/week, with contract		Worked 20hrs/week, with tenure	
	LiTS	**LFS/HH survey***	**LiTS**	**LFS/HH survey***	**LiTS**	**LFS/HH survey***
Armenia	0.42	0.43	0.22	0.23	0.27	NA**
Georgia	0.41	0.55	0.22	0.35	0.13	0.53
Azerbaijan	0.26	NA***	0.11	NA***	0.20	NA***

Note: Armenia: *Use LFS 2016. NA**, data on tenure/permanent status for main job not available in the LFS dataset. Georgia: *Use Monitoring of Household Survey module on Employment and Income (Shinda 05-1). By design, this survey is not a specific Labor Force Survey. The major problem is that the question about working hours is asked for a typical week (not the last seven days) and it is grouped into categories (less than 20 hours, 21–40 hours, 41–60 hours, and depending on season). Also, the high permanent status of employment figures (92 percent of the total number of people working in the last seven days) seems problematic. Azerbaijan: NA***, neither LFS or household monitoring survey is available.

Annex 2

Respondent's and parent's education appear to have a large contribution to inequality in the labor market using the HOI approach, especially in Georgia. Do other variables play a role in the previous stage, of accessing good jobs? To check this, this paper runs probit regression analysis of access to good jobs on respondent's age, education, gender, parents' education, parents' political affiliation, and ethnicity.

The observable implication if respondent's and parent's educational attainment drives most of the dispersion in accessing good jobs is that these variables has jointly significant effect on the dependent variable of access to good jobs, also adding these variables to other variables significantly increase the probit model goodness of fit (pseudo R-square). The regressions show that in all specifications, the jointly hypothesis test for zero effect of respondents' and parent's education on good jobs is rejected (see the result of the test at the bottom of Table A2.1 to A2.3). In addition, adding respondent's and parent's educational attainment generally increases the pseudo R-squared substantially.

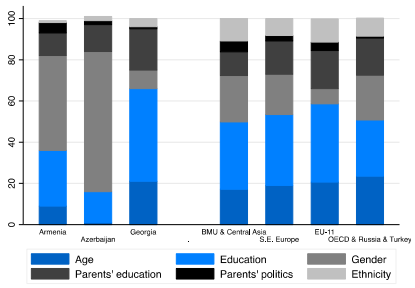
Table A2.1: Probit regression – dependent variable: working 20 and more hours a week

	Dep. Var: Worked 20 hours and more a week					
	Armenia		Azerbaijan		Georgia	
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.0125**	0.00945	0.00782	0.00942	0.0144***	0.0118*
	(0.00437)	(0.00491)	(0.00515)	(0.00563)	(0.00431)	(0.00467)
Male=1	0.588***	0.692***	1.374***	1.365***	0.183	0.199
	(0.114)	(0.120)	(0.122)	(0.136)	(0.109)	(0.114)
Parent communist=1	0.198	0.126	0.424*	0.406*	-0.0285	-0.190
	(0.155)	(0.151)	(0.180)	(0.180)	(0.140)	(0.147)
Dummy ethnicity	Yes	Yes	Yes	Yes	Yes	Yes
Dummy respondent's education		Yes		Yes		Yes
Dummy parent's education		Yes		Yes		Yes
Observations	898	855	992	855	904	869
Pseudo R-squared	0.0537	0.0955	0.197	0.227	0.0247	0.0800
Joint hypothesis test: respondent's and parents' education=0						
df		23.43		16.49		54.41
chi2		9		7		10
Prob > chi2		0.01		0.02		0.00

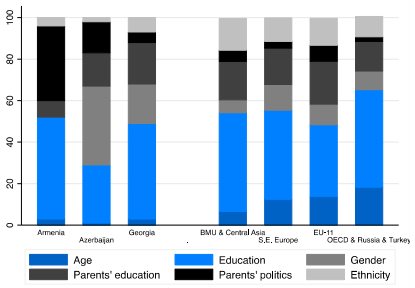
*Standard error in parenthesis, robust, * p<0.05 ** p<0.01 *** p<0.001*

Figure A2.1: Decomposition of inequality in access to good job, by work-experience relevant industry

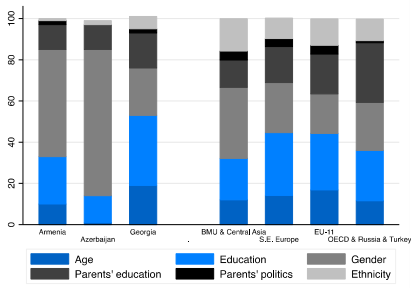
a. Working 20 hours or more per week



a. All industries

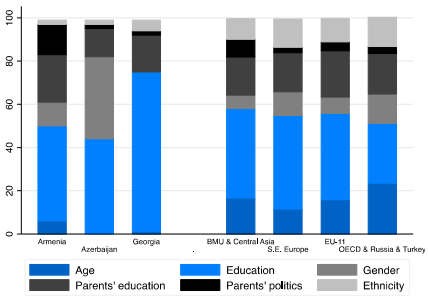


b. Industries where experience matters

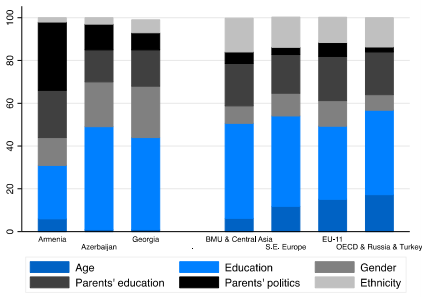


c. Industry where experience less matters

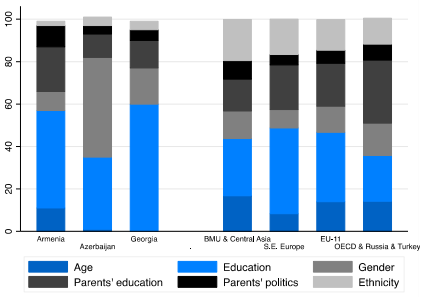
b. Working 20 hours or more per week, with contract



a. All industries

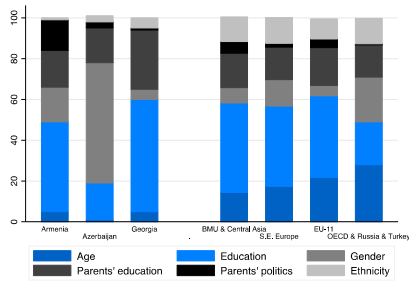


b. Industries where experience matters

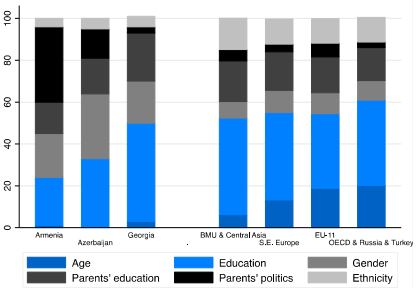


c. Industry where experience less matters

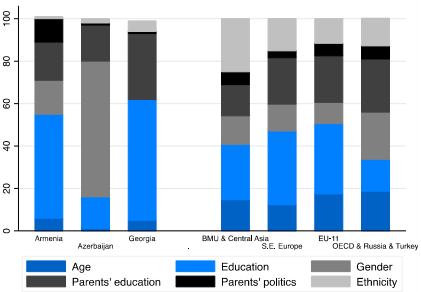
c. Working 20 hours or more per week, with tenure



a. All industries



b. Industries where experience matters



c. Industry where experience less matters

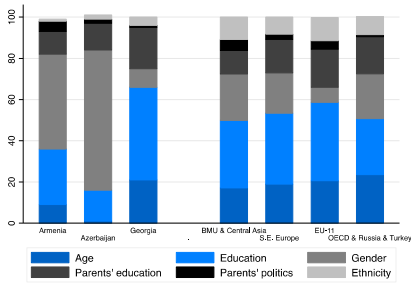
Table A2.2: Probit regression – dependent variable: working 20 and more hours a week, with contract

	Dep. Var: Worked 20 hours and more a week, with contract					
	Armenia		Azerbaijan		Georgia	
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.00817	0.00598	0.00117	0.00417	0.00257	-0.00207
	(0.00475)	(0.00551)	(0.00579)	(0.00665)	(0.00489)	(0.00548)
Male=1	0.213	0.297*	0.610***	0.591***	0.00694	0.0518
	(0.127)	(0.131)	(0.138)	(0.150)	(0.128)	(0.130)
Parent communist=1	0.433**	0.281	0.272	0.118	0.0669	-0.152
	(0.167)	(0.163)	(0.219)	(0.218)	(0.148)	(0.163)
Dummy ethnicity	Yes	Yes	Yes	Yes	Yes	Yes
Dummy respondent's education		Yes		Yes		Yes
Dummy parent's education		Yes		Yes		Yes
Observations	885	844	992	855	904	844
Pseudo R-squared	0.0285	0.0928	0.0516	0.118	0.00951	0.0878
Joint hypothesis test: respondent's and parents' education=0						
df		33.52		31.27		41.43
chi2		9		7		8
Prob > chi2		0.00		0.00		0.00

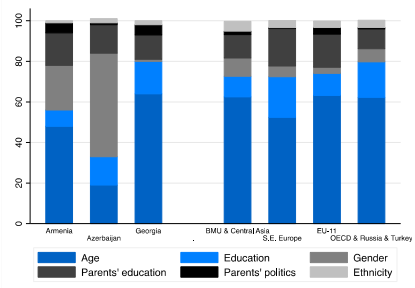
*Standard error in parenthesis, robust, * p<0.05 ** p<0.01 *** p<0.001*

Figure A2.2.: Decomposition of inequality in access to good job, by age cohort

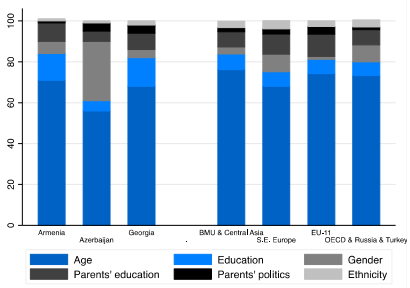
a. Working 20 hours or more per week



a. All industries

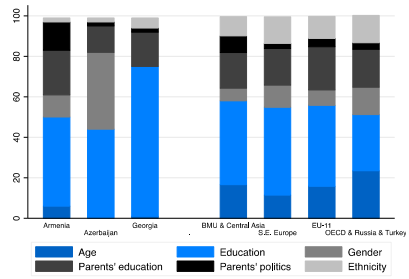


b. 18-40 years old

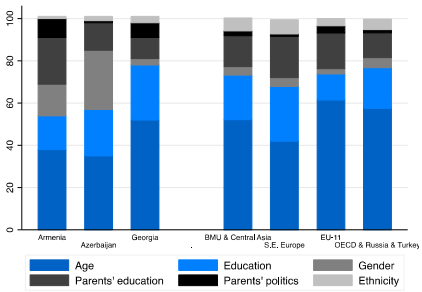


c. 41-64 years old

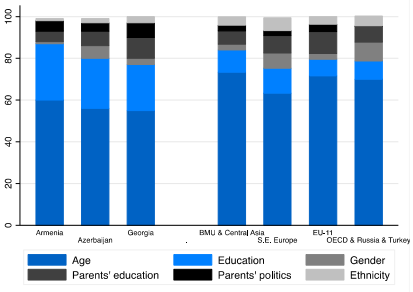
b. Working 20 hours or more per week, with contract



a. All industries

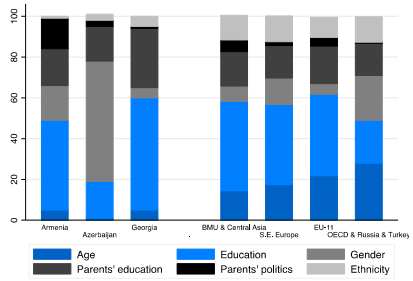


b. 18-40 years old

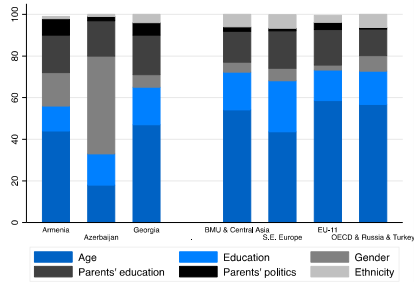


c. 41-64 years old

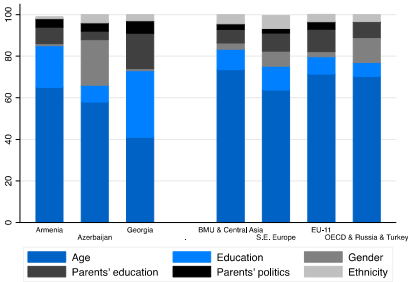
c. Working 20 hours or more per week, with tenure



a. All industries



b. 18-40 years old



c. 41-64 years old

Table A2.3: Probit regression – dependent variable: working 20 and more hours a week, with tenure

	Dep. Var: Worked 20 hours and more a week, with tenure					
	Armenia		Azerbaijan		Georgia	
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.00643	0.00308	0.00455	0.00708	-0.00393	-0.00751
	(0.00465)	(0.00517)	(0.00519)	(0.00562)	(0.00575)	(0.00608)
Male=1	0.256*	0.308*	1.167***	1.129***	-0.0977	-0.128
	(0.125)	(0.129)	(0.127)	(0.138)	(0.144)	(0.146)
Parent communist=1	0.371*	0.281	0.501**	0.460*	0.0417	-0.141
	(0.162)	(0.156)	(0.181)	(0.181)	(0.162)	(0.183)
Dummy ethnicity	Yes	Yes	Yes	Yes	Yes	Yes
Dummy respondent's education		Yes		Yes		Yes
Dummy parent's education		Yes		Yes		Yes
Observations	898	855	992	855	895	837
Pseudo R-squared	0.0237	0.0676	0.154	0.188	0.00724	0.119
Joint hypothesis test: respondent's and parents' education=0						
df		25.11		23.62		43.53
chi2		9		7		8
Prob > chi2		0.00		0.00		0.00

*Standard error in parenthesis, robust, * p<0.05 ** p<0.01 *** p<0.001*

Annex 3

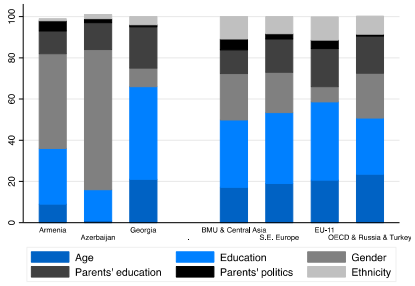
Is work experience correlated with access to good jobs?

The paper uses respondent's age to indicate her work experience as a `fair' labor market inequality component. However, for transition economies, a massive economic restructuring in the 1990s, may render the role of work experience for getting access to good jobs meaningless in South Caucasus countries.

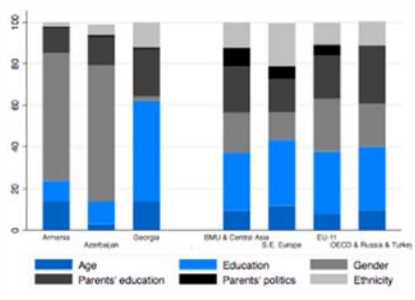
The first observable implication if work experience had no meaningful effect on access to good jobs is that respondent's age, as the proxy of work experience, would have relatively greater contribution to inequality in access to good job in industries where experience remains mattered even after the massive restructuring (manufacturing) or characteristically specific-human capital intensive such as high-quality services (finance and public administration), than it would in other industries. For this first observable implication, the evidence shows that respondent's age, as proxy for working experience, does not have a greater contribution in manufacturing and high-quality services industries than it does in other industries (see the comparison of the percentage of age contribution to labor market inequality on Table A2.1, and Figure Table A2.1); therefore, rejecting the observable implication for the idea that work experience is not correlated with access to good jobs.

Figure A.3: Decomposition of inequality in access to good job, by skill-mismatch industry level

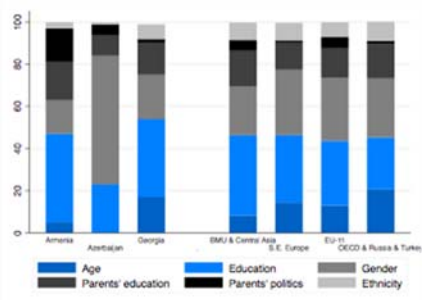
a. Working 20 hours or more per week



a. All industries

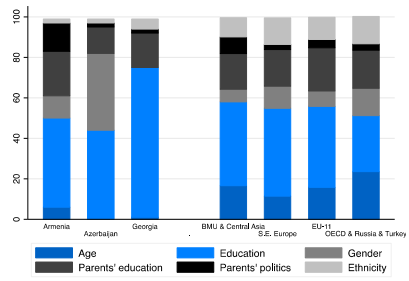


b. Skill-mismatch industries

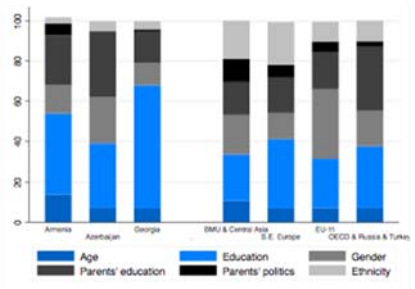


c. Not kill-mismatch industries

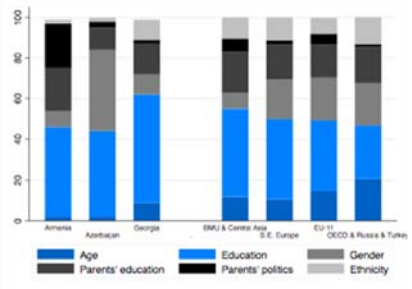
b. Working 20 hours or more per week, with contract



a. All industries

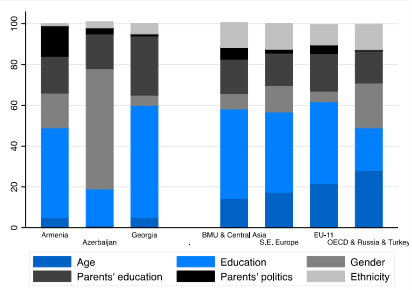


b. Skill-mismatch industries

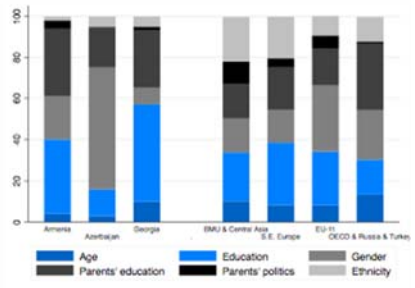


c. Not skill-mismatch industries

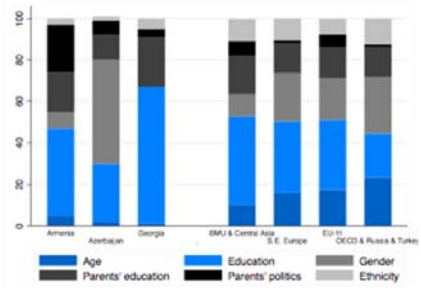
c. Working 20 hours or more per week, with tenure



a. All industries



b. Skill-mismatch industries



c. Not skill-mismatch industries

Table A3.1: D-index and contribution of age to labor market inequality by work-experience relevant industry

	All industries		Manufacturing & high services industries		Other industries	
	D-index	Age contribution (%)	D-index	Age contribution (%)	D-index	Age contribution (%)
Working >=20 hrs a week						
Armenia	0.18	9	0.16	3	0.21	10
Azerbaijan	0.39	1	0.38	1	0.41	1
Georgia	0.16	21	0.37	3	0.16	19
Working >=20 hrs a week, with contract						
Armenia	0.24	6	0.21	6	0.27	11
Azerbaijan	0.32	0	0.36	1	0.32	1
Georgia	0.23	1	0.39	1	0.25	0
Working >=20 hrs a week, with tenure						
Armenia	0.19	5	0.13	1	0.24	6
Azerbaijan	0.38	1	0.40	0	0.40	1
Georgia	0.31	5	0.43	3	0.30	5

The second observable implication if massive industry restructuring in 1990s attenuated the link between work experience and access to good job is that for the younger cohort of labor forces, aged 40 years old and less, work experience would have more profound effect on access to good job than for the older cohort. The evidence shows that respondent's age, as the proxy for work experience, does not have a greater effect on inequality for access to good job for younger cohort of labor forces than it does for older one (see the comparison of the percentage of age contribution to labor market inequality on Table A2.2, and Figure A2.2); therefore, rejecting the observable implication for the idea that work experience has no meaningful effect on access to good job.

Table A3.2: D-index and contribution of age to labor market inequality, by age cohort

	All ages		Young workers		Old workers	
	D-index	Age contribution (%)	D-index	Age contribution (%)	D-index	Age contribution (%)
Working >=20 hrs a week						
Armenia	0.18	9.00	0.36	48.00	0.48	71.00
Azerbaijan	0.39	1.00	0.47	19.00	0.54	56.00
Georgia	0.16	21.00	0.39	64.00	0.45	68.00
Working >=20 hrs a week, with contract						
Armenia	0.24	6.00	0.37	38.00	0.56	60.00
Azerbaijan	0.32	0.00	0.46	35.00	0.56	56.00
Georgia	0.23	1.00	0.46	52.00	0.47	55.00
Working >=20 hrs a week, with tenure						
Armenia	0.19	5.00	0.38	44.00	0.50	65.00
Azerbaijan	0.38	1.00	0.48	18.00	0.52	58.00
Georgia	0.31	5.00	0.52	47.00	0.54	41.00

Annex 4

Is educational attainment associated with work skill?

The paper assumes educational attainment is an important marker for skill, as a `fair' labor market inequality component. However, many studies in South Caucasus countries point out significant skill mismatch due to poor teaching quality and outdated curricula that often do not allow for good job transitions.

The observable implication if there were a skill-mismatch problem is that industries where skill-mismatch are more severe would witness relative higher contribution of educational attainment to labor market inequality – the workers are more over-educated, relative to the required level of skills for working in these industries. In South Caucasus, industries with severe skill-mismatch are agriculture sector since working in agricultural sector was often not really a voluntary choice but rather the first best mitigation strategy in times of shocks. In addition, another typical industry with skill mismatch is the low-quality service sector.

The evidence shows that respondent's educational attainment, as the proxy for skill, does not have a greater effect on inequality for access to good job in industries associated with more severe skill mismatch, relative to sectors with less-severe skill mismatch (see the comparison of the percentage of educational attainment to labor market inequality on Table A3, and Figure A3.); therefore, rejecting the observable implication for the idea that educational attainment is not a proper measure for skill.

Table A.4: D-index and contribution of age to labor market inequality, by skill-mismatch industry level

	All industries		Skill-mismatch industries		Other industries	
	D-index	Age contribution (%)	D-index	Age contribution (%)	D-index	Age contribution (%)
Working >=20 hrs a week						
Armenia	0.18	9	0.16	3	0.21	10
Azerbaijan	0.39	1	0.38	1	0.41	1
Georgia	0.16	21	0.37	3	0.16	19
Working >=20 hrs a week, with contract						
Armenia	0.24	6	0.21	6	0.27	11
Azerbaijan	0.32	0	0.36	1	0.32	1
Georgia	0.23	1	0.39	1	0.25	0
Working >=20 hrs a week, with tenure						
Armenia	0.19	5	0.13	1	0.24	6
Azerbaijan	0.38	1	0.40	0	0.40	1
Georgia	0.31	5	0.43	3	0.30	5