

# Inequality of Access to Opportunities and Socioeconomic Mobility

Evidence from the Life in Transition Survey

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## Abstract

Expectations of future socioeconomic mobility are an important determinant of current policy preferences. But how may these expectations be formed? Using Life in Transition survey data for a large set of transition economies and several Western European countries, this paper examines the link between beliefs about the importance of personal connections for getting access to opportunities, such as a good job or university education, and expectations of future socioeconomic mobility. The analysis of survey data finds evidence that: (i) lack of connections is associated with expectations of a lower position on the future social ladder;

and (ii) when informal connections are unavailable, it matters for your aspirations whether you perceive connections to be vital or not. There is also some evidence that in the European Union, where formal institutions are stronger, individuals are less likely to resort to informal institutions such as personal connections, even when these are available. Perceptions of unequal access to opportunities are also linked with stronger redistributive preferences. Finally, there is some evidence that unequal access to opportunities is associated not only with lower intragenerational mobility, but also with lower intergenerational mobility.

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# Inequality of Access to Opportunities and Socio-economic Mobility: Evidence from the Life in Transition Survey

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## 1. Introduction

Does one need connections to get ahead in life? Three-quarters of adults, according to the data from the latest round of the Life in Transition Survey that queries adults across all transition economies and several Western European countries on their attitudes toward many aspects of life, report that connections are at least moderately important (more than half think them very important or essential) to get a good job in the government sector. More than two-thirds think connections are at least moderately important to get a good job in the private sector (EBRD, 2017). If socio-economic mobility is a universal human aspiration, of parents hoping for a better life for their children, as argued in the recent World Bank report *Fair Progress? Economic Mobility Across Generations Around the World* (Narayan, Van der Weide et al., 2018), then these subjective assessments, based on nationally representative data covering a region with a population of about 500 million adults, present a very bleak picture of the perceived equality of opportunity for success in life.

A related, but different question is whether the perceived need for (and availability of) connections to access opportunities affects one's expectations of future mobility? In other words, if chances for success are not equal, then the extent of one's future mobility may be a function of access to connections or other factors that facilitate mobility. However, perceptions of inequality may influence not only where one ends up in the future, but also one's own belief of where he or she will end up in the future, that is, one's expectations of (or aspirations for) future mobility. The importance of the link between inequality (and inequality of opportunity) on one hand and mobility on the other, is illustrated prominently by the *The Great Gatsby Curve* (Corak, 2017) which shows high levels of inequality to be associated with low levels of experienced mobility. The link between inequality and expectations of mobility is important in its own right because (i) expectations of mobility may affect investments in human capital for self and children, which will then affect actual mobility (Hoff, 2012; Genicot and Ray, 2017); and because (ii) expectations of future mobility are important determinants of current policy preferences, in particular with respect to redistribution (Benabou and Ok, 2001; Ravallion and Lokshin, 2000; Checchi and Filippin, 2004;

Alesina and La Ferrara, 2005; Alesina and Giuliano, 2009; Cojocaru, 2014), policy preferences which also shape ones future opportunities.

The goal of this paper is to provide empirical answers to both these questions by taking advantage of the LiTS survey, which provides harmonized, comparable, and nationally representative attitudinal data for 35 countries in the Europe and Central Asia region. For the purpose of answering the above questions, the LiTS survey offers a number of distinct advantages. First, it offers an unambiguous assessment of the respondent's own expectations of future mobility. Second, the LiTS questionnaire makes it possible to construct an analytically appealing measure of inequality of access to opportunities, based on expressed beliefs about the importance of personal connections for getting access to key opportunities such as a good job or university education; this measure of inequality of opportunity being in the spirit of the Second Principle of Justice postulated by John Rawls. Third, in addition to beliefs about the importance of connections, the survey also has responses on whether respondents have access to personal connections that can facilitate access to opportunities. Finally, it makes it possible to examine the link between inequality of access to opportunities and expectations of future mobility based on comparable data from a large set of countries; it also allows for comparisons between countries in Western and Eastern Europe.

By examining, empirically, the links between inequality of access to opportunity and expectations of future mobility, the paper aims to contribute to the literature that examines how expectations of future mobility are formed. While many factors can be at play, as shown both in the theoretical and empirical studies reviewed in Section 2, the focus of this paper is on the institutional dimensions of expectations / aspirations, namely on the extent to which the existence of an uneven playing field dampens such expectations, particularly for the disadvantaged groups. The subject of inquiry is related to the studies that show that inequality of opportunity may elicit behavioral responses such as resignation and reduced ambition, which can lead to

inequality traps (Piketty 1995; World Bank 2005; Bourguignon et al. 2006).<sup>1</sup>

The estimates presented in this paper appear to suggest that: (i) lack of connections is indeed associated with expectations of a lower position on the future social ladder; and (ii) when informal connections are unavailable, it matters for your future expectations whether you perceive connections to be vital or not. There is also some evidence that in the European Union countries, where formal institutions are stronger, individuals are less likely to resort to informal institutions such as personal connections, even when these are available. Finally, there is also some evidence that perceptions of unequal access to opportunities are linked with inter-generational mobility, and with stronger redistributive preferences.

The rest of the paper is structured as follows. Section 2 reviews the literature on the determinants of future mobility expectations, and of experienced mobility. Section 3 provides a description of the key variables used in the paper as well as key descriptive statistics. Section 4 outlines the empirical setup and the key hypotheses to be tested. Key results are presented in section 5. Some alternative specifications are considered in Section 6 as part of robustness analysis. Section 7 discusses some extensions of the analysis, namely unequal access to opportunities in the intergenerational context and with respect to individual preferences for redistribution. Section 8 provides some concluding remarks.

## **2. Inequality of opportunity and mobility: Theory and evidence**

The *American Dream* holds that everyone in the United States can achieve success and prosperity through hard work. The expectation that everyone can “make it” with hard effort – an enduring national ethos – does not necessarily correspond with observed reality – the degree of socio-economic mobility in the United States today is relatively low, indeed lower than in some Nordic countries (OECD, 2010; Alesina,

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<sup>1</sup>This paper is also related, more generally, to studies that highlight the link between deprivation and under-investment in human capital (Appadurai, 2004; Alsop et al. 2006; Hoff and Pandey, 2006).

Stancheva and Teso, 2016), and has been declining overtime (Chetty et al., 2016; Davis and Mazumder, 2017). The fact that perceptions (can) diverge from reality is important, as individuals will express support for particular policies based on their perceived costs and benefits, which may differ from actual intent or outcomes. For instance, Alesina, DiTella and MacCulloch (2004) find income inequality to be negatively associated with life satisfaction in Europe but not in the United States, and suggest that the difference is driven by perceptions of greater social mobility in the United States. Alesina, Stancheva and Teso (2016) find respondents in the US to be overoptimistic about mobility and Europeans to be over-pessimistic about mobility vis-a-vis observed experience.

Theoretical models have shown the possibility of the existence of multiple equilibria, oftentimes referred to as European (low aspirations, effort /high redistribution) and American (high aspirations, effort / low redistribution). For instance, in a model of dynastic learning, Piketty (1996) shows that when experimentation to discover true returns to effort is costly, individuals will learn from own past experience, such that those who receive negative shocks can rationally get discouraged and supply less effort, even when everyone starts off with the same initial beliefs and supplying the same amount of effort. Perceptions of (un)fairness, once established, can be transmitted across generations, and thus tend to persist overtime. Besley (2016) shows that aspirational parents will choose to motivate their children to have aspirational beliefs. Parents can also choose (rationally) to suppress “bad news” about low returns to effort and pass on to children an optimistic worldview (Benabou and Tirole, 2006) – a theoretical prediction that also has empirical backing from a recent study that shows that in the US, right-wing respondents do not update their mobility beliefs when presented with discouraging information about mobility (Alesina, Stancheva and Teso, 2016). Alesina and Angeletos (2005) show that when income is a function of talent, investment, effort and luck (noise), and when agents derive disutility from unfair social outcomes and have a social demand for fairness, multiple stable equilibria can arise. Thus, societies with a history of high distortions tend to have a higher degree of unfairness in the income distribution, making aggressive redistribution de-

sirable. This is because anticipation of high taxes induces agents to exert low effort; as the result of this, the bulk of income heterogeneity in the distribution is due to luck, which in turn makes it optimal ex post to redistribute.

The 2006 World Development Report on *Equity and Development* provides a rich account of how political, social, and economic inequalities combine to stifle social mobility and create inequality traps (World Bank, 2005). Furthermore, empirical evidence from around the world suggests that an important part of overall inequalities in outcomes, commonly measures in the space of incomes or household expenditures, is, in fact, due to inequality of opportunity, or inequality due to differences in circumstances for which an individual would not normally be held responsible, and thus inequality that is objectionable on normative grounds (Bourguignon et al., 2003; Roemer et al., 2003; Ooghe et al., 2007; Checchi and Peragine, 2010; Cogneau and , Mesple-Somps; Ferreira and Gignoux, 2008; Ferreira et al., 2008, 2010; Lefranc et al., 2008, Lefranc et al., 2009).

This paper aims to contribute to this literature, but its focus is somewhat different – it examines the link between *perceived* inequality of opportunity and *perceived* future mobility. I am not aware of other studies that examine directly the links between subjective perceptions of inequality and subjective expectations of mobility. Clearly, actual and perceived inequalities are correlated, although not perfectly. Figure 1 plots perceived inequality of opportunity against available estimates of relative inequality of opportunity from the Equalchances.org database. Likewise, actual and perceived mobility are also correlated, even if imperfectly, as theoretical models have demonstrated. This is also consistent with empirical evidence. Earlier studies have found actual occupational mobility to be an important predictor of perceived occupational mobility (Kelley and Kelley, 2009), and parental social class to be correlated with occupational aspirations of adolescents and with parental aspirations for their children (Schoon and Parsons, 2002; Guyon an Huillery, 2016). Those who experienced mobility personally tend to have more positive views about the chances of children born in low income families to have high incomes when they grow up (Alesina, Stancheva and Teso, 2016). Entrenched poverty has been shown to lead to depression (Case and

Deaton, 2009), it can diminish goals and lead to hopelessness (Bryan, Chowdhury and Mobarak, 2012; Hoff, 2012), and diminish one's capacity to aspire (Appadurai, 2002). Yet, as the discussion above illustrates, the distinction between perceived and actual inequality (and mobility) is important because when the two diverge, individuals will act on their perceptions when making their policy choices or other decisions.

Why are diminished expectations of future mobility on account of inequality of opportunity a concern? This is because diminished expectations can, in turn, lead to decisions that can create vicious circles and inequality traps. For instance, mothers' aspirations have been found to matter for children's educational outcomes, especially for children from poorer backgrounds (Serneels and Dercon, 2014). Poor Mexican youths with higher future mobility expectations were more likely to stay in school longer, exercise, use condoms during sex, and engage less in self-destructive behavior such as consumption of alcohol, junk food, paying for sex, physical fighting, and excessive TV (Weintraub et al., 2015). Social stigma, associated with immobility at the bottom, greatly discourages school enrollment among low-caste children in Pakistan, with low-caste girls, the most educationally disadvantaged group, being the worst affected (Jacoby and Mansuri, 2015). In laboratory experiments with high and low caste boys in India, providing cues to one's place in the caste order was found to influence the ability of low caste boys to learn and the willingness of high caste boys to expend efforts (Hoff, Pandey 2014). Training aimed to improve self-image of a socially-excluded group (sex workers in India) was found to improve health choices and savings outcomes 15 months post-intervention (Ghosal et al., 2016). In other words, actual mobility and perceived mobility are jointly determined; experienced mobility affects one's perceptions of mobility, while one's perceptions of mobility shape beliefs, policy preferences and behaviors (such as investments in human capital), that can influence future mobility outcomes. The detrimental effects of inequality of opportunity on development outcomes we value can be twofold – both direct, by restricting individuals' opportunity sets, and indirect, by affecting individuals' expectations of (and aspirations for) the future, and the decisions / preferences that rely on those expectations and aspirations.

### 3. Data description

The analysis in this paper relies on data from the Life in Transition Survey (LiTS), administered by the World Bank and the European Bank for Reconstruction and Development (EBRD). LiTS provides data from a unified survey for the entire set of Transition Economies,<sup>2</sup> and five Western European countries (France, Germany, Italy, Sweden, and the United Kingdom). For each of the countries, the LiTS survey provides a nationally-representative sample of households; in each household the responses are based on a face-to-face interview with a randomly-selected member of the household.<sup>3</sup> Data from the second round of the survey, collected in 2010, are used in this paper. A newer round of data was collected in 2016, but the questionnaire from the third round omits one of the two key variables used in the analysis, namely the question whether respondents have access to connections (see the empirical strategy section below for details).

The notion of expected socio-economic mobility is defined here based on the respondents' assessment of their position on the society's 10-step welfare ladder today and four years hence. These are derived from the respondent's answers to the following questions: "Please imagine a ten-step ladder where on the bottom, the first step, stand the poorest 10% people in our country, and on the highest step, the tenth, stand the richest 10% of people in our country. On which step of the ten is your household today? And where on the ladder do you believe your household will be 4 years from now?" The distribution of responses to the current and future welfare ladder questions for the pooled sample is shown in Table 1. One can observe clustering of responses in the middle of the scale for both questions. About 60 percent of respondents in the sample place themselves on the 4th, 5th, or 6th step of the welfare ladder today, and more than 50 percent place themselves on one of these three steps on the future welfare ladder. This higher density in the middle of the welfare ladder

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<sup>2</sup>No data are available for Turkmenistan. Mongolia and Turkey are excluded from the analysis given the focus on Transition Economies.

<sup>3</sup>The details of the sampling methodology can be found on the EBRD website at <http://www.ebrd.com/downloads/research/surveys/LiTS2eh.pdf>

is observed not only in the pooled sample, but also in the individual country samples.

In order to construct a measure of inequality of opportunity, I rely on the respondents' assessments of the importance of "having connections" in order to progress in a number of crucial dimensions of life, based on the following set of questions: "Some people, because of their job, position in the community or contacts, are asked by others to help influence decisions in their favor. In general, how important is it in our country to have the support of such people to influence decisions in the following situations?" The following domains of life are considered in the survey: (i) to get a good job in the government sector; (ii) to get a good job in the private sector; (iii) to get into university; (iv) to settle a dispute with a neighbor; and (v) to obtain permits or official papers. The respondents could choose from the following options: not important at all, somewhat important, moderately important, very important, and essential. Only 3 percent of respondents in the pooled sample think that connections are not important at all, such that there appears to be a universal belief that connections are at least somewhat important to get ahead in various domains of life. In the analysis that follows *inequality of opportunity* is defined as consistent with the belief that connections in any of the above areas are either very important or essential. This cutoff is arbitrary, but is consistent with the belief that fair access to government positions, or education etc. is severely constrained.

Inequality of opportunity as defined here is thus in the spirit of John Rawls. Recall that the second part of the Second Principle of Justice proposed by Rawls (1971) requires that offices and positions in society be open to all on a fair basis.<sup>4</sup> This is precisely what is queried by the above survey questions, since need for connections to get jobs in various sectors, or to get necessary permits for business activity is in

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<sup>4</sup>The two principles of justice proposed by Rawls are as follows: First Principle - "each person is to have an equal right to the most extensive total system of equal basic liberties compatible with a similar system of liberty for all"; and Second Principle - "Social and economic inequalities are to be arranged so that they are both: (a) to the greatest benefit of the least advantaged, consistent with the just savings principle, and (b) attached to offices and positions open to all under conditions of fair equality of opportunity." (Rawls, 1971: p.302).

direct contradiction of the Second Principle as it denies equal access to all.

The perceptions of inequality of opportunity are quite widespread in the region. For instance, almost half of the adults in the region believe that it is very important or essential to have connections to get a good government job, in Croatia and in FYR Macedonia the share exceeds three quarters, and in Serbia it is greater than 80 percent. On the other hand, in the United Kingdom and in Sweden no more than 20 percent of adults share this view. In some of the transition countries the need for connections to get a good public sector job is also perceived to be low, such as in Estonia, Kyrgyzstan, Moldova, Tajikistan and Uzbekistan where less than one-third of adults believe that connections are very important or essential for public sector jobs. The need for connections is generally perceived to be lower in other domains of life, although the share of adults who believe that connections are necessary in these other areas remains non-trivial in most countries (Table 2).<sup>5</sup>

The first part of Rawls's Second Principle of Justice allows for inequalities to exist to the extent that they are to the greatest benefit of the least advantaged. This is not the case in practice. In the LiTS survey the respondents are further asked if they knew of anyone (friends, relatives, classmates, local boss, etc.) who could influence decisions with respect to getting a good government job, or getting into university etc., should such influence be needed. Overall in the LiTS survey 32 percent of the adult population reported that they do not know any such person, but this share is generally higher for individuals who place themselves at the bottom of the welfare ladder, or those who (or whose parents) had low levels of education. It is perhaps not surprising that disadvantaged groups are least likely to thrive in the presence of inequality of opportunity. These two characteristics – the importance of connections to get ahead and lack of such connections – combine to create what Bourguignon et al. (2006) call “inequality traps” or the persistence of relative positions (and implicitly

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<sup>5</sup>The last column in Table 2 is our measure of inequality of opportunity, which, for each individual evaluates to 1 if connections in any of the five areas are very important or essential, and zero otherwise.

of poverty and vulnerability) over time.

In addition to the above variables, the LiTS survey also provides data on a number of beliefs, including beliefs about the importance of effort and luck for success, preferences for the market economy and the respondent’s degree of risk aversion. The summary statistics for the variables employed in the empirical analysis in section 4 are presented in Table 3.

#### 4. Empirical strategy

In order to investigate whether perceived inequality of opportunity dampens expectations of future mobility, the following relationship is estimated:

$$Mobility_i = \delta_1 C_i + \delta_2 A_i + \delta_3 C_i A_i + \mathbf{X}_i' \boldsymbol{\gamma} + \varepsilon_i, \quad (1)$$

where  $Mobility_i$  is the expected future mobility, as represented by the difference between the expected future position of the socio-economic ladder and the current position of the same ladder,  $C_i$  is a dummy that equals 1 if connections are deemed vital and zero otherwise,  $A_i$  is a dummy that equals 1 if connections are not available and zero otherwise,  $X_i$  is a vector of control variables described in detail below, and errors  $\varepsilon_i$  are allowed to be correlated within primary sampling units.

Recall that the question this study proposed to examine was whether perceptions of unequal access to opportunities dampen one’s expectations of future mobility. An important caveat, and one that informs the empirical setup described here, is that the LiTS data are cross-sectional, such as there are no readily-available sources of exogenous variation to identify a causal effect of (perceived) inequality of opportunity on expected future mobility. In this sense, the results presented in Sections 5-7 of this paper should be treated as correlational, rather than strictly causal. However, there are several ways to address the omitted variable bias. First, note that it may be problematic, in trying to examine the link between perceived inequality of opportunity and perceived future mobility, to compare mobility expectations of those who perceive connections to be vital with those of the group who perceive connections

not to be vital. This is because both the perceptions of inequality of opportunity and expectations of future mobility may be correlated with some other difficult to measure personal trait. For instance, general pessimism may affect both evaluations of future mobility and of institutional fairness. For this reason, the analysis takes advantage of the availability of responses on whether someone has connections or not, which allows us to compare two groups of individuals, one with connections and other without, but who provide similar answers to question on the necessity of connections. Similarly, when looking at the importance of having connections, we can compare within the group of those individuals who think that connections are needed. It is harder to think of omitted variables that may affect comparisons between these groups. The interaction of  $C_i$  and  $A_i$  creates four groups, the average predicted values for which are as follows, denoting the constant term as  $\delta_0$ :

		Availability	
		Yes	No
Connections	Vital	$\delta_0 + \delta_1$	$\delta_0 + \delta_1 + \delta_2 + \delta_3$
	Not vital	$\delta_0$	$\delta_0 + \delta_2$

More formally, the following two hypotheses are examined:

- Hypothesis 1:  $\delta_2 + \delta_3 = 0$ , i.e. when there is inequality in access to opportunities, having connections does not improve prospects of future upward mobility;
- Hypothesis 2:  $\delta_1 + \delta_3 = 0$ , i.e. when connections are unavailable, inequality of opportunity is not associated with lower expectations of future mobility.

Furthermore, given the cross-sectional nature of the data, a number of important confounding factors need to be accounted for in the model, in order to address endogeneity concerns. Here the empirical strategy is to account explicitly in the  $X_i$  vector for a number of factors expected to influence expectations of mobility, guided by existing theoretical and empirical evidence. For this purpose, it is useful to have in mind a heuristic model of expected mobility, which can be thought of as a function of the following: (i) perceptions of inequality of opportunity (which is the interest

here); (ii) relevant personal characteristics (e.g. age, education, employment); (iii) current status on the socio-economic ladder; (iv) past mobility experience; (v) past shocks; (vi) the degree of personal risk aversion; and (vii) luck. Below we motivate the importance of accounting for these confounding factors.

Certain personal characteristics, such as the person's education and employment status have been shown to have a strong effect on social mobility (Bozeat et al. 2010; Narayan, Van der Weide et al., 2018). The respondent's age needs to be included in the model to account for the fact that there may be greater scope for younger individuals to move up the ladder in the future, compared to those who are nearing retirement. Similarly, the respondent's sex and religious affiliation can be included to account for possible differences in ambition between men and women, or across religious denominations, which may lead to different aspirations for the future.

It is the case the respondents who are currently at the top of the current welfare ladder have less scope of moving up the ladder, and similarly those at the bottom are less likely to move lower still in the near future. Moreover, the current position on the welfare ladder can be correlated with the person's assessment of the importance of having connections to succeed in the labor market or in terms of education.

In addition, the individual's past mobility experience may influence future expectations. Here past mobility (upward, stable or downward) is derived from the comparison of the current welfare ladder position with the past welfare ladder position. It is difficult to say a priori how past experience may translate into future expectations. It may be, for instance, that past upward (downward) mobility may indicate further upward (downward) mobility in the future. It is also possible, however, that upward (downward) mobility in the past leaves less scope for further upward (downward) mobility in the future. The direction of the effect is likely to depend on other characteristics of the individual and is investigated empirically by including dummies indicating either upward or downward past mobility (no past mobility being the reference category).

Given that the data were collected in 2010, expectations of future mobility may be influenced by the recent financial crisis experience. Those who were affected by

the crisis but believe its impact to be transitory may expect to move up the ladder in the next four years as part of regaining the lost status due to the crisis. It is similarly possible that those who were strongly affected by the crisis in a way that is not easy to recover from over the short term may have modest expectations of upward mobility in the future. To account for such confounding effects, the model controls for the respondent's assessment of the degree to which she has been affected by the financial crisis.

It is also important to account for the individual's degree of risk aversion, since those who are less risk averse may be more likely to engage in risky projects and expect to move up the ladder based on their belief of their success. Risk averse individuals, on the other hand, may be more likely to prefer stability, which in turn may lead to expectations of a stable position on the society's welfare ladder in the future. To account for the individual's degree of risk aversion, I include dummies based on a hypothetical drought scenario. In the LiTS respondents are asked to respond to the following hypothetical: "I will now ask you another hypothetical question. Imagine that you are a farmer. If all goes well, you expect to sell your harvest for [insert country specific amount] in a few more months. However, there is a risk: If there is a drought the harvest will be lost – this has happened to your neighbors in half of the recent years. You consider installing an irrigation system which would protect your crop in case of a drought, but it costs [insert country specific amount] and you would need to sell your car to buy it. Which of the following is more likely to be your decision? (a) I would take the risk and hope there is no drought; (b) I would sell my car and buy an irrigation system." I distinguish in the empirical analysis between these two groups, where group (a) captures those who are not averse to idiosyncratic shocks, and group (b) captures those who are risk averse.

The literature on inequality of opportunity generally distinguishes between inequality due to unequal opportunities, and inequality due to effort (see Ferreira et al. 2008, 2010 and references above). However, as noted by Lefranc et al. (2009), luck is also an important factor, but generally gets bundled together with effort. In the LiTS survey it is possible to account for the influence of luck by conditioning on the

individual's beliefs with regard to the reasons why there are people in need in society, whether it be luck, laziness, an inevitable part of modern life, or injustice in society.

Finally, the  $X_i$  vector also includes country dummies, such that estimates rely on within-country variation. The full set of controls is listed in Table 3.

## 5. Results

Before proceeding with the discussion of the results related to the hypotheses outlined in section 4, I return to the fact that the estimates are based on the second wave of the LiTS survey from 2010, and a newer (2016) wave of the survey was published recently. As noted above, the analysis relies on the 2010 round of the survey because the key variable in the analytical set-up, namely a question whether someone has access to connections, was not repeated in the 2016 survey questionnaire and is only available for the 2010 data. Nevertheless, it is worth commenting on the persistence over time of beliefs regarding inequality of access to opportunities, or beliefs about future mobility to see whether the beliefs expressed in 2010, and hence some of the conclusions that could be drawn from the empirical analysis in this paper, are still relevant six years hence.

Figure 1 presents the distribution of responses to the need for connections questions, separately for each domain, for the 2010 and 2016 survey rounds. In the overall sample, the distribution of beliefs with respect to the need for connections remains largely unchanged. If anything, the views are more pessimistic still in 2016, as measured by the share of adults who think that connections are either very important or essential across various domains of opportunity. Across countries, the average share of adults who believe access to opportunities to be unequal in the sense of the definition in this paper, the views are quite similar in countries in which the incidence of inequality of access to opportunities was already relatively high in 2010; for many of the countries in the lower end of the 2010 distribution one can see significant shifts toward more pessimistic views between 2010 and 2016. Finally, the countries that had relatively pessimistic expectations of future mobility in 2010 are still largely at the bottom of the distribution of mobility expectations in 2016, with some notable ex-

ceptions such as Ukraine and Russian Federation (and to a smaller degree Armenia), where the adverse economic conditions in recent years, and military conflict in the case of Ukraine, are reflected in the sharply lower expectations with respect to future socio-economic mobility. In other words, there is a considerable degree of stability in the region with respect to the beliefs about equality of opportunity; similarly, even though data from the 2010 round of the survey were collected in the aftermath of the financial crisis, which may have altered individuals beliefs about mobility (in the empirical analysis I will account for this explicitly), these beliefs also appear to be reasonably stable rather than transitory.

Having these inter-temporal patterns in mind, the estimates from the empirical specification in (1) are presented in Table 4. The results are presented for the pooled sample of countries, and also, separately, for the European Union member states and Non-EU countries. To some degree this distinction between EU and non-EU countries is arbitrary. The results are reported for these country groupings for the following reasons: (i) because this is a standard division of countries in publications based on LiTS survey data, inclusively in the publications by EBRD that rely on LiTS data; (ii) given the focus on institutional aspects, the distinction is meaningful analytically in the sense that in EU countries formal institutions may be stronger, and similarly in non-EU countries reliance on informal institutions (such as connections, for instance) may be more prevalent. I will return to this below when I discuss the use of connections.

Column (1) of table 4 presents the estimates of regressions for the pooled LiTS sample. Both hypotheses appear to be rejected by the data. First, when there is inequality of access to opportunities, connections matter ( $\delta_2 + \delta_3 < 0$ ), meaning that expectations of future mobility are lower in the group that views connections to be vital but does not have any connections, in comparison with the group that similarly views connections to be vital to get ahead, and does indeed possess such connections. Second, when connections are unavailable, it matters whether the playing field is level ( $\delta_1 + \delta_3 < 0$ ), in other words, expectations of future mobility are lower in the group that views connections as vital to get ahead and does not have them, as compared to

another group, also without connections, but which does not view such connections as helping to secure important opportunities in life.

Both hypotheses are similarly rejected in the estimates for the group of non-EU countries in column (3), whereas inside the EU (column 2), it appears that when access to opportunities is perceived to be unequal, expectations of future mobility appear to be similar among those with connections and those without. I return to this below.

What do the magnitudes of the estimated coefficients imply? When there is inequality in access to opportunities, lack of connections is associated with a 0.11 points reduction in expected future mobility. This should be viewed against the fact that the overall level of expected mobility, as measured by the difference in the future and current ladders, is quite small – in the pooled sample the mean difference between the future and the current ladders is 0.27, such that the reduction in expected future mobility is notable. In the non-EU countries, average expected mobility is higher, 0.69, such that the higher estimated coefficient in absolute terms is actually smaller in relative terms, but still not trivial, at more than 25 percent.

Returning to the estimates in Table 4, several other factors appear to be salient for expectations of future mobility, as suggested by the heuristic model of mobility described above. Upward mobility in the past is associated with expectations of further upward mobility in the future. The same is true of past downward mobility in non-EU countries, but not in the EU countries, where the estimated coefficient on the downward past mobility is negative. One interpretation that is consistent with this difference is that perceptions of downward mobility in the EU are perceived to be of a less transitory nature. It could be that a more stable economic environment in the EU may leave less scope for those who perceive to have moved downward in the past to expect a reversal of their fortunes in the immediate future. It is not possible, however, to confirm this with the LiTS data. Willingness to take risks is also positively associated with future mobility expectations outside of the EU, whereas this is not the case in EU countries. On the other hand, the belief that need is the product of laziness is positively associated with future mobility expectations only in the EU.

Some other factors have similar effects in both country groupings. A stronger effect of the recent financial crisis is associated with lower future mobility expectations. The belief that need in society is the product of injustice (the reference category being “inevitable part of modern life”) also is associated with lower expectations vis-a-vis future upward mobility.

The estimates on other variables (not reported to conserve space) suggest that in both groups of countries expectations of future upward mobility diminish with age, are higher in urban areas and for those who are not married. In the EU they are also higher at higher levels of education, whereas outside the EU they are higher for those currently employed (whereas there are no differences across education levels). Men and women have similar aspirations of upward mobility once other characteristics and beliefs are held constant.

The fact that connections do not help when they are both deemed to be important and available in the EU is an interesting finding that deserves further investigation. One possible reason for this could be due to the fact that it may be less common - and possibly less socially acceptable - to rely on informal connections in the European Union. One would certainly expect reliance on informal institutions to be more prevalent when formal institutions are weaker. It is possible to test this conjecture with LiTS data. The respondents who claimed to have connections were asked how likely they would be to rely on these connections. In the EU sample 18 percent of respondents reported that it was “not at all likely” that they would resort to personal connections if they had them (29 percent in Western European countries), whereas in the non-EU Transition Economies only 10 percent of respondents reported that they would not resort to connections if they had them (8 percent in CIS countries). The distribution of responses for each country is provided in Figure 4. To investigate this further, I split the group who think that connections are vital and report having them) into two categories – those who say that they will very likely or definitely use their connections, and the rest, whose appeal to connections, even if available, is less certain. Otherwise, the model is the same as in table 4. More formally:

$$Mobility_i = \delta_1 C_i + \delta_2 A_i + \delta_3 C_i A_i + \delta_4 Use_i + \delta_5 Use_i C_i + \delta_6 A_i Use_i + \delta_7 C_i A_i Use_i + \mathbf{X}'_i \boldsymbol{\gamma} + \varepsilon_i \quad (2)$$

In other words, the relationship in (2) is the same as in (1) except that it now has a triple interaction between perceptions of inequality  $C_i$ , availability of connections  $A_i$  and the use of connections  $Use_i$ , where  $Use_i$  is a dummy variable that equals 1 when the respondent would use connections very likely or definitely, and zero otherwise. Note that in practice terms  $A_i Use_i$  and  $C_i A_i Use_i$  in (2) above (coefficients  $\delta_6$  and  $\delta_7$ ) are not estimated because these are empty sets – the use variable is only defined for the group of respondents who report having connections. Table 5 reports two key hypothesis tests: (i)  $\delta_2 + \delta_3 = 0$  and (ii)  $(\delta_2 + \delta_3) - (\delta_4 + \delta_5) = 0$ . The first one looks at the difference between the group that views the connections to be vital and does not have such connections, and the group with similar beliefs about inequality of access to opportunities, but with connections, although they are not likely to use these connections despite having them. The second test replaces the latter group with the group who has connections and is indeed likely to resort to them. The results are consistent with the above conjecture – in the EU countries, there is no statistically significant difference between future mobility prospects between those without connections and those with connections, but only when these connections are not resorted to; not having connections when the playing field is not level is indeed associated with lower mobility expectations relative to the group with connections who do intend to use them.

## 6. Robustness analysis

The measure of inequality of access to opportunities defined in this paper and used in the empirical analysis is all-encompassing by construction, as a union of all 5 domains (of opportunities) that are available in the data. This is even though one may argue that not all five domains may be of equal importance, and therefore it is not clear why they should be treated equally in the construction of a measure of overall inequality of access to opportunity. Indeed, if we look at the incidence of unequal

access across the five domains in Table 2, it is clear that inequalities in the areas of obtaining a good government job, or a good private sector job, are considerably more prevalent than perceived inequalities related to obtaining permits or settling disputes.

I have chosen a union measure in part to avoid situations in which the overall binary measure of inequality of opportunity is evaluated to zero, even though in one of the domains, permits for instance, the respondent views connections to be of utmost importance. One may still argue that given the low incidence of perceived inequalities in the areas of getting permits, or settling disputes, and given their less obvious connections to prospects of future mobility for an average person, and also their theoretical connection to the Rawlsian formulation, namely “offices and positions” open to all, it may be more precise, and closer to the spirit of the concept of inequality of access to opportunities if it were defined over the space of the main opportunities only – getting a job (either government or private) and getting university education.

As part of the robustness analysis, I define an alternative measure of inequality of access to opportunities defined over the three main areas of opportunities, as described above. The two measures are plotted against one another in Figure 4 and can be seen to be strongly correlated, with the IO measure constrained to 3 domains mainly shifting the overall level of perceived inequality of opportunity somewhat downward, but preserving, for the most part, the ranking of countries in the sample by the overall level of inequality of opportunity. Table 6 reports the model estimates from the baseline empirical specification reported in Table 4, with the only difference being that the measure of inequality of access to opportunities here is the more restricted measure. The results are qualitatively the same as those reported in Table 4 with respect to the main hypotheses that are being tested. Moreover, the magnitudes of the estimated differences between various groups, captured by  $\delta_2 + \delta_3$  and by  $\delta_1 + \delta_3$  are larger, which would be consistent with the argument that the more restricted measure of inequality of access to opportunities is less noisy in a relevant sense.

As a further robustness test, it is also possible to relax some of the other assumptions in the empirical analysis. For instance, in the regressions discussed until now, the coefficients on the other variables included in the  $X$  vector were constrained to be

constant across the four population groups defined by the variables reflecting respondent beliefs about access to opportunities and availability of connections. This can be relaxed by estimating the model of mobility separately for each of the four population groups, and then computing predicted mobility values for the whole sample for each of the estimated coefficient vectors – this is a potential outcome means setup. Then differences in the means can be used as an estimate of what in the treatment literature is defined as the “average treatment effect”, although we do not adopt the formal causal treatment framework here.

These estimates are given, separately for the main definition of inequality in access to opportunities (Table 7) and the alternative definition described above, that relies only on the main three areas of opportunities (Table 8). In both tables, the population group without connections and who believe connections to be vital is taken as the baseline group, and the predicted expected mobility is reported for this baseline, while for the other three groups the tables report the predicted increment in expected mobility relative to baseline, including the empirical counterparts to Hypothesis 1 and Hypothesis 2 (but now with minus signs because a different group forms the baseline), as well as the difference between the baseline group and the group with connections and who do not think these connections to be vital. The estimates still reject hypothesis 1 – when connections are vital to get ahead, having connections, relative to not having connections, is associated with higher expectations of future socio-economic mobility, in the overall sample and in the non-EU group of countries. We fail to reject either hypothesis in the EU group of countries; as was noted earlier, this is related to the propensity of actually relying on connections, when these are available. The data similarly reject hypothesis 2 – when connections are not available, expected mobility is lower if connections are perceived to be vital to get ahead. It can also be seen from the estimates that expected mobility is highest for the group that does not believe connections to be vital, but has those connections anyway – in the overall sample the expected future mobility in this group is almost 50 percent higher than in the baseline population.

## 7. Extensions

So far, the analysis has focused on the relationship between inequality in access to opportunities and intra-generational mobility, based on one’s assessment of expected socio-economic mobility in the near future. An interesting question to ask is how this relationship may apply, or not, to the inter-generational mobility context. Another angle that can be explored, in addition to the link between perceived IO and mobility expectations, is whether IO is also linked with current preferences for redistribution. For instance, individuals may support more redistribution today if they feel that they may not be able to move up the socio-economic ladder as much because of unequal access to opportunities, as they may be more amenable to the government’s efforts to aid those at the bottom. The inter-generational context is explored in section 7.1, whereas preferences to redistribution are discussed in Section 7.2.

### *7.1. Unequal access to opportunities and inter-generational mobility*

Inequality of opportunity is particularly pernicious to the extent to which it generates immobility (or persistence) not only within a single generation, but across generations, such that children born to disadvantaged parents at the bottom of the income distribution are stuck at the bottom of the income distribution in their generation through no fault of their own, but on account of circumstances that they have no control over.

To investigate the inter-generational mobility context with the LiTS data I rely on responses to the question “To what extent do you agree with the following statement: children who are born now will have a better life than my generation” with responses ranging from “strongly disagree” to “strongly agree” on a five-step Likert scale. About one third of adults in the LiTS sample either agree or strongly agree with the assertion that children will have a better life than the current generation. Interestingly, perceptions of intra-generational mobility and inter-generational mobility are strongly related in the data (Figure 5). Those who expect themselves to be upwardly mobile in the near future are also more likely to be more positive with respect to the mobility prospects of children, with a correlation coefficient of 0.78.

Perceived inter-generational mobility is also correlated with estimates of actual inter-generational mobility from the World Bank’s Global Database of Intergenerational Mobility (GDIM) for the countries in the LiTS sample (Figure 6). Countries in which the share of adults who think that children will do better than the current generation is lower tend also to have higher estimates of inter-generational persistence, indicating lower inter-generational mobility.<sup>6</sup>

The link between inequality of access to opportunities and inter-generational mobility is estimated based on the same model as before, where the dependent variable is instead a binary (above neutral) measure of inter-generational mobility that evaluates to 1 if the respondent agrees or strongly agrees that children will have a better life than the current generation, and zero otherwise. The estimates are reported in Table 9. The estimates reveal that when connections are unavailable, perceived unequal access to opportunities is associated with lower inter-generational mobility (Hypothesis 2, or  $\delta_1 + \delta_3 = 0$  is rejected by the data). Similarly, in the overall sample, when access to opportunities is not equal, lack of connections is associated with lower perceived inter-generational mobility ( $\delta_2 + \delta_3 = 0$  is rejected).

It should be noted that the results are a bit noisier than in the case of intra-generational mobility. This is not entirely surprising since intra-generational mobility expectations are more immediate and for these, current assessments of inequality of opportunity may be more pertinent. Moreover, while intra-generational expectations are personal, in the sense that they are based on one’s own mobility expectations for the future, the assessment of inter-generational mobility is general – it refers to comparisons of children in general with the current generation (again, in general), rather than prompting respondents to report mobility expectations for their own children in particular. Given the reasonably strong relationship between assessments of intra- and inter-generational mobility in the data, it is quite possible that one’s

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<sup>6</sup>The measure of intergenerational persistence is based on the coefficient from the regression of children’s years of education on the education of their parents, using ten-year age cohorts. The estimates in Figure 5 are for the most recent, 1980s birth cohort. For more details, see Narayan, Van der Weide et al. (2018).

own children or children from one’s reference group whose conditions may be similar, probably receive greater weights in one’s evaluation of children’s future chances in general, how exactly respondents frame their answers to this survey question is not clear. Still, the results can be cautiously viewed as reinforcing the main results of the analysis, as well as the predictions of theoretical models discussed in section 2, that link inequality in access to key opportunities in life to lower expectations of future mobility; moreover, these lower expectations may be relevant not only in the context of the immediate future, but rather may persist over time, and across generations, thus perpetuating existing inequality traps.

### *7.2. Inequality in access to opportunities and redistributive preferences*

If access to key opportunities in life is perceived to be unfair, on account to whom you know, then resulting inequalities in society are likely to be similarly perceived to be unfair. This is especially likely to be the case for those who do not have connections that may facilitate access to opportunities such as jobs or university education. When inequalities are perceived to be unfair, individuals may be more likely to desire a greater amount of redistribution in society to compensate for such unfair distribution of rewards (see Cojocaru, 2014 for empirical evidence of the link between fairness and inequality aversion based on LiTS data). It is possible to explore with LiTS data whether the “Rawlsian” inequality of opportunity examined in this analysis is associated with stronger redistributive preferences. The latter are elicited in the survey questionnaire by way of the following statement “The gap between the rich and the poor in our country should be reduced”, with which the respondents can either agree or disagree on a 5-step Likert scale that ranges from “strongly disagree” to “strongly agree”. Using responses to this question I construct a binary variable that evaluates to 1 for above neutral responses (either agree or strongly agree) and zero otherwise. The model is re-estimated with the preference for reducing the gap between the rich and the poor as the dependent variable, and the  $\delta$  vector corresponds, as before, to the intersection of beliefs about the importance of connections and whether one has such connections, as in the baseline model reported in table 4. The results, reported

in Table 10, suggest that both inside and outside the EU the perceived existence of inequality of opportunity is associated with stronger redistributive preferences when connections are not available ( $\delta_2 + \delta_3 = 0$  is rejected) and also that when connections are unavailable, inequality of opportunity is associated with stronger preferences for redistribution, as  $\delta_1 + \delta_3 = 0$  is similarly rejected both in the overall sample and in the regional country sub-samples.

## 8. Concluding remarks

Given the importance of future mobility aspirations for current redistributive preferences, and also for important current decisions such as those related to investments in human capital, which then influence future mobility prospects, this paper looked at the link between inequality of access to opportunities, defined as the perceived need of connections to get ahead, and expectations of future socio-economic mobility. Inequality of opportunity is perceived to be widespread in transition economies, and especially outside of the European Union. I find that lack of connections is associated with expectations of a lower position on the future social ladder when connections are perceived to be vital. Similarly, when informal connections are unavailable, it matters for your future mobility expectations whether you perceive connections to be vital or not. These results appear to be robust to meaningful changes in the definition of inequality of access to opportunities, as well as differences in model specification. Notably, in the EU sub-sample, availability of connections does not necessarily offset the negative association of inequality of opportunity and future mobility expectations. It appears that this is due to the fact that not everyone who has connections intends to use them, and there is greater reluctance to use connections in the EU, consistent with there being stronger formal institutions in place, which would make reliance on informal institutions less desirable and/or socially acceptable. The link between inequality of opportunity and future mobility also carries over from the intra-generational setting to the inter-generational mobility setting, as lack of connections, when the playing field is not level, is associated with more pessimistic views about the success of children born today vis-a-vis the current generation. Finally, inequality

of opportunity is also found to be associated with stronger redistributive preferences both in EU member states and in the non-EU group of countries.

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Table 1: Current and future welfare ladder placement

Current ladder	Future ladder										Total
	1	2	3	4	5	6	7	8	9	10	
1	795	160	96	32	43	19	8	9	1	8	1,171
2	441	946	348	162	117	46	25	16	8	4	2,113
3	307	711	1,767	912	595	243	118	51	24	18	4,746
4	91	326	775	2,053	1,426	785	358	163	33	32	6,042
5	67	159	440	947	3,380	1,693	1,098	502	109	84	8,479
6	7	14	65	198	519	1,546	985	547	145	71	4,097
7	2	4	19	42	107	262	1,022	562	211	72	2,303
8	2	1	6	13	26	42	100	373	172	101	836
9	1	0	0	1	3	2	10	21	78	41	157
10	2	0	0	0	2	2	2	3	8	79	98
Total	1,715	2,321	3,516	4,360	6,218	4,640	3,726	2,247	789	510	30,042

Notes: Estimates for the full sample.

Table 2: Importance of having connections

	Gov	Private	Univ	Permits	Disputes	IO
Albania	0.47	0.28	0.25	0.30	0.19	0.70
Armenia	0.68	0.52	0.46	0.38	0.21	0.76
Azerbaijan	0.56	0.39	0.22	0.15	0.11	0.69
Belarus	0.41	0.37	0.21	0.11	0.07	0.51
Bosnia and Herzegovina	0.62	0.51	0.52	0.34	0.35	0.73
Bulgaria	0.78	0.70	0.39	0.58	0.40	0.83
Croatia	0.79	0.55	0.37	0.25	0.37	0.83
Czech Reoublic	0.37	0.34	0.18	0.22	0.25	0.61
Estonia	0.31	0.35	0.06	0.06	0.08	0.45
FYROM	0.77	0.46	0.45	0.51	0.36	0.88
France	0.40	0.48	0.16	0.25	0.28	0.69
Georgia	0.42	0.37	0.13	0.10	0.09	0.51
Germany	0.46	0.41	0.13	0.09	0.14	0.58
Hungary	0.70	0.67	0.25	0.23	0.23	0.79
Italy	0.50	0.38	0.16	0.16	0.13	0.61
Kazakhstan	0.55	0.45	0.28	0.25	0.17	0.63
Kosovo	0.36	0.25	0.29	0.24	0.20	0.54
Kyrgyzstan	0.25	0.17	0.32	0.27	0.05	0.50
Latvia	0.71	0.69	0.04	0.07	0.06	0.76
Lithuania	0.49	0.41	0.12	0.11	0.10	0.58
Moldova	0.27	0.22	0.22	0.15	0.11	0.39
Montenegro	0.53	0.39	0.27	0.21	0.18	0.60
Poland	0.34	0.27	0.18	0.15	0.14	0.48
Romania	0.51	0.40	0.16	0.20	0.19	0.58
Russian Federation	0.55	0.48	0.30	0.22	0.13	0.68
Serbia	0.82	0.65	0.36	0.37	0.35	0.86
Slovak Republic	0.50	0.41	0.29	0.23	0.26	0.73
Slovenia	0.63	0.46	0.15	0.17	0.23	0.75
Sweden	0.15	0.29	0.04	0.06	0.13	0.40
Tajikistan	0.32	0.30	0.41	0.35	0.30	0.69
United Kingdom	0.19	0.19	0.10	0.16	0.19	0.41
Ukraine	0.49	0.44	0.35	0.24	0.13	0.64
Uzbekistan	0.29	0.25	0.40	0.28	0.21	0.52
Total	0.45	0.40	0.21	0.19	0.17	0.60

Notes: Share of adults reporting that connections are very important or essential in each of the five opportunity domains. The IO column reports a union measure based on whether connections in any one domain are deemed to be very important or essential.

Table 3: Summary statistics by region

	EU		Non-EU		Total	
<i>The gap between rich and poor should be reduced</i>						
Strongly disagree	0.0252	(0.157)	0.0348	(0.183)	0.0301	(0.171)
Disagree	0.0581	(0.234)	0.0716	(0.258)	0.0651	(0.247)
Neither agree nor disagree	0.130	(0.336)	0.138	(0.345)	0.134	(0.341)
Agree	0.416	(0.493)	0.445	(0.497)	0.431	(0.495)
Strongly agree	0.371	(0.483)	0.310	(0.463)	0.340	(0.474)
Inequality preference (1-10)	6.563	(2.680)	6.353	(3.078)	6.454	(2.895)
Welfare ladder (current)	4.654	(1.669)	4.420	(1.619)	4.533	(1.647)
Welfare ladder (future)	4.759	(1.968)	5.181	(2.170)	4.977	(2.086)
Ln(HH expenditures)	5.633	(1.264)	4.603	(1.148)	5.100	(1.310)
<i>Main determinant of need in society today</i>						
Unlucky	0.104	(0.305)	0.0915	(0.288)	0.0975	(0.297)
Laziness	0.224	(0.417)	0.207	(0.405)	0.215	(0.411)
Injustice	0.406	(0.491)	0.487	(0.500)	0.448	(0.497)
Inevitable part of life	0.197	(0.398)	0.141	(0.348)	0.168	(0.374)
Other	0.0680	(0.252)	0.0729	(0.260)	0.0706	(0.256)
<i>Mobility over the past 4 years</i>						
Downward past mobility	0.389	(0.487)	0.313	(0.464)	0.349	(0.477)
No past mobility	0.418	(0.493)	0.422	(0.494)	0.420	(0.494)
Upward past mobility	0.193	(0.395)	0.265	(0.442)	0.231	(0.421)
<i>How much were you impacted by the financial crisis?</i>						
A great deal	0.139	(0.346)	0.197	(0.398)	0.169	(0.375)
A fair amount	0.267	(0.443)	0.269	(0.443)	0.268	(0.443)
Just a little	0.308	(0.462)	0.174	(0.379)	0.239	(0.426)
Not at all	0.261	(0.439)	0.291	(0.454)	0.276	(0.447)
Don't know	0.0248	(0.156)	0.0694	(0.254)	0.0479	(0.214)
<i>Risk aversion hypothetical</i>						
Would take the risk	0.339	(0.473)	0.354	(0.478)	0.347	(0.476)
Would not take the risk	0.569	(0.495)	0.473	(0.499)	0.519	(0.500)
Don't know	0.0916	(0.288)	0.173	(0.378)	0.134	(0.341)
Age	49.03	(17.14)	43.18	(16.72)	46.00	(17.18)
Female	0.586	(0.493)	0.605	(0.489)	0.596	(0.491)
University education	0.216	(0.411)	0.198	(0.398)	0.206	(0.405)
Employed	0.557	(0.497)	0.477	(0.499)	0.515	(0.500)
Ln(HH size)	0.752	(0.536)	1.107	(0.574)	0.936	(0.584)
<i>Household composition</i>						
Children's share in HH	0.115	(0.197)	0.165	(0.212)	0.141	(0.207)
Female share in HH	0.537	(0.296)	0.530	(0.242)	0.534	(0.269)
Elderly share in HH	0.144	(0.314)	0.0736	(0.231)	0.108	(0.277)
Market is preferred	0.343	(0.475)	0.380	(0.485)	0.362	(0.481)
Non-Orthodox	0.856	(0.351)	0.516	(0.500)	0.680	(0.466)
Not married	0.465	(0.499)	0.363	(0.481)	0.413	(0.492)
Rural	0.343	(0.475)	0.447	(0.497)	0.397	(0.489)
Observations	14154		15888		30042	

Note: Mean of each variable with standard deviation in parentheses.

Table 4: Inequality of opportunity and mobility expectations

	Overall	EU	Non-EU
$\delta_1$	-0.058** (0.028)	-0.083** (0.033)	-0.055 (0.042)
$\delta_2$	-0.107*** (0.031)	-0.115*** (0.035)	-0.106** (0.052)
$\delta_3$	-0.009 (0.037)	0.064 (0.043)	-0.074 (0.061)
Present welfare ladder	-0.159*** (0.008)	-0.165*** (0.010)	-0.154*** (0.013)
Need due to: inevitable part of life	ref.	ref.	ref.
Unlucky	0.028 (0.038)	0.069* (0.041)	-0.005 (0.065)
Laziness	0.071** (0.032)	0.074** (0.034)	0.064 (0.056)
Injustice	-0.130*** (0.029)	-0.140*** (0.029)	-0.115** (0.052)
Other	-0.051 (0.045)	-0.058 (0.058)	-0.043 (0.068)
I would sell my car and buy irrigation	ref.	ref.	ref.
I would take the risk	0.038* (0.022)	-0.031 (0.026)	0.104*** (0.035)
Don't know	-0.063 (0.039)	-0.134** (0.059)	-0.003 (0.050)
Crisis had no impact	ref.	ref.	ref.
A great deal	-0.329*** (0.038)	-0.301*** (0.051)	-0.343*** (0.052)
A fair amount	-0.154*** (0.028)	-0.181*** (0.032)	-0.124*** (0.042)
Just a little	-0.028 (0.024)	-0.050* (0.027)	-0.000 (0.040)
Don't know	-0.173*** (0.043)	-0.105* (0.062)	-0.190*** (0.054)
No past mobility	ref.	ref.	ref.
Downward past mobility	0.193*** (0.027)	-0.012 (0.030)	0.387*** (0.044)
Upward past mobility	0.227*** (0.027)	0.161*** (0.033)	0.283*** (0.039)
R-squared	0.193	0.142	0.165
Obs	30188	14230	15958
$\delta_2 + \delta_3$	-0.116	-0.050	-0.180
Prob> t	0.000	0.106	0.000
$\delta_1 + \delta_3$	-0.067	-0.018	-0.129
Prob> t	0.026	0.585	0.016

Notes: Robust standard errors, clustered at primary sampling unit level in parentheses. Regressions also include the following set of controls: Ln(HH expenditures), crisis impact, age and age squared, sex, education, Ln(HH size), household composition, religion, marital status, area of residence and country dummies. Significance: \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

Table 5: Differentiating by likelihood of using connections

	Overall	EU	Non-EU
$\delta_1$	-0.071** (0.030)	-0.102*** (0.036)	-0.064 (0.044)
$\delta_2$	-0.101*** (0.032)	-0.119*** (0.036)	-0.095* (0.054)
$\delta_3$	0.004 (0.039)	0.084* (0.046)	-0.066 (0.063)
$\delta_4$	0.074 (0.065)	-0.044 (0.095)	0.115 (0.088)
$\delta_5$	0.031 (0.072)	0.121 (0.109)	0.001 (0.097)
R-squared	0.193	0.140	0.166
Obs	30042	14154	15888
$\delta_2 + \delta_3$	-0.097	-0.034	-0.161
Prob> t	0.001	0.299	0.001
$(\delta_2 + \delta_3) - (\delta_4 + \delta_5)$	-0.201	-0.111	-0.277
Prob> t	0.000	0.038	0.000

Notes: Robust standard errors, clustered at primary sampling unit level in parentheses. Regressions include the same full set of controls like the baseline model. Significance: \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

Table 6: Using a more restrictive measure of IO

	Overall	EU	Non-EU
$\delta_1$	-0.064** (0.028)	-0.073** (0.032)	-0.071* (0.042)
$\delta_2$	-0.107*** (0.030)	-0.103*** (0.033)	-0.111** (0.052)
$\delta_3$	-0.011 (0.037)	0.053 (0.043)	-0.075 (0.062)
R-squared	0.193	0.140	0.165
Obs	30042	14154	15888
$\delta_2 + \delta_3$	-0.117	-0.050	-0.186
Prob> t	0.000	0.123	0.000
$\delta_1 + \delta_3$	-0.075	-0.020	-0.146
Prob> t	0.015	0.560	0.007

Notes: Robust standard errors, clustered at primary sampling unit level in parentheses. Regressions include the same full set of controls like the baseline model. Significance: \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

Table 7: Regression adjustment, main definition of IO

	Overall	EU	Non-EU
$-(\delta_1 + \delta_2 + \delta_3)$	0.175*** (0.028)	0.159*** (0.034)	0.197*** (0.042)
$-(\delta_2 + \delta_3)$	0.088*** (0.023)	0.040 (0.028)	0.125*** (0.036)
$-(\delta_1 + \delta_3)$	0.054* (0.032)	0.020 (0.034)	0.096* (0.052)
IO, no connections	0.378*** (0.020)	0.056*** (0.021)	0.666*** (0.032)
Obs	30187	14229	15958

Notes: Robust standard errors in parentheses. Outcome model include the same full set of controls like the baseline model. Significance: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table 8: Regression adjustment, alternative definition of IO

	Overall	EU	Non-EU
$-(\delta_1 + \delta_2 + \delta_3)$	0.181*** (0.027)	0.141*** (0.034)	0.224*** (0.042)
$-(\delta_2 + \delta_3)$	0.092*** (0.024)	0.044 (0.030)	0.129*** (0.037)
$-(\delta_1 + \delta_3)$	0.070** (0.031)	0.023 (0.034)	0.125** (0.052)
IO, no connections	0.371*** (0.020)	0.054** (0.023)	0.654*** (0.033)
Obs	30187	14229	15958

Notes: Robust standard errors in parentheses. Outcome model include the same full set of controls like the baseline model. Significance: \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table 9: IO and intergenerational mobility

	Overall	EU	Non-EU
$\delta_1$	-0.009 (0.010)	-0.004 (0.012)	-0.016 (0.014)
$\delta_2$	0.009 (0.012)	0.016 (0.015)	0.000 (0.018)
$\delta_3$	-0.027* (0.014)	-0.034* (0.018)	-0.018 (0.021)
R-squared	0.145	0.110	0.134
Obs	30114	14176	15938
$\delta_2 + \delta_3$	-0.018	-0.018	-0.018
Prob> t	0.063	0.184	0.199
$\delta_1 + \delta_3$	-0.037	-0.037	-0.034
Prob> t	0.002	0.019	0.060

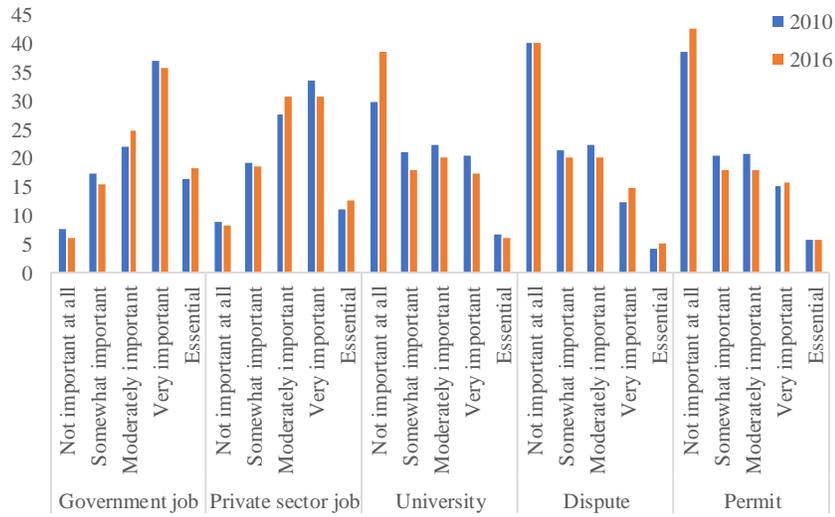
Notes: Robust standard errors, clustered at primary sampling unit level in parentheses. Regressions include the same full set of controls like the baseline model. Significance: \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

Table 10: Inequality of opportunity and redistributive preferences

	Overall	EU	Non-EU
$\delta_1$	0.059*** (0.010)	0.069*** (0.012)	0.052*** (0.015)
$\delta_2$	0.038*** (0.012)	0.054*** (0.014)	0.020 (0.019)
$\delta_3$	-0.009 (0.013)	-0.026 (0.016)	0.012 (0.021)
R-squared	0.064	0.074	0.064
Obs	29242	13952	15290
$\delta_2 + \delta_3$	0.029	0.028	0.032
Prob> t	0.001	0.022	0.012
$\delta_1 + \delta_3$	0.050	0.042	0.063
Prob> t	0.000	0.002	0.000

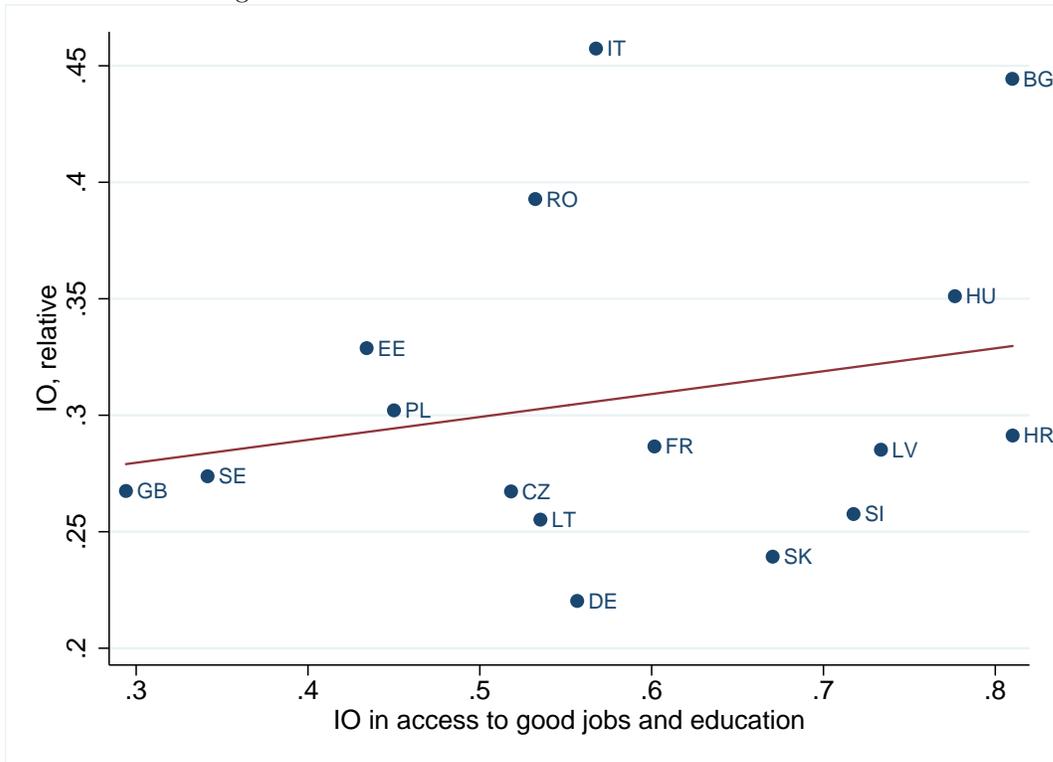
Notes: Robust standard errors, clustered at primary sampling unit level in parentheses. Regressions include the same full set of controls like the baseline model. Significance: \* p<0.1, \*\* p<0.05, \*\*\* p<0.01.

Figure 1: Perceived need for connections across domains



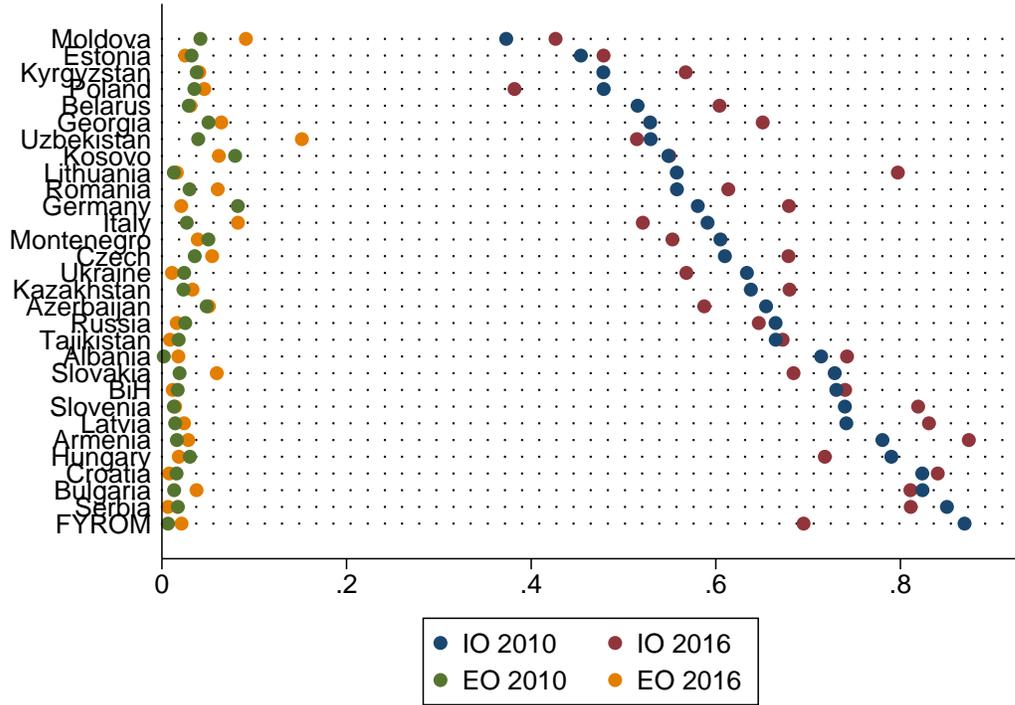
Notes: Distribution of responses in the pooled sample for each of the survey rounds (2010 and 2016) regarding the importance of connections for each of the opportunity domains.

Figure 2: Perceived IO and actual IO are not one and the same



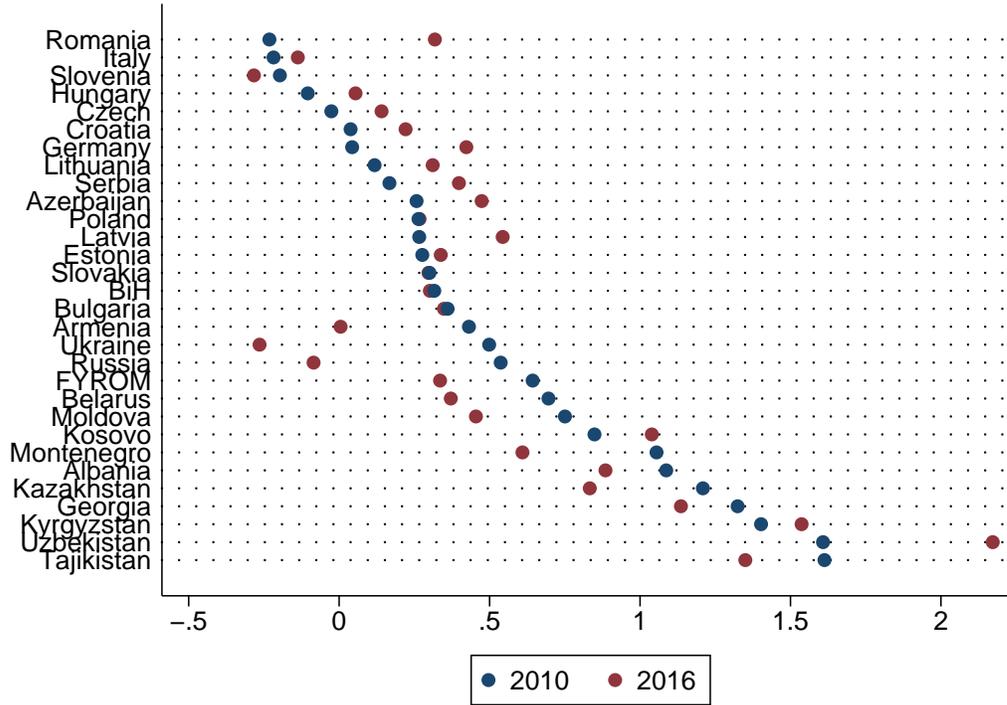
Notes: The graph plots, for each country in the sample, the share of adults who perceive connections to be either very important or essential in any of the five domains of opportunities, including government jobs, private sector jobs, university education, resolving a dispute or getting a permit, against available estimates of inequality of opportunity from the Equalchances.org database. See also the EBRD Transition Report 2016-2017 for more details on the latter.

Figure 3: Overall inequality in access to opportunities across countries



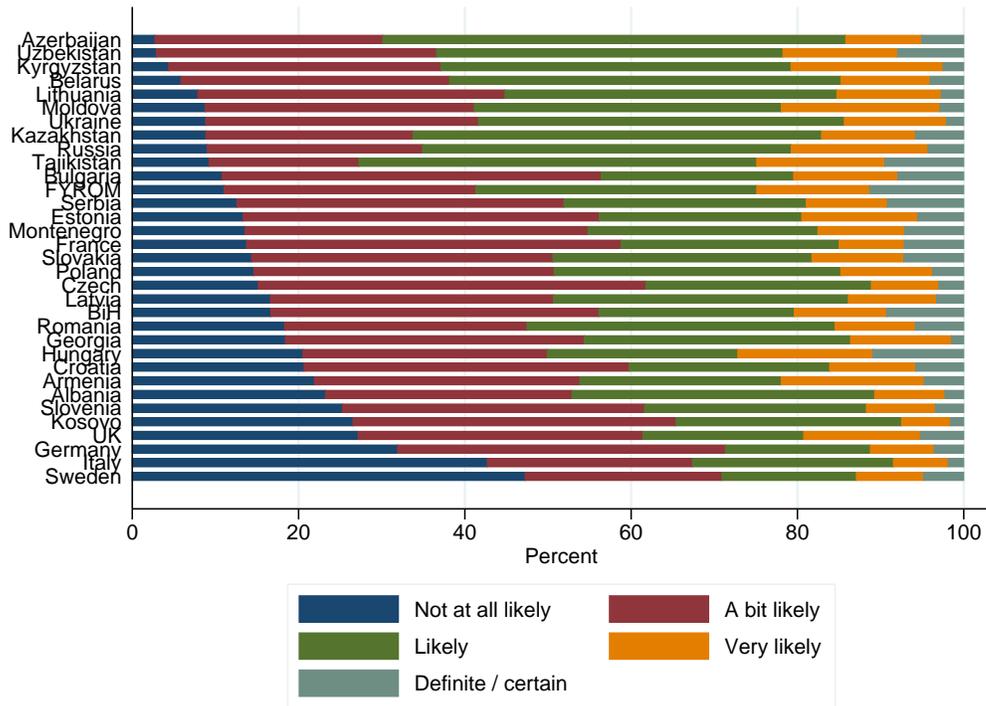
Notes: The graph plots, for each country in the sample and for each of the survey rounds (2010 and 2016), the share of adults who perceive connections to be either very important or essential in any of the five domains of opportunities, including government jobs, private sector jobs, university education, resolving a dispute or getting a permit.

Figure 4: Expected future mobility across countries



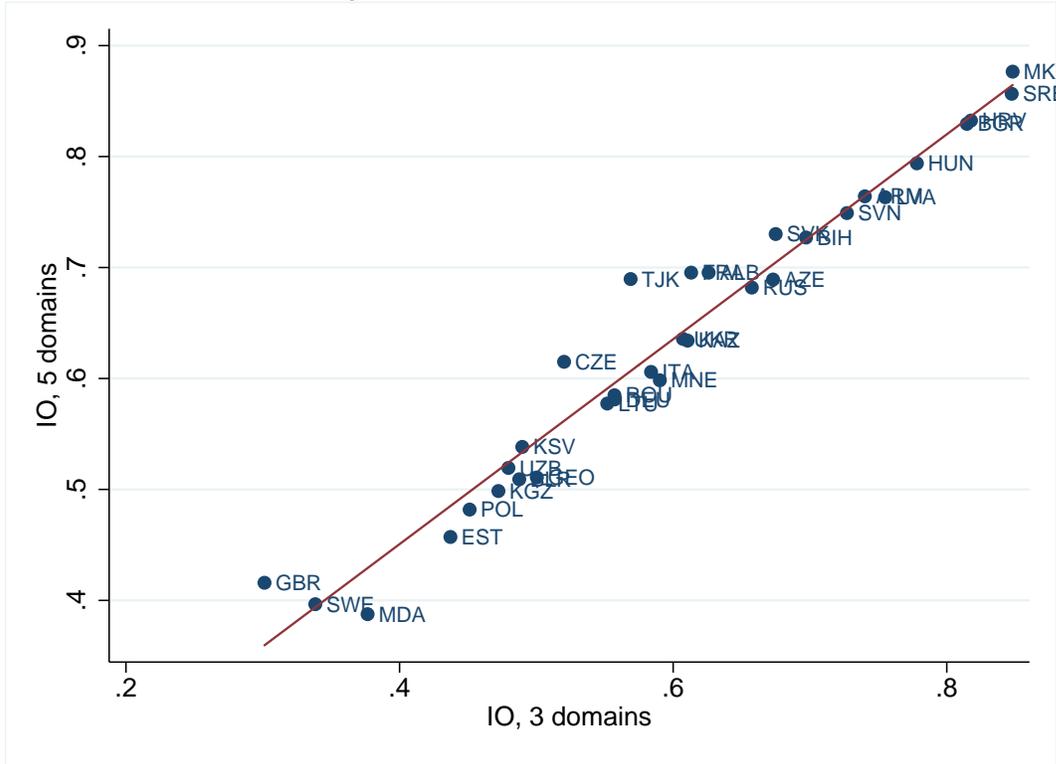
Notes: The graph plots, for each country in the sample and for each of the survey rounds (2010 and 2016), the mean of the raw difference between the expected future societal ladder position and the current position on the same ladder. The difference equals to zero if the future ladder and the current ladder are unchanged, and can range from -9 to +9.

Figure 5: Use of connections, when available



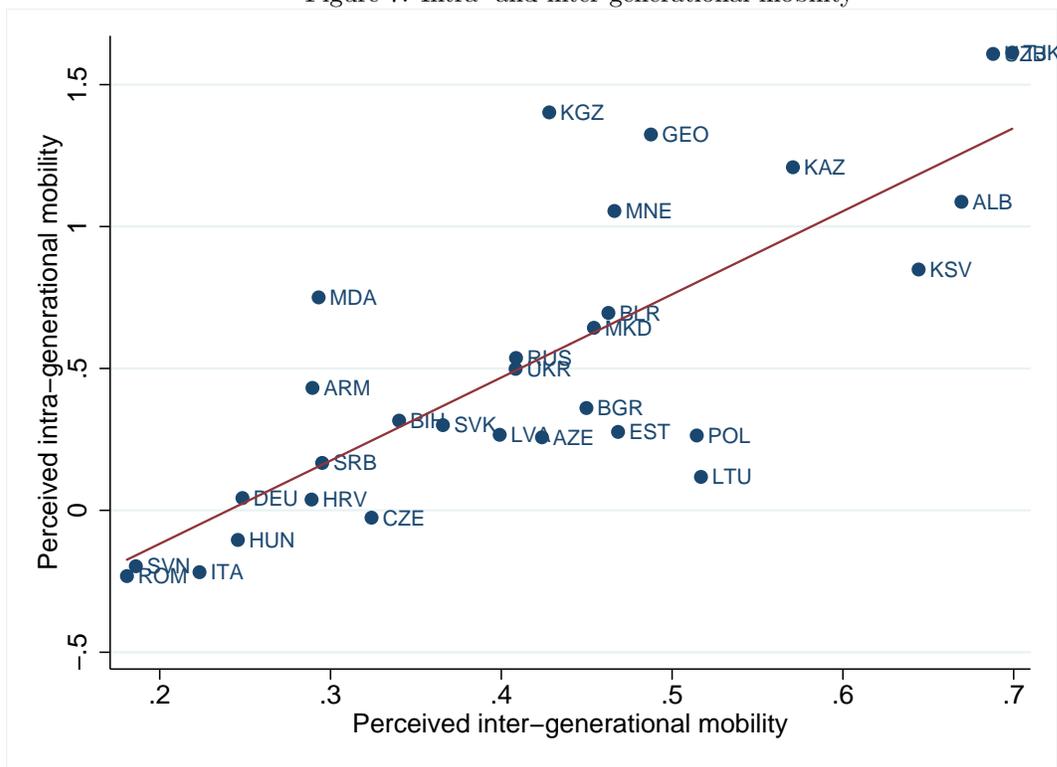
Notes: The graph plots, for each country, the distribution of responses to the question “And how likely is that you would actually ask for such help?”, defined over respondents who report having connections.

Figure 6: IO measures over 5 and 3 domains



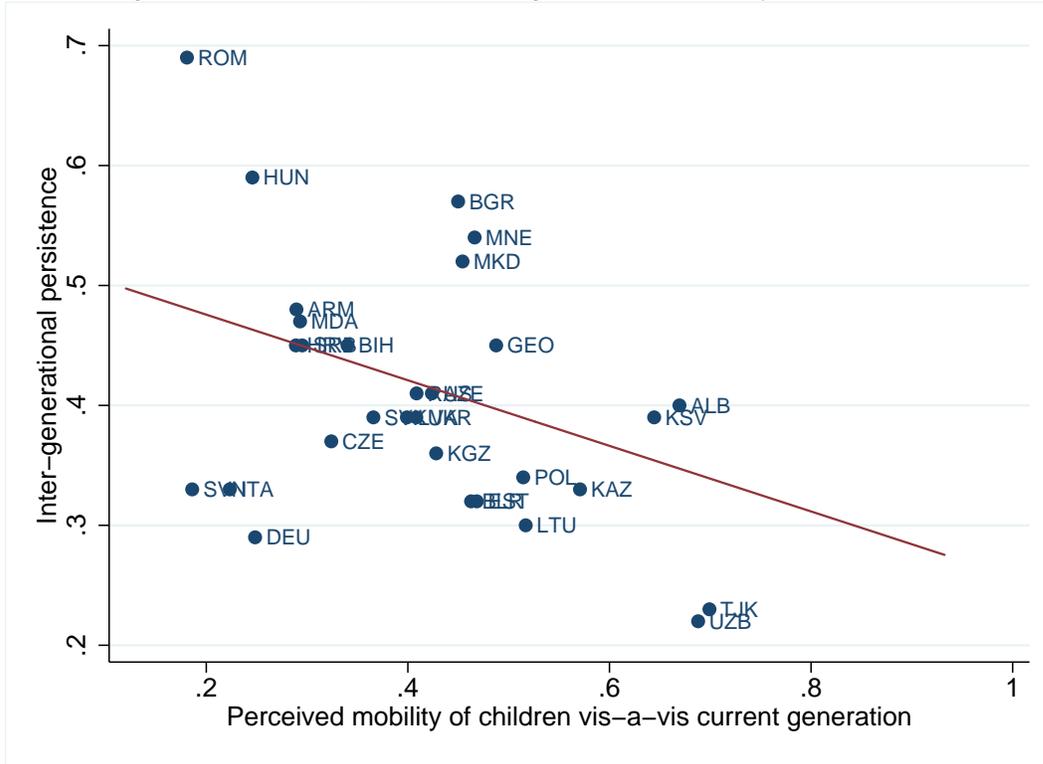
Notes: The graph plots the country mean IO measure based on all 5 domains available in the survey questionnaire against an IO measure based on three main domains (government job, private sector job and university education). Each dot represents the country average of an indicator variable that evaluates to 1 if either the 5-domain IO variable or the 3-domain IO variable evaluates to 1, and zero otherwise.

Figure 7: Intra- and inter-generational mobility



Notes: Intra-generational mobility is based on the difference between the future and current societal ladders. The inter-generational mobility measure is an indicator variable that evaluates to 1 if the respondent answers agree or strongly agree to the statement “Children who are born now will have a better life than my generation” and zero otherwise.

Figure 8: Actual and perceived intergenerational mobility in transition economies



Notes: Perceived intergenerational mobility based on the LiTS question whether children who are born now will have a better life than my generation. See also figure 5 for details. Actual inter-generational mobility is based on data from equalchances.org databased and is an inter-generational education elasticity measure. See equalchanges.org for details.