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RELATIVE STANDING AND TEMPORARY MIGRATION: EMPIRICAL EVIDENCE FROM THE SOUTH CAUCASUS*

Armenak Antinyan[**], *Luca Corazzini*[***]

1. Introduction

The fall of the Soviet Union resulted in harsh political and economic transitional processes in its former republics. Compared to 1989, in 1992 the aggregate GDP of the post-Soviet republics had declined by 16 percent, while in 1996 it was approximately 60 percent of the 1987 level (Milanovic, 1998). The real wages dropped between 40 and 60 percent, while the poverty level went up (Milanovic, 1998). The intra-country political processes were accompanied by "coups, successful and unsuccessful popular uprisings, and assassination attempts" (Milanovic, 1998, p. 5). Such negative processes resulted in massive migration activity in the post-Soviet territory (Korobkov and Zaionchkovskaia, 2004). In 1991, around 3.7 million people migrated to Russia from all the other member countries of the CIS (Commonwealth of Independent States) and the Baltics, with the exception of Belarus (Mansoor and Quillin, 2006). At the same time, around 15 percent or more of the populations of Armenia, Georgia, Kazakhstan, and Tajikistan—mostly well-educated and young members of the society—permanently migrated abroad (Mansoor and Quillin, 2006).

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In the mid-2000s, many post-Soviet republics, among other transition economies, overcame the "transition recessions" of the 1990s and were characterized by solid levels of economic growth (EBRD, 2005, 2006). Nevertheless, despite some achievements, the transitional processes have caused startling inequalities, ubiquitous poverty, high unemployment, corruption, social dislocations, and a substantial drop in living standards, resulting in massive feelings of disappointment and dissatisfaction among the population (e.g., Sanfey and Teksoz, 2007, Ekiert et al., 2007). Though the situation in post-Soviet republics in recent years cannot be compared with that of the 90s (Korobkov and Zaionchkovskaia, 2004), migration outflows in transition economies such as Armenia, Georgia, Turkmenistan, Tajikistan, and Kyrgyzystan still assume substantial dimensions (United Nations, 2013).

What are the driving forces of the decision to migrate abroad? A solid strand of literature postulates that the household's relative income *vis-à-vis* its reference group represents an important motivating factor of migration (e.g., Stark and Yitzhaki, 1988, Stark and Taylor, 1991, Quinn, 2006). According to this literature, households compare themselves to a reference group composed of comparable households of the same community. If a household is relatively deprived, i.e., household members perceive themselves to be living in less favorable conditions relative to the reference group, the probability that some of its members will decide to migrate abroad in order to achieve better living standards for the household increases.

This paper studies the connection between the perceived relative deprivation of the households and the intentions of their members to temporarily migrate abroad in three transition economies of the South Caucasus: Armenia, Azerbaijan, and Georgia.

The contribution of the present paper is twofold. First, the paper contributes to the literature that empirically analyzes the relationship between relative deprivation and migration by following a micro-level approach (i.e., Bhandari, 2004; Czaika, 2012; Quinn, 2006; Stark and Taylor, 1991). In this respect, to the best of our knowledge this is the first study to discuss such a question in the post-Soviet economies of transition.

Second, given the relevance of the migration phenomenon in the Caucasus region (Danzer and Dietz, 2009; Dermedzhieva, 2011) the paper provides novel and additional evidence on the subjective determinants of temporary out-migration flows in recent years.

The rest of the paper is structured as follows. Section 2 provides a brief literature review on relative deprivation and emigration. Section 3 discusses the region as well as the (scarce) literature studying emigration flows from the South Caucasus and introduces the dataset. Section 4 describes the empirical strategy. Section 5 illustrates the results. Section 6 concludes the paper.

2. Relative Deprivation and Migration: Literature Review

Neoclassical models analyzing the migration decision assume that, when choosing to move abroad or remain in the own country, an individual undertakes rational economic calculations to ponder the actual costs and expected benefits of migration, both expressed in absolute terms (e.g., Todaro, 1969; for an excellent literature review see Todaro, 1980).[1] According to these models, out-migration occurs because of income differentials between regions: the larger the income differential, the larger the migration flows (e.g., Bauer and Zimmermann, 1998).

However, the above-mentioned models fail to explain a number of empirical regularities. First, it is not the poorest communities which have the highest migration rate (see e.g., Stark, 1984). Second, inequality in the society enhances migration intentions. In that respect, it has been illustrated that controlling for per capita GNP (Gross National Product), the Gini coefficient has a positive and significant impact on the propensity to migrate (Liebig and Sousa-Poza, 2004). To this effect, Stark (2006) illustrates the link between the Gini coefficient and the relative income. In particular, a higher Gini coefficient is associated with a stronger inclination to migrate in order to reduce differences in relative income.

In contrast to the absolute income approach followed by traditional theories, a large strand of theoretical (Akerlof, 1997; Boskin and Sheshinski, 1978; Corneo and Jeanne, 1997; Duesenberry, 1949; Frank, 1985; Knell, 1999; Layard, 1980; Ljungqvist and Uhlig, 2000; Pollak, 1976) and empirical (Alpizar et al., 2005; Carlsson et al., 2007; Frank, 2005; Pingle and Mitchell, 2002; Solnick and Hemenway, 2005) literature illustrates that individuals derive utility not only from their own wealth but also from their relative standing in the society. In line with these studies, individuals constantly compare themselves with their reference group and try to surpass it whenever possible. Moreover, if the individuals lag behind their reference group in earnings they experience strong feelings of discontent (e.g., Clark and Oswald, 1996; Luttmer, 2005; Ferrer-i-Carbonell, 2005; Antinyan, 2015).

The relative deprivation theory of migration is in the spirit of the above-mentioned literature. In line with this theory, rather than to increase their absolute wealth, individuals migrate with the purpose of improving their relative position with respect to their reference group (Stark and Yitzhaki, 1988; Stark and Taylor, 1991). One of the most crucial assumptions is that international migration does not alter the reference group of the migrating individual. Hence, if individual i migrates from Country A to Country B, the reference group of individual i still consists of households in Country A (Stark and Taylor, 1991).[2]

In sum, according to the relative deprivation theory, controlling for household's absolute income and other relevant characteristics affecting migration decision, a household's relative

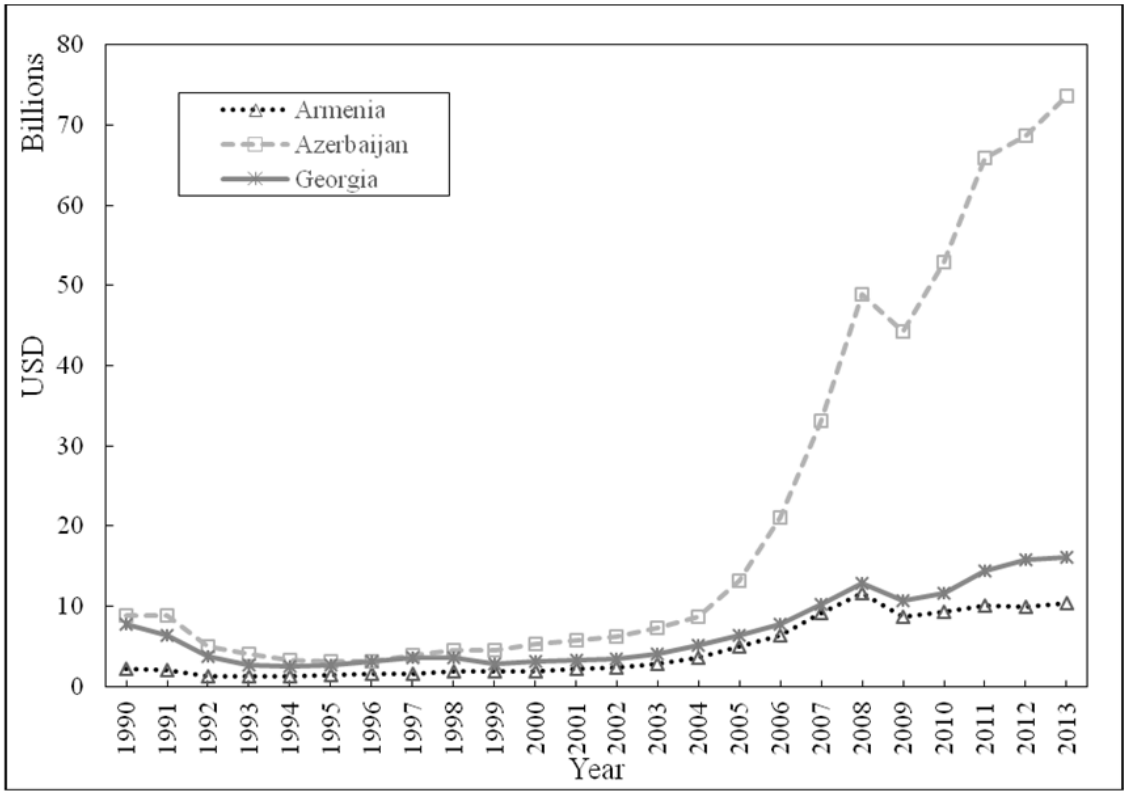
deprivation exerts a positive effect on the intention of its members to move abroad in order to improve their household's relative standing. This theoretical prediction is empirically validated by a number of studies. Bhandari (2004) considers migratory activities in the agricultural setting of Nepal, defining relative deprivation in terms of access to cultivated land: households compare their access and ownership of cultivated land with that of a reference group and rank themselves accordingly. The author illustrates that individuals are more likely to migrate from households with relatively less access to cultivated land than those from relatively rich households with more land holdings. Quinn (2006) examines the likelihood of Mexico-US and intra-Mexico migration. The author defines several proxies for households' relative deprivation—income deprivation, land deprivation, durables deprivation—illustrating that relative deprivation is a relevant driver of intra-Mexico migration. In this vein, Stark and Taylor (1991) argue that relative deprivation can trigger Mexico-US migration. A recent study by Czaika (2012) distinguishes between intra-group comparisons within a social group and inter-group comparisons across different social groups. In both intra- and inter-groups, relative deprivation is found to foster national as well as international migration.

3. The Region and the Dataset

The three republics of the South Caucasus we focus on in our study—Armenia, Azerbaijan, Georgia—are on the border of Eastern Europe and Southwest Asia. In these republics, the transition was accompanied by severe cataclysms: ethnic conflicts, civil unrests, refugee crisis, and the collapse of economic cooperation with the former republics of the Soviet Union (Habibov and Afandi, 2009).

Despite the fact that all of the three republics gained independence more than 20 years ago, the transitional processes have not yet concluded. Regarding economic development, also due to its rich hydrocarbon reserves, the economy of Azerbaijan can be considered as the most flourishing relative to the situation of that of the other two republics. Figure 1 illustrates the GDP of the three countries from 1990–2013.

Figure 1. Gross Domestic Product in the South Caucasus 1990–2013



Source: World Development Indicators of the World Bank

As the figure clearly shows, in recent years there has been a large and widening gap between the GDP of Azerbaijan and that of the other two republics. However, in all of the three republics, poverty (Armenia 32.4%; Azerbaijan 6%; Georgia 14.8%),[3] inequality (Armenia 30.7%, Azerbaijan 33%, Georgia 40.6%),[4] and corruption (Transparency International, 2011) still represent considerable challenges for the socio-economic stability of national populations.

Regarding the main variable the paper focuses on, unlike Azerbaijan (0 migrants), Armenia and Georgia are characterized by high and negative net migration in the period 2010–2015 (-10 thousand in Armenia; -25 thousand in Georgia; United Nations, 2013).[5] The directions of the migration flows from the three republics are divergent. While Armenians (Danzer and Dietz, 2009; Minasyan and Hancilova, 2005) and Azerbaijanis (Danzer and Dietz, 2009; Yunusov, 2013) mostly move to Russia and other CIS countries, Georgians choose the countries of Western Europe (mostly Greece) and Turkey (Danzer and Dietz, 2009; Badurashvili, 2012), which is a reflection of severe political tensions between Russia and Georgia. Moreover, given the tight labor market regulations of western countries and the visa requirements, Georgian migration is mostly illegal (Badurashvili, 2012).

Due to a lack of comparable cross-country data, the literature dealing with migration flows from the South Caucasus is rather scarce and has emerged only in the recent decade. To our knowledge, Danzer and Dietz (2009) are among the first to study temporary migration from five countries in transition (including Armenia, Azerbaijan and Georgia), by using data from the EU INTAS project in the first months of 2006. The dataset includes observations from two representative subregions with high rates of out-migration from each country (except Moldova). Regarding socio-demographic variables, the authors detect that being a woman, the household size, and holding a university degree significantly lower the probability of migration abroad. Age has an inverse U-shaped effect: the propensity to migrate increases up to a certain age and starts declining afterwards. Dermendzhieva (2011) exploits another cross-country dataset collected by the Caucasus Research Resource Centers (CRRC from here onwards) in May–June 2004 and April–June 2005. The 2004 survey was administered in the capital cities, while the 2005 survey was extended to an additional administrative region. The author finds that individuals in late working age are more likely to move abroad, with each additional year of age increasing the likelihood of migrating. While single individuals in all republics exhibit a higher attitude to migrate, gender does not seem to play a crucial role in Georgia. Moreover, the likelihood to migrate abroad is positively related to the educational level of the individual.

To shed light on the research question under scrutiny, we draw cross-sectional data from the nationally representative "Caucasus Barometer," developed by the CRRC. The "Caucasus Barometer" extends the "Social-Economic Assessment of Households in the South Caucasus" survey analyzed by Dermendzhieva (2011) and collects yearly data in Armenia, Azerbaijan, and Georgia, including information on the socio-demographic and economic conditions of respondents, at both individual and household levels. In the following analysis, we use information from the 2010–2013 waves. The sample contains 22,505 non-missing observations for the variables under consideration distributed among countries as follows: Armenia 7,925, Azerbaijan 6,415 and Georgia 8,165.[6]

Table 1 provides a brief description of the socio-demographic characteristics of our sample.

Table 1: Socio-Demographics of the Sample, Migrants and Non-Migrants

Variable	**(1) Pooled**	**(2) Migrants (N=10,947)**	**(3) Non-Migrants (N=11,554)**
Gender			
Male	9,628 (42.789%)	5,304 (48.452%)	4,324 (37.424%)
Female	12,873 (57.211%)	5,643 (51.548%)	7,230 (62.576%)
Relationship Status			
Single	7,852 (34.896%)	3,691 (33.717%)	4,161 (36.014%)
Non-Single	14,649 (65.104%)	7,256 (66.283%)	7,393 (63.986%)
Age			
Mean	42.789	36.683	48.575
St. Dev.	(19.004)	(16.717)	(19.229)
Number of Household Members			
Mean	3.139	3.256	3.028
St. Dev.	(1.551)	(1.537)	(1.557)
Education			
University (higher education, incomplete higher education, postgraduate degree)	6,342 (28.185%)	3,513 (32.091%)	2,829 (24.485%)
Below University	16,159 (71.815%)	7,434 (67.909%)	8,725 (75.515%)
Employment Status			
Working (has a job or is self-employed)	8,276 (36.781%)	4,523 (41.317%)	3,753 (32.482%)
Not Working	14,225 (63.219%)	6,424 (58.683%)	7,801 (67.518%)

Of the respondents, around 43 percent are male and 35 percent are single. An average household is composed of three members with a mean age of 43 years old. The number of respondents with a university education is around 28 percent and roughly 63 percent of the sample are not working. Columns 2 and 3 illustrate the descriptive statistics for potential migrants as well as non-migrants.

4. Empirical Strategy

The main objective of the present study is to empirically test the hypothesis that the relative deprivation of the household positively affects the propensity of its members to migrate abroad to improve the relative standing of the household vis-à-vis its reference group. We estimate a regression equation of the following form:

$$M_{ijt} = \beta_1 \times I_{ijt} + \beta_2 \times DiffRI_{ijt} + \beta_3 \times DiffRI_{ijt} \times I_{ijt} + \beta_4 \times X_{ijt} + \beta_5 \times T_t + \beta_6 \times C_j\beta_7 \times REG_j + \varepsilon_{ijt} \quad (1)$$

where M_{ijt} is the migration intention of individual i in country j at time *t*; I_{ijt} is a matrix of dummies indicating the financial situation of the household of individual i in country *j* at time *t*; $DiffRI_{ijt}$ is a matrix of dummies specifying the difference between the reference group and the household income of individual i in country j at time *t;* X_{ijt} is a matrix of individual and household socio-demographic controls; T_t is a matrix of dummy variables capturing year-specific differences; C_j is a matrix of dummies controlling for country-specific differences; REG_j is a matrix of regional dummies for each country; ε_{ijt} is the error term. Following the discussion by Stark and Taylor (1991), we also introduce an interaction term $DiffRI_{ijt} \times I_{ijt}$ to capture the fact that the anxiety for relative standing may differ, depending on the absolute income of the household. In particular, very poor households may be concerned with subsistence issues, and may be less involved in comparing themselves with their reference group.

The dependent variable on the migration intentions is obtained by utilizing the following question: *"If you had a chance, would you leave /country/ for a certain period of time to live somewhere else?"* In particular, we create a dichotomous dependent variable that assumes the value of 1 in case of an affirmative answer and of 0 otherwise.

Two issues related to the dependent variable used are worth noting. First, when focusing on the relationship between relative deprivation and migration, it is important to differentiate between the short run (i.e., temporary migration) and the long run (i.e., permanent migration) (Stark and Yitzhaki, 1988). As the critical assumption of the theory is the non-substitution of the reference group (see section 2), the relationship is likely to be stronger in the short run as the migrating individual presumably continues to associate himself with his origin reference group. In the long run, a substitution of reference group may happen and the migrating individual may refer to the hosting society as his new reference group (Stark and Yitzhaki, 1988). This argument is widely utilized in empirical work, as researchers mainly focus on temporary migration activities (e.g., Stark and Taylor, 1991; Quinn, 2006). By this consideration, we use the self-reported intentions to temporarily migrate abroad as the dependent variable of our econometric models.

Second, by analyzing self-reported intentions to migrate, we make an underlying assumption that those who express a willingness to migrate abroad have the highest incentive to leave the country and will do so in the future if such an opportunity arises. However, we are not the first to rely on this assumption. Previous research deals with migration intentions from countries including Kyrgyzstan (Agadjanian et al., 2008), Albania (Papapanagos and Sanfey, 2001),

Romania (Sandu and De Jong, 1996), South Africa (Gubhaju and De Jong, 2009), Ghana, Senegal, Morocco, Egypt (van Dalen et al., 2005) and 23 Anglo-Saxon, Western European, Eastern European, and Eastern Asian countries (Liebig and Sousa-Poza, 2004). Lastly, this identification choice is also driven by data availability, as "Caucasus Barometer" does not provide other appropriate measures of migration activities that are suitable to address our research question.

To capture respondents' relative deprivation, we use self-reported information on a respondent's perception of the relative standing of her household in comparison to that of the neighbors.[7] In particular, participants answered the following question *"Relative to most of the households around you, would you describe the current economic condition of your household as …"* with their responses expressed on a scale from "5" (Very Good) to "1" (Very Poor). Given the responses, we build the dummy variable "*Above Reference Group"* if the individual indicates that, relative to the households around her, she perceives the conditions of her household as either *"Very good"* or *"Good."* Similarly, we create the dummy variable "*Below Reference Group"* if the respondent answers *"Poor"* or *"Very Poor"* to the above-mentioned question. The reference category consists of individuals who perceive that they are in a "*Fair"* situation in comparison with surrounding households.

Since other variables can potentially confound the relationship between the intention to (temporarily) migrate abroad and the two explanatory variables "*Above Reference Group"* and "*Below Reference Group,"* we introduce additional controls in the regressions. Individual level characteristics may influence the likelihood of migration as they can alter the probability of success in the host country (Massey et al., 1993). For this reason, we control for employment status, education, subjective health, and age of the respondent. Existing network ties are also crucial for the decision to migrate as they minimize the risks associated with migration to a foreign geographical location given the assistance to the individual offered by previous migrants (Bauer and Zimmermann, 1998). Thus, we control whether an individual has a family member or a close relative living abroad.

Furthermore, household-level characteristics can also affect the decision to migrate, as they alter the costs and benefits of migration (Bauer and Zimmermann, 1998). Thus, we control for the number of household members, the location (capital, urban, rural) and the financial situation of the household of the respondent. We use respondents' answer to the question *"Which of the following statements best describes the current economic situation of your household?"* as a proxy of the financial situation of the household. In particular, we create *"Low-Income Group"* dummy if the respondents indicate *"Not enough money for food"*

or *"Enough money for food only, but not for clothes,"* and *"High-Income Group"* dummy, if the respondents indicate *"Enough money for everything necessary."* Individuals who answer *"Enough money for food and clothes but not for expensive durables"* and *"Enough money for some durables (fridge, etc.)"* are included in the reference category, which in the rest of the paper is called *"Average-Income Group."*

Finally, in all regressions we include time-, country- and regional dummies to control for other unobserved temporal and country-specific effects.

5. Results

As a first step we estimate equation (1) by adopting a linear probability model. Since our focus is on the average effect exerted by the respondent's relative standing on her intentions to emigrate, the linear specification allows consistency without imposing a clear-cut distributional assumption of the error term, as would be the case with Probit or Logit.[8] We will nevertheless report the results of a logistic specification when presenting some robustness checks of our main findings.

Table 2 illustrates the results of the linear probability model with robust standard errors to account for potential heteroskedasticity.

Table 2: The Results of the Linear Probability Model

	Pooled		**Armenia**		**Azerbaijan**		**Georgia**	
	Estimate	**Robust Std. Error**	**Estimate**	**Robust Std. Error**	**Estimate**	**Robust Std. Error**	**Estimate**	**Robust Std. Error**
Constant	-0.110***	0.031	0.214***	0.047	-0.022	0.061	-0.275***	0.046
Capital	0.147***	0.027	0.072*	0.038	0.141***	0.030	0.225***	0.039
Urban	0.050***	0.008	0.055***	0.014	0.050***	0.015	0.044***	0.012
Male	0.088***	0.007	0.028**	0.011	0.155***	0.013	0.090***	0.011
Working	0.009	0.007	0.010	0.012	0.041***	0.014	-0.023**	0.012
Low-Income Group	0.014*	0.008	0.001	0.013	0.032**	0.016	0.002	0.014
High-Income Group	-0.020	0.027	0.004	0.046	-0.164***	0.044	0.109**	0.045
Below Reference Group	0.080***	0.020	0.115***	0.044	0.112***	0.028	0.051	0.035
Above Reference Group	-0.033***	0.011	-0.005	0.018	-0.043**	0.019	-0.055***	0.022
University	0.046***	0.008	0.017	0.013	0.064***	0.016	0.058***	0.012
Single	0.019***	0.007	-0.009	0.012	0.025*	0.013	0.038***	0.011
Fam. Member Abroad	0.075***	0.007	0.062***	0.013	0.073***	0.012	0.075***	0.011
Health	0.068***	0.004	0.048***	0.006	0.075***	0.007	0.083***	0.006
Number of Household Members	0.008***	0.002	0.005	0.004	0.007*	0.004	0.012***	0.004
AGE 18-27	0.249***	0.010	0.291***	0.016	0.198***	0.019	0.241***	0.018
AGE 28-37	0.197***	0.010	0.219***	0.017	0.145***	0.018	0.201***	0.017
AGE 38-47	0.140***	0.010	0.147***	0.017	0.126***	0.019	0.130***	0.016
AGE 48-57	0.081***	0.010	0.073***	0.017	0.062***	0.019	0.094***	0.015
Low Income: Below Reference Group	-0.071***	0.021	-0.123***	0.046	-0.045	0.032	-0.073**	0.037
Country Dummies	Yes							
Time Dummies	Yes		Yes		Yes		Yes	
Regional Dummies	Yes		Yes		Yes		Yes	
Observations	22,501		7,925		6,411		8,165	
R-squared	0.135		0.099		0.147		0.136	
F-Statistics	88.88		34.44		47.44		54.59	
Prob.>F	0.000		0.000		0.000		0.000	

Note. This table reports results from Linear Probability models (with robust standard errors) estimated on the pooled dataset as well as for each country separately. All the regressions include year, regional, and country dummies. Dependent variable: *Temporary Migration Intention*=1 if the respondent wishes to migrate temporarily, 0 otherwise. Independent variables. *Capital*=1 if the household of the respondent is in the capital, 0 otherwise; *Urban*=1 if the household of the respondent is in the urban area, but the capital, 0 otherwise; *Male*=1 if the respondent is male, 0 otherwise; *Single*=1 if the respondent is never married, divorced, separated, widow/widower, 0 otherwise; *Working*=1 if the respondent has a job or is self-employed, 0 otherwise; *University Education*=1 if the respondent has a higher education, incomplete higher education or a postgraduate degree, 0 otherwise; *Number of Household Members*- integer number indicating the number of members of the respondent's household; *Family Member Abroad*=1 if the respondent has a family member or close relative living abroad, 0 otherwise; *Health*- integer number, assessing the subjective health of the respondent; *Age 18*-27=1 if the respondent is between 18 and 27 years old, 0 otherwise; *Age 28*-37=1 if the respondent is between 28 and 37 years old, 0 otherwise; *Age 38*-47=1 if the respondent is between 38 and 47 years old, 0 otherwise; *Age 48*-57=1 if the respondent is between 48 and 57 years old, 0 otherwise; *Low-Income Group*=1 if the money is either not enough for food or is enough for food, but not for clothes, 0 otherwise; *High-Income Group*=1 if money is enough for everything necessary, 0 otherwise; *Below Reference Group*=1 if the respondent is poorer than her reference group, 0 otherwise; *Above Reference Group*=1 if the respondent is richer than her reference group, 0 otherwise. Significance Levels: *p<10, ** p<5%, *** p<1%.

First, by pooling data from the three republics, we analyze the relationship between migration intentions and the perceived relative standing of the household in the reference group. As shown by the coefficient of "*Below Reference Group"* in column (1), relatively deprived households in the South Caucasus have a higher attitude to temporarily migrating abroad. However, the significant coefficient of "*Low Income: Below Reference Group"* interaction term indicates that this effect is less pronounced for the poorest households in the sample. A possible explanation for this result is that the subsistence required by the poorest households attenuate, at least in part, their concerns for relative standing in the neighborhood. Stark and Taylor (1991) illustrate a similar finding for Mexico-US migration (p. 1174). When performing the analysis by splitting the sample, we find interesting differences in the coefficient of "*Below Reference Group"* across countries. While relative deprivation is a strong driver of migration intentions in Armenia and Azerbaijan, it is non-significant when considering the Georgian sample. As already discussed in section 3, unlike the migrants in the other two republics, Georgian migrants usually opt for Western European Countries, particularly Greece, and also Turkey. As noticed by Badurashvili (2012), "a specific feature of Georgian migration is that it is largely illegal… Accordingly Georgian migrants usually rely on unofficial, and often illegal, migration industry. That is why Georgian labour migration is rather expensive… Most of them (migrants) are unable to get official work permits and work mainly in the "black" market… As a result there are no legal mechanisms to protect Georgian labour migrants when their rights are violated" (p.3). As discussed above, relative deprivation represents a strong driver of migration decision when it is perceived to be effective in improving the relative position of the household vis-à-vis the reference group. Hence, given the rather unfavorable situation of Georgian migrants in the labor markets of the host countries, temporary migration may not be a solution to improving the relative standing of the households.[9]

The coefficient of "*Above Reference Group"* indicates that if individuals are in a more favorable position vis-à-vis their reference group, they are less willing to migrate abroad. In this respect, Bhandari (2004) finds a similar result: relatively well-off households were less likely to send individuals away for work in the agricultural setting of Nepal. Interestingly, country-level analysis shows that this result does not hold for Armenia, however the sign is in the expected direction.

Regarding the other covariates, relative to average-income individuals, high-income individuals are less likely to express a willingness to out-migrate in Azerbaijan and are more likely to do so in Georgia, whereas high income has no effect on the intentions to emigrate from Armenia. This asymmetric impact across countries can be attributed to existing differences in the protection of human rights, civil liberties, and state interventions against corruption. In this

respect, Azerbaijan is in the worst situation of the three republics, followed by Armenia and Georgia. According to the Corruption Perception Index provided by Transparency International, among the three republics, Azerbaijan performed the worst between 2010–2013 (it ranked 134 in 2010, 143 in 2011, 139 in 2012, and 127 in 2013), followed by Armenia (it ranked 123 in 2010, 129 in 2011, 105 in 2012, and 94 in 2013) and Georgia (it ranked 68 in 2010, 64 in 2011, 51 in 2012, and 55 in 2013). Moreover, according to the *Freedom in the World Index* elaborated by Freedom House, since the fall of the Soviet Union, Azerbaijan has been constantly rated as a state suffering from lack of freedom, while Armenia and Georgia have been characterized as partially free. Similarly, according to the 2013 *Democracy Index* (The Economist Intelligence Unit, 2014), Georgia (country rank 78/167) has a better standing than Armenia (country rank 116/167) and Azerbaijan (country rank 140/167). In this respect, given the high level of corruption in the Azerbaijani society, high-income individuals may feel privileged, as they may have access to resources and connections that are not accessible for others. Such a "comfortable life" can result in the observed negative relationship between out-migration intention and high income. In contrast, Georgia has adopted a European stance of development since the Rose Revolution in 2003 (e.g., BBC, 2005), which recently advanced to a partnership agreement with the European Union, along with Ukraine and Moldova (BBC, 2014). Given the relatively open nature of the Georgian society, high-income individuals may be more willing (and financially able) to engage in temporary out-migration in order to acquire skills and experience in developed western countries that can be materialized into a resource for upward movement in Georgia in the future. Since Armenia is in the middle of the two countries, both forces (pushing to migrate present in Georgia and pulling to stay present in Azerbaijan) may prevail, which may result in the non-significance of the covariate. Nevertheless, we acknowledge that our explanation is not restrictive, and alternative explanations may also apply.

Interesting differences also emerge for poor individuals. In particular, the latter are marginally more willing to migrate from the South Caucasus than the reference category (average income group). However, when looking at country-level differences, we find that the effect is mainly driven by Azerbaijan, while in Armenia and Georgia the effect is not significant. In analyzing survey data from Albania, Papapanagos and Sanfey (2001) also find no relationship between migration intentions and low income. The authors explain this result in terms of the trade-off between the necessity to migrate and the corresponding prohibitive costs faced by low-income individuals. Since, the economy of Azerbaijan is relatively more developed than that of Armenia and Georgia, poor individuals in Azerbaijan may be more able to afford migration costs than those in the other two republics, which could be the reason for the significant and positive coefficient of "*Low-Income Group"* dummy for Azerbaijan.

Being male increases the intentions to temporarily migrate abroad (e.g., Papapanagos and Sanfey, 2001, Quinn, 2006; Minasyan and Hancilova, 2005). The gender effect is similar for all countries, and can be explained by cultural features in the South Caucasus, that traditionally assign to women responsibilities and duties within their families (e.g., Hofmann and Buckley, 2012, for a discussion about Georgia). Intentions to migrate abroad are pronounced for young respondents, while intentions tend to decline with age in all of the three countries. In this respect, among others, Stark and Taylor (1991), Adams (1993) and Quinn (2006) find an inverse U-shaped age-migration relationship, with individuals in their early 30s having the highest propensity to emigrate.

The civil status of the respondent also seems to play an important role in shaping the migration intentions in the pooled dataset: single individuals are more inclined to engage in temporary migration (e.g., Dermendzhieva, 2011; Mincer, 1978; De Jong, 2000). However, when looking at separate countries, we find that this result is mainly driven by the Georgian sample, while it has marginal significance in Azerbaijan and does not hold for Armenia. As previously discussed, Georgian migration is mostly illegal and directed to the western countries. Hence, Georgian respondents may perceive temporary emigration as more "adventurous" and risky which can serve as an obstacle for non-single individuals considering migrating abroad. However, this perception may not hold in Armenia and hold to a much lesser extent in Azerbaijan, as Armenian and Azerbaijani temporary migrants mostly prefer Russia as a host destination, which makes emigration less risky and much smoother at least from the legal perspective.

Respondents with a university education (either completed or not) are more likely to migrate abroad. Interestingly, the result does not hold for Armenia, though the sign is in line with what is expected. In Azerbaijan and Georgia, the relationship between education and emigration is in the spirit of the human capital theory of migration, positing that individuals with a higher education may have higher incentives to out-migrate as they will be more likely to succeed in host countries (e.g., Bauer and Zummermann, 1998). We believe that the non-significant effect of education on out-migration in Armenia can be reasonably explained by the extensive and eradicated Armenian diaspora (which is not the case for Azebraijan and Georgia). Indeed, analyzing the role of diaspora and its size on the educational structure of migration, Beine et al. (2011) illustrate that diasporas lower the average educational level of migration flows.

Households that have a family member abroad are more willing to temporarily migrate to another country, which may be due to the fact that with relatives abroad "the costs and risks of migration are lowered by social and informational networks" (Bauer and Zimmermann, 1998, p. 102). Self-reported health has a significant and positive effect on migration intentions, both for the pooled and separate samples. This can be attributed to the fact that temporary migrants from

the South Caucasus are mostly engaged in physically demanding jobs in host countries (e.g., construction, asphalting).

Interesting country-specific differences emerge for working individuals. In particular, being employed does not affect intentions to migrate abroad in Armenia, whereas it has a negative effect in Georgia and a positive effect in Azerbaijan. This variability can be attributed to differences in the working conditions across the three republics. However, we are not aware of studies that formally compare the conditions in the workplace across Armenia, Georgia, and Azerbaijan.

Regarding the effects of the geographical location on migration intentions, we find that in all three countries people living in the capital and urban areas are more willing to migrate than those located in rural areas. For other countries in transition, the relationship between migration intentions and spatial location is mixed. For instance, studying migration intentions in Kyrgyzstan, Agadjanian et al. (2008) find that respondents are more willing to migrate from Bishkek than from rural residences. On the contrary, Sandu and De Jong (1996) show that Albanian respondents living in rural areas are more willing to migrate abroad than those in urban areas.

We further conduct additional analysis to check for the robustness of our results.[10] First, our results are robust to different econometric specifications that properly account for the dichotomous nature of the dependent variable. In particular, column (1) of Table 3 reports results from a Logit model on the pooled dataset with regional dummies and robust standard errors to correct for potential heteroskedasticity. Results confirm the sign and statistical significance of the estimates from the linear probability model reported in Table 2.

Second, it may be argued that estimates are biased by potential endogeneity that is due to either omitted variables or possible reverse causality between the reported intention to temporarily migrate abroad and the two main covariates we are interested in, "*Below Reference Group"* and "*Above Reference Group*."[11] In the absence of valid and meaningful respondent-level instruments in the survey we cope with the endogeneity issue by estimating an IV model that uses heteroskedasticity-based instruments generated through the Lewbel's method (Lewbel, 2012). According to this methodology, instruments are directly constructed from the model's data by imposing the identification condition that regressors are uncorrelated with the product of heteroskedastic errors. In Table 3, we report the results of the IV model in which "*Below Reference Group"* and "*Above Reference Group"* are instrumented. As before, estimates are obtained by using robust standard errors and including regional dummies.

Table 3: Results of the Robustness Checks

	Logistic Regression		**IV model with heteroskedasticity-based instruments**	
	Estimate	**Robust Std. Error**	**Estimate**	**Robust Std. Error**
Constant	-2.285***	0.156	0.002	0.033
Capital	0.676***	0.124	0.148***	0.027
Urban	0.234***	0.036	0.050***	0.008
Male	0.407***	0.031	0.089***	0.007
Working	0.036	0.034	0.009	0.007
Low-Income Group	0.065*	0.037	0.015*	0.008
High-Income Group	-0.084	0.123	-0.025	0.027
Below Reference Group	0.370***	0.091	0.077***	0.020
Above Reference Group	-0.153***	0.052	-0.018	0.012
University	0.213***	0.035	0.045***	0.008
Single	0.088***	0.033	0.019***	0.007
Member Abroad	0.343***	0.031	0.074***	0.007
Health	0.312***	0.017	0.067***	0.004
Number of Household Members	0.039***	0.010	0.008***	0.002
AGE 18-27	1.127***	0.047	0.250***	0.010
AGE 28-37	0.881***	0.044	0.197***	0.010
AGE 38-47	0.636***	0.045	0.141***	0.010
AGE 48-57	0.378***	0.045	0.081***	0.010
Low Income: Below Reference Group	-0.335***	0.097	-0.067***	0.021
Country Dummies	Yes		Yes	
Time Dummies	Yes		Yes	
Regional Dummies	Yes		Yes	
Observations	22,501		Observations	22,501
Pseudo R-squared	0.104		R-squared	0.135
Wald χ^2 (51)	2711.90		F-Statistics	88.31
Prob.>F	0.000		Prob.> F	0.000

Note. The first column reports results from a Logistic Regression model with robust standard errors. The second column reports results from an IV model with heteroskedasticity-based instruments. Both regressions include regional fixed effects, time and country dummies. All the other remarks of Table 2 apply.

Moving to the results, standard diagnostic tests confirm the goodness of the instruments: both the Cragg-Donald (2723.617) and the Kleibergen-Paap (5268.911) Wald statistics are well above the Stock-Yogo's critical values. Moreover, the Hansen J-test rejects the null hypothesis of over-identification of all instruments (Hansen J statistic= 151.486, p=0.000). Finally, estimates of the IV model remain virtually unchanged compared to those of the Linear Probability model in Table 2. The only crucial difference is that "*Above Reference Group"* dummy loses its significance

for the pooled dataset, though it preserves the negative sign. However, for separate countries the effect of this variable is robust across different models and specifications.[12]

6. Conclusion

In this paper, we study the effect of relative deprivation on the intention of individuals in Armenia, Azerbaijan and Georgia to temporarily migrate abroad. Controlling for households' absolute income and other relevant individual and household characteristics, we illustrate that a household's relative standing vis-à-vis its reference group is an important driver of out-migration intention in the South Caucasus. In particular, respondents that perceive their household as being relatively deprived express higher willingness to temporarily migrate abroad to improve the relative standing of their households in the reference group. Moreover, we find that the concerns for relative standing loom less for the representatives of the poor households, as the latter are more concerned with subsistence issues than with relative comparisons. When performing the analysis by splitting the sample, we uncover interesting differences across the three republics. While relative deprivation is a strong driver of migration intentions in Armenia and Azerbaijan, it is non-significant when considering the Georgian sample. As discussed in the results section, temporary out-migration in Georgia may not be a way out to improve the relative standing of the migrants' household vis-à-vis the reference groups given the unfavorable situation of the Georgian migrants in the labor markets of the host countries.

Our findings may have important policy implications for those republics of the South Caucasus, where relative poverty fosters out-migration. A conjectural suggestion of our empirical exercise is that if migration is to be curbed, reducing absolute poverty alone may not be sufficient. In addition, policy makers may need to decrease relative income differentials within the country (Stark et al., 2009). In this respect, redistributive policies have the potential to influence the inclination to migrate, as "reducing income inequality in areas of origin could do as much to dampen migration as raising incomes there" (Stark et al., 2009, p. 122).

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Notes

[1] Since in-detailed discussion of neoclassical models is beyond the scope of the current paper an interested reader can refer to excellent reviews by Bauer and Zimmermann (1998), Massey et al. (1993) and Todaro (1980) among others.

[2] A recent qualitative paper by Nowicka (2014) provides empirical support for the latter assumption. She illustrates that the compatriots left in Poland do constitute a valid reference group for the Polish migrants in the UK. Moreover, the latter struggle to create a sense of positive distinction from the former.

[3] World Bank, 2012

[4] GINI index, World Bank, 2008

[5] Net number of migrants, that is, the number of immigrants minus the number of emigrants. It is expressed as thousands (United Nations, 2013).

[6] 2308 Observations coded as "Interviewer Error," "Refuse to Answer," "Break Off," "Don't Know" are excluded from the study.

[7] It is worth noting that another implicit assumption of the paper is that the reference group consists of other households situated in the same neighborhood of the respondent. There is no consensus among researchers on the definition of the reference group. For instance, according to Easterlin (1995), individuals' reference group includes the entire population in the country. Ferrer-i-Carbonell (2005) assumes that individuals' reference group is the cohort of individuals with a similar education level, inside the same age bracket, and living in the same region. Similarly, Senik (2004, 2008) considers that individuals compare themselves with their professional peers based on education, years of experience, age, gender and geographical location. Luttmer (2005) defines the reference group as individuals living in the same Public Use Microdata Area (PUMA). For Bhandari (2004) the reference group consists of households in the same geographical area in Nepal (Chitwan Valley). In the same vein, Quinn (2006) defines the reference group as individuals living in the same Mexican community.

[8] For advantages and disadvantages of linear probability models compared to Logit and Probit an interested reader can refer to Caudill (1988) and Deke (2014) among others.

[9] An alternative explanation can be that Georgian respondents are less responsive to relative concerns. This explanation is contradicted by Antinyan (2015) who illustrates that Georgians tend to express strong feelings of discontent when they perceive themselves as being relatively disadvantaged with respect to their reference group.

[10] For brevity, our robustness checks are reported for the pooled dataset, only. Results of models based on data from single countries are available upon request and provide a qualitatively similar picture across different models.

[11] Stemming from the previous empirical studies on relative income and migration, we have strong reasons to believe that causality runs from relative income to migration and not all the way round. Moreover, we are not aware of any studies illustrating that migration decision affects the relative position of the households or of studies discussing the theoretical rationale behind such a (possible) relationship.

[12] The results are available upon request.

Sommario

Il paper analizza da un punto di vista empirico la relazione esistente tra deprivazione economica relativa ed intenzione di migrare all'estero in tre paesi in via di transizione del Caucaso del Sud: Armenia, Azerbaijan e Georgia. Dopo aver controllato per il reddito assoluto ed altre dimensioni soggettive rilevanti, il paper mostra come la posizione relativa degli intervistati rispetto al loro gruppo di riferimento giochi un ruolo fondamentale nel determinare la loro intenzione di migrare all'estero. In particolare, quanto più alta è la percezione di povertà rispetto al gruppo di riferimento, tanto più alta è la disponibilità degli intervistati a migrare temporaneamente all'estero.

Abstract

This paper empirically investigates the relationship between households' relative deprivation and the intentions of their members to temporarily migrate abroad in three transition economies of the South Caucasus: Armenia, Azerbaijan and Georgia. Controlling for households' absolute income and other relevant subjective dimensions, we illustrate that households' relative position vis-à-vis their reference groups plays an important role in determining the intentions of their members to migrate abroad. Particularly, individuals are more willing to engage in temporary emigration, if they perceive themselves to be poorer than the reference group.

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