APPLIED SOCIAL RESEARCH PROGRAMME

Ascriptive Inequality and Life Chances in Georgia

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ABSTRACT

Using data from the Generations and Gender Survey for the cohorts born from 1926 to 1985 in Georgia, and the linear probability models of higher educational and ISCO 1-2 occupational attainment, I find the large ascriptive inequalities of life chances, which especially intensified for those born in 1976-85. Having parents with the lower socio-economic status, living in a family with the higher number of siblings, particularly brothers, residing in deprived regions at age 15, and selecting the non-prestigious fields of studies induced by social origin, negatively and significantly associate with life prospects. Although tertiary education serves mainly as the mediator of ascriptive factors, the latter also exert a direct effect on the occupational attainment. One of the reasons why the inequalities in life chances have increased in recent decades is the growing gap between educational expansion and occupational upgrade and the resultant inflation of credentials.

INTRODUCTION

This study aims to investigate the role of ascription in life chances in Georgia by studying associations between individuals' characteristics they have no control over and their educational and labour market outcomes. Social stratification models attribute a person' life chances to two theoretically distinctive sets of factors: ascription and achievement. The role of achievement in life chances is usually studied by the contribution of individuals' ability, merits and effort in their educational and occupation attainment; whereas ascriptive factors are typically examined with reference to the effects of social origin in life chances (Bian, 2002). Ascribed characteristics are not limited to parental education and occupation, they also include aspects of personality, such as gender, ethnicity, settlement, and family structure, which are assigned at birth or assumed involuntarily later in life. If life chances primarily depend on ascribed factors rather than achieved ones, they cannot be considered as earned or chosen and therefore are inherently unfair. The dominance of ascription over achievement is a significant social problem, and the decades of social stratification literature has done much to improve our understanding of ascribed inequalities. Although monetary inequalities have been relatively well researched (Yemtsov, 2001, World Bank, 2009), only a limited number of studies exist on ascriptive stratification and its evolvement over time in Georgia (Rosati et al., 2006, Chankseliani, 2012, Roberts and Pollock, 2009).

The purpose of this study is to produce a tentative account of the main ascriptive vectors affecting social stratification in Georgia, as well as contribute to existing theoretical scholarship in the field. I will seek to answer two main research questions: (1) How is ascription associated with attainment of higher education? (2) How is ascription associated with the attainment of prestigious occupations? Along with an increasingly popular research on the role of the first few years on children's later life chances (Heckman, 2011), one of the most important areas of stratification literature are studies on the antecedents of success in educational and occupational outcomes. Cumulative advantage is a valuable framework for understanding ascriptive inequalities across individuals' life course in which a favourable relative starting position becomes a resource that produces further relative gains (DiPrete and Eirich, 2006). In other words, ascription might contribute to occupational attainment via affecting individuals performance in primary, secondary and tertiary educational institutions. Therefore to understand the role of ascription vs. achievement, it is necessary to account links between education and ascription while studying the effect of education on labour market outcomes. On the other hand, inequalities in life chances might be generated independently from the educational attainment by the direct effects of ascriptive factors on occupational attainment. Which type of stratification machine and which part of its mechanism – higher educational institutions or labour markets – are predominant in a given society is an open question, particularly in the dynamic societies such as Georgia.

To address the research questions rigorously, covering the early and mature Soviet era and, most importantly, the developments in the independent Georgia, I employ, to my knowledge, the most suitable data from the Generations and Gender Survey. In the next
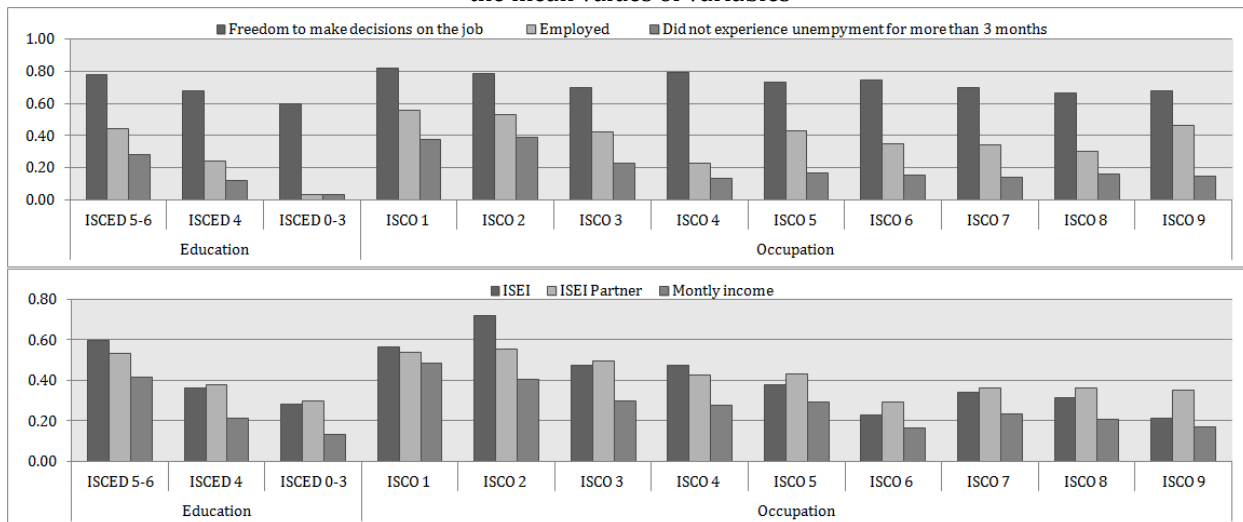
section, I empirically validate my selection of two dependent variables – higher education and service class occupation – as good proxies for life chances in Georgia. Before making any decisions, I test the selected variables against a numerous welfare indicators such as labour market performance, social status, family incomes and the subjective satisfaction with life, job, and health status. Simultaneously, it is well known that not only ascription affects educational and occupational performance but its nature is strongly determined by the developments in educational level and occupational structures. Therefore, before testing the degree and trends in ascriptive inequalities, I review long-term trends in educational and occupational upgrade and its possible implications for life chances. In the multivariate analysis of the study, I test 5 hypotheses which were possible to propose considering the data restrictions. I pay a particular attention to social origin as the main source of ascriptive inequalities and analyse its changing role starting from a cohort born in 1926-30 and ending with a cohort born in 1981-85. The analysis also shows that, net of social origin, selected field of studies, place of residence, and family characteristics (at age 15) all affect the higher education attainment and also have both a direct and an indirect effect on service class destination. In the last section, I summarise the findings and discuss their implications to policy realm.

EDUCATION, OCCUPATION AND LIFE CHANCES

Life chances can be understood as the chances an individual has or a group of individuals have of gaining access to scarce and socially valued resources (Breen, 2005). In order to understand how life chances are affected by ascription in Georgia, the first step of the analysis should be the identification of relevant, validated and measurable indicators of individuals' success in life. One of the most appropriate frameworks seems to be a Weberian approach in which a group-based situation provides to individuals with related education and occupations 'shared typical probability of procuring goods, gaining a position in life, and finding inner satisfaction' (Weber, 1978). In other words, members of a group must share common life chances. The decades of social stratification literature has convincingly proved the relevance of education and occupation as the major channels to life chances in industrial and post-industrial countries (Müller and Shavit, 1998). In a modern, meritocratic society education serves as an antecedent of occupational placement, while education itself is largely determined by social origin. However, after the 1990s, some prominent sociologist began to claim that traditional labour market-related stratification was losing its relevance (Pakulski and Waters, 1996). This approach assumed that welfare was becoming a more transient phenomenon associated with particular events and stages in individual lives (Andreß and Schulte, 1998). Nevertheless, the review of evidence showed that proposed hypothesis was based on a selective reading of the empirical literature (Hout et al., 1993). The relevance of education and occupational structure has been shown to affect welfare outcomes in western European (Layte and Whelan, 2002) as well as in some post-socialist (Gugushvili, 2011) societies.

Educational segregation is straightforward and almost always can be operationalised by the limited categories of an ordinal variable consisting of primary, secondary and tertiary education. More elaborate are various occupation-based classifications such as Erikson-Goldthrope class schema (EGP), International Socio-Economic Index of Occupational Status (ISEI), the European Socio-economic Classification (ESeC), and various other schemas. These occupational measures share many similarities but they are also characterised by conceptual differences. Considering the tradeoffs between the simplicity and analytical sophistication of the current analysis and the availability and reliability of appropriate datasets, I select ISCED 5-6 (higher education more precisely) and ISCO 1-2 (service class occupation) attainment as the main dependent variables of the study. To demonstrate the relevance of higher educational and occupational service class job attainment for various measure of life chances I use descriptive statistics for objective and subjective welfare indicators. The datasets which I use here are the first wave of the Life in Transition Survey for 2006 (EBRD, 2006) conducted by the European Bank for Reconstruction and Development and the fourth wave of the European Values Studies for 2008 by the University of Tilburg (EVS, 2010). The detailed description of the major dataset of this study, Generations and Gender Survey, is presented in the section of research design. For now it is suffice to mention that the employed datasets in this section are nationally representative surveys which means that derived results can be generalised to the total population of Georgia, excluding territories of Abkhazia and South Ossetia.

Figure 1: Educational and occupational structure and various welfare indicators, the mean values of variables
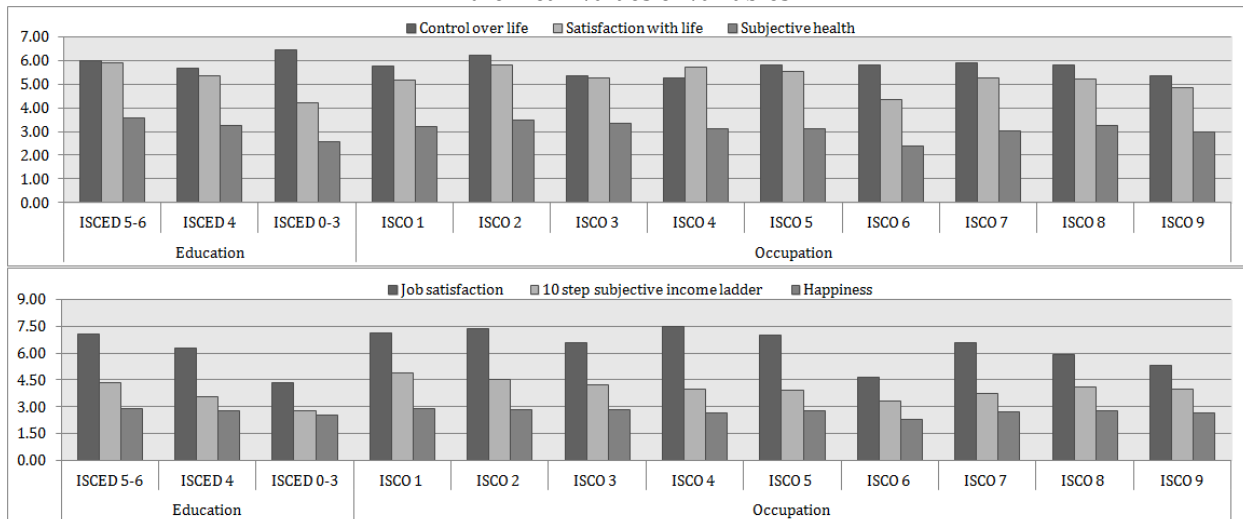

Notes: ISCED 0-3=Pre-primary , primary level, lower secondary and upper secondary education; ISCED 4= Post secondary non-tertiary education; ISCED 5-6=First and second stage of tertiary education; ISCO 1=Legislators, senior officials and managers; ISCO 2=Professionals; ISCO 3=Technicians and associate professionals; ISCO 4=Clerks; ISCO 5=Service workers and shop and market sales workers; ISCO 6=Skill agricultural and fishery workers; ISCO 7=Craft and related workers; ISCO 8=Plant and machine operators and assemblers; ISCO 9=Elementary occupations. The values of the variables are standardised to simplify visualisation and comparison. *Source:* Author's calculation based on data from the European Values Studies (EVS, 2010) and Life in Transition Survey (EBRD, 2006)

Figure 1 presents how the level of education and different occupational codes associate with various labour market outcomes, occupational prestige, and objective incomes. There is a clear association between higher educational attainment, belonging to ISCO 1 or 2

occupational groups and experiencing much better chances of being employed. The higher chances of employment are also observed for ISCO 9 (elementary occupations) and ISCO 5 (service and sales workers) occupational group. Individuals with higher education and service class job have substantial advantage in terms of avoiding more than 3 months of unemployment experience. More educated and ISCO 1-2 individuals report the higher levels of freedom to make decisions on the job. Occupational prestige scores, measured by the ISEI[1] (Ganzeboom et al., 1992), are much higher for highly educated and for those with jobs in professional occupations. Interestingly individuals in ISCO 2 group supersede those in ISCO 1 in the mean value of prestige. The bars in the diagram also show ISEI scores for the respondents' partners. The association between these two variables is very high (Pearson's correlation=.93) which indicates on strong educational and occupational homogamy in Georgia. In other words, this means that marriage/partnership occurs between individuals who are, in some culturally important way, similar to each other. This is in line with the internationally observed trends on homogamy (Kalmijn, 1998). Furthermore, the households of respondents' with higher education and service class occupation have substantially higher monthly incomes than all other groups of households.

Figure 2: Educational and occupational structure and various welfare indicators, the mean values of variables

Notes: ISCED 0-3=Pre-primary , primary level, lower secondary and upper secondary education; ISCED 4= Post secondary non-tertiary education; ISCED 5-6=First and second stage of tertiary education; ISCO 1=Legislators, senior officials and managers; ISCO 2=Professionals; ISCO 3=Technicians and associate professionals; ISCO 4=Clerks; ISCO 5=Service workers and shop and market sales workers; ISCO 6=Skill agricultural and fishery workers; ISCO 7=Craft and related workers; ISCO 8=Plant and machine operators and assemblers; ISCO 9=Elementary occupations. The values of the variables are standardised to simplify visualisation and comparison. *Source:* Author's calculation based on data from the European Values Studies (EVS, 2010) and Life in Transition Survey (EBRD, 2006)

Figure 2 shows subjective assessment of various aspects of respondents lives such as control over life, life satisfaction, happiness, job satisfaction, subjective income ladder, and health status. Respondents with higher education tend to declare high control over their lives but surprisingly the least educated report the highest control. The same applies to the

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[1] It has to be mentioned that original ISEI schema is partially derived from ISCO codes, along with information on education and incomes, therefore strong association between ISCO codes and ISEI scores is expected.

distribution of answers for occupations. Although ISCO 2 respondents report the highest control, ISCO 6, 7 and 8 all have equally higher declared control of their lives. This is surprising because the earlier research has shown that people in Georgia are more likely to attribute deprivation to structural and fatalistic explanations (Habibov, 2011) and therefore are not expected to declare high control over their lives. On the other hand, better educated people have the higher life satisfaction, but there is no clear trend for occupations. ISCO 2 group again reports the highest scores but ISCO 1 is superseded by ISCO 7 and 8 occupations. Perhaps stress and hard work associated with the better positions deflate life satisfaction of more privileged individuals. Subjective health assessment is highest among most educated and professionals, but technicians and plant and machine operators also report high level of health. Although better educated people are more likely to be satisfied with their jobs, clerks express the highest satisfaction along with legislators, senior officials, managers and professionals. Figure 2 also shows how respondents' education and occupation attainment associates with subjective distribution on incomes. ISCED 5-6 and ISCO 1-2 groups report highest subjective income status. Last but not least, more advantaged educational and occupational groups show the marginally higher happiness levels.

All in all, this section has revealed that higher education and service class occupations are central for better life chances in Georgia. It is especially manifested in objective labour market indicators such as employment probability, the avoidance of unemployment for more than 3 months, the occupational prestige of respondents and their partners, and the respondents households' incomes. The difference between high and low educational and occupational groups are less pronounced for subjective assessment of labour market position and general assessment of wellbeing. One of the reasons why subjective indicators show less variation might be that humans are characterised by optimism bias. This means that they tend to overestimate their prospects for healthy life and success on the labour market (Sharot et al., 2007). Similarly respondents in the lower categories of educational and occupational attainment might also underestimate their deprivation but real inequalities are visible in objective measures of wellbeing. Since in this study I am primarily concerned with actual behaviours, conditions, or choices, rather than opinions, perceptions, or preferences, it is reasonable to downgrade the importance of the subjective assessment of wellbeing in studying the ascriptive factors in life chances in Georgia. The relevance of higher education and service class for social stratification is clear, while in the following section I formulate several testable hypotheses how ascription affects the level of individuals' education and occupational attainment.

ASCRIPTION AND LIFE CHANCES – 5 HYPOTHESES

Life chances, operationalised with educational and occupational attainment, can be literally affected by the myriad of ascriptive and achieved factors. Research demonstrates that genetics (Guo, 2005), cognitive skills (Heckman et al., 2006), non-cognitive traits and behaviours (Farkas, 2003), the nature of neighbourhoods (Harding et al., 2010), the

socioeconomic composition of educational institutions (Crosnoe, 2009), the quality of tutors (Jennings and DiPrete, 2010), all have strong effect on educational performance. Although I am not able and neither intend to analyse all these circumstances in the present study, the listed factors are expected to affect life chances in Georgia. What is more relevant and feasible to investigate is the effect of ascription from social origin in life chances. The strong links between social background and educational attainment is one of the most consistent findings in sociology (Hout and DiPrete, 2006) and economics (Carneiro et al., Forthcoming), but, to my knowledge, so far these links have not been rigorously investigated in Georgia. Although within households analysis shows that young people with educated parents are more likely to be in school than young people with less-educated parents (Rosati et al., 2006), while the recent Pisa 2009 Plus results reveal that among Georgian adolescents, the relationship between socioeconomic status and reading performance was slightly weaker than for the OECD countries, on average (Walker, 2011), less is known how educational attainment overall is defined by social background. Based on educational stratification research on former socialist societies (Gerber and Hout, 1995, Iannelli, 2002), I hypothesise that social origin is the strong predictor of educational attainment in Soviet and post-Soviet Georgia.
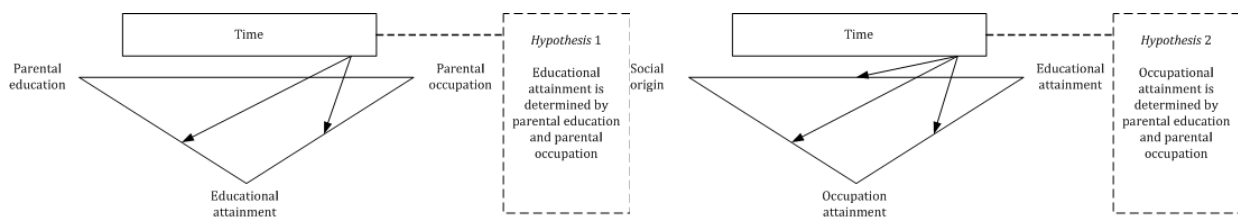
Existing studies on Georgia indicate that the attained education affects earnings in private and public sector (World Bank, 2009), but the analysis of the Government of Georgia (2011) has also shown that the market wage level is determined mostly by factors other than years of schooling. As we have seen in the previous section there is a strong correlation between earnings and occupational placement, therefore it is reasonable to expect that attained occupations is affected by the level of education but is not limited to it. Literature on transitional societies show direct and indirect effect of social background on occupational attainment. In Ukraine higher educational institutions are more selective in terms of students' social background than post-secondary vocational schools and colleges, and lead to the better labour market positions (Gebel and Kogan, 2011). The analysis of labour market entry of tertiary graduates in the Central and Eastern European countries, finds that differences in degree level is indeed crucial for respondents' occupational status (Noelke et al., Forthcoming). For Georgia I am aware of only a handful of studies on links between social origin and occupational attainment. Roberts et al. (2000) argues that although some of the elite families in 1990s realised that their children's post-secondary studies had been devalued by the inflation of education, the family connections apparently still remained important for career advances. Among other means, individuals through their well-connected parents might benefit because of the job information they receive through family social ties (Mouw, 2003). Rosati et al. (2006) also shows that within families the education of the household head improves the employment chances of young people, as almost 40 percent of working age children of educated parents are in wage work,

compared to only 13 percent of same age children of uneducated parents. I expect that social background, net of respondents' own education, affect occupational destination and this effect intensified in the independent Georgia.

The extensive social stratification research unequivocally indicates that social origin is one the most important determinants of individuals' life chances, but parental status might have some indirect effect on occupational attainment. Rather than simply affecting the level of attained education, social origin might determine the selection of specific types of education. It is known that students from disadvantaged families are more likely to attend less prestigious educational institutions but social origin effect is small, net of academic factors (Alexander et al., 1987). At the same time, children from more advantaged households are more likely to enter profitable fields within selective universities (Davies and Guppy, 1997). The children of economic and cultural elite select the fields of specialisation through which they are able to reproduce their family capital. In the Netherlands the cultural capital made the selection of general and economic fields least and the selection of cultural fields the most likely (Van de Werfhorst et al., 2001). Parents are also likely to provide their children with critical information for success in their own field of study as well as in the labour market of the particular field. As we will see later in this text, educational expansion most likely deflated credentials received from the institutions of higher education in Georgia, but the quality of education of an employee matters the most for the employment opportunities (Government of Georgia, 2011). Not much is known about particular fields of studies which possibly maintained their labour market advantages. If such fields do exist then it is reasonable to expect that students from more affluent families tend to choose these specific fields of studies which in turn are associated with better occupational outcomes.
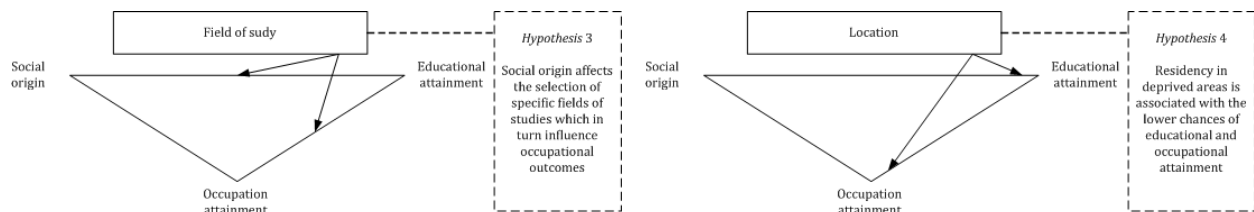
In addition to measuring the role of social origin on educational and occupational attainment, this study also identifies other ascriptive factors which have been shown to affect life chances in social stratification literature. The available dataset (discussed in details in the following section) allows to test the importance of geographic location and family structures on life chances. For the Russian Federation Wegren et al. (2006) find that if during communism rural social mobility was primarily upward, in the post-Soviet period life chances in rural areas are defined by increasing income differentiation and inequality. Chankseliani's (2012) recent study shows that location does matter for educational attainment in Georgia. Secondary school graduates from rural areas tend to have lower odds of gaining higher education admission, enjoy fewer chances of obtaining state tuition grant, and are unlikely to enter the most prestigious universities. Whether or not these inequalities are the recent development or diminished after controlling for social origin remains to be seen. Substantial differences in terms of poverty and inequality levels among various Georgian regions (Working Group on Poverty Reduction and Employment, 2009)

could be one reason why life chances are more restricted in the poorer rural locations as the lower equality of opportunities has been linked to higher inequality levels in micro (Binder and Woodruff, 2002) and macro (Andrews and Leigh, 2009) studies. It is problematic to have the accurate historical data on the levels of socio-economic deprivation for various regions of Georgia, but it must be plausible expectation that the current levels of deprivation are the result of long-term developments. Last but not least, it is well known that national minorities in the regions of Kvemo Kartli and Samtskhe-Javakheti are poorly integrated into the socio-economic and political life of the country (Wheatley, 2009) which could be manifested in the fewer life chances through educational and occupational attainment in these regions.
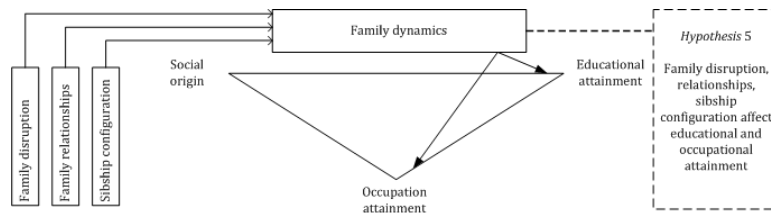
One additional dimension, which is both relevant and measurable within the existing data constraints, is the effect of family dynamics on life chances. In addition to social and geographic origin, it is possible to test the effect of the family-related characteristics because individuals cannot control their family traits such as presence of biological parents, the quality of family relationships, and sibship configuration. It can be speculated that social origin itself is linked to the family dynamics, but if the later, net of social origin, has statistically significant effect on educational and occupational attainment then this will be just another ascriptive dimension affecting life chances. Research had indicated that an important factor for children's performance at higher educational is the quality of relationships within a family. In America children from families where parents tend to enjoy more supportive and less conflicting relationships with their children are overrepresented among college graduates (Tinto, 1975). To the contrary, it has been demonstrated that children of divorced parents, along with other negative consequences such as lower levels of psychological well-being, more problems in their own relationship, the greater risk of experiencing divorce, also tend to less educated (Amato, 2010). Furthermore, it is the well-established that inverse relationship between the number of siblings and children's educational performance does exist. The prime explanation of this tendency is resource dilution theory according to which parents have finite levels of time, energy, money, and other resources and that these resources are diluted per child as the size of sibship increases (Downey, 1995). Last but not least, sex composition of the sibling group also might have an impact on life chances. One of the hypothesis for this is 'liability of having brothers' – for both boys and girls – which explains the negative effect of brothers on educational attainment to the differences in normative climates that exist in households with vs. without boys. Children who tend to have sisters are more likely to face an environment in which academic success is a norm and expected (Steelman et al., 2002). These relationships, to my knowledge, have not been yet tested in Georgia.

RESEARCH DESIGN

To understand the long term developments in educational and occupational attainment, this section utilises the data from the Generations and Gender Survey (GGS) by the United Nations Economic Commission for Europe (UNECE, 2012).[2] The data was collected by the Georgian Centre of Population Research (GCPR) in 2006 from the entire territory of Georgia except of the areas that were not covered by the population census of 2002 (Badurashvili, 2012). The GGS is a national representative survey, and the required information for our analysis was gathered via retrospective questions on a person's current and childhood circumstances. The dataset for Georgia includes 10,000 observations, and is much more convenient to analyse the long term trends of ascription's effects in life chances than any alternative datasets such as the LITS (EBRD, 2006) and EVS (EVS, 2010), both of which contain information on social origin but have the extremely limited sample sizes. The large sample of the GGS allows making statistically reliable estimations of changes in social stratification over the course of the century for both gender groups.

Dependent and independent variables

GGS provides information on completed education codes of International Standard Classification of Education (ISCED) for respondents and their parents, in which ISCED 0=pre-primary education, ISCED 1=primary level, ISCED 2=lower secondary level, ISCED 3=upper secondary level, ISCED 4=post secondary non-tertiary, ISCED 5=first stage of tertiary education, ISCED 6=second stage of tertiary education. For the multivariate analysis the dependent variable combines the first and the second stages of tertiary education in a single dummy variable. Occupational structure in GGS is given through 4-digit International Standard Classification of Occupations (ISCO-88) which is also applied to respondents and their parents. I reduce ISCO codes into 1 digit occupation groups in which ISCO 1=legislators, senior officials and managers, ISCO 2=professionals, ISCO 3=technicians and associate professionals, ISCO 4=clerks, ISCO 5=service workers and shop and market sales workers, ISCO 6=skill agricultural and fishery workers, ISCO 7=craft and related workers, ISCO 8=plant and machine operators and assemblers, ISCO 9=elementary occupations. In the dependent variable ISCO 1 and 2 groups are combined. Information of the main subject of studies of respondents is also given in ISCO codes which I group in the following 11 subjects of studies: (1) physical, mathematical and computing science fields; (2) architectural and engineering fields; (3) life science and health related fields; (4) teaching fields; (5) other professional fields; (6) social science fields; (7) physical and engineering science associate fields; (8) life science and health associate fields; (9) teaching and other associate fields; (10) clerical and service related fields; (11) craft, trade, plant and machinery professions.

In order to address the hypothesis on the regional and rural-urban ascription on life chances, I utilise information on the residence of respondents at age 15. Dummy variable for the following regions are created: Tbilisi, Kvemo-Kartli, Shida-Kartli, Adjara, Guria,

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[2] The next section described data in more details.

Racha-Lechkhumi and Kvemo Svaneti, Samegrelo and Zemo Svaneti, Imereti, Kakheti, Mtckheta-Mtianeti, and Samtckhe-Javakheti. For the urban-rural divide the current settlement type is employed. This is done because information on rural-urban divide is not available at birth or at respondents' age of 15. To distinguish regional differences in rural-urban divide dummies for region * settlement type are created. For the assessment of the family dynamics on life chances four variables are created. First, dummy variable equals 1 if respondents did not live with both biological parents at age 15. Second, family environment is also assessed by a question on the quality of relationships with parents until age 15. Answers options vary from 0=really bad relationships to 10=absolutely perfect relationships. Last but not least, the role of ascription in life chances is also tested by estimating the effect of sibling size and sibling composition. For sibling size dummy variables are created for having one, two, three, four, five, more than five, or not having siblings at all, while for siblings gender composition 12 dummy variables are created for all possible combination of brothers and sisters. For parental education and occupation I use the dominance approach which means that if parents have different levels of education and types of occupation, the higher level educational or occupational position is assigned to the respondents' parents (Erikson, 1984).

Methods

The described variables are used to estimate the role of ascription in Georgia over the course of a century. For the descriptive purposes I present the changing patterns of the level of education and occupational structure. To expand the available timeframe of the analysis the respondents' answers on their parents educational and occupational attainment along with their birth dates are used for cohorts born before 1931-35. For the later cohorts the respondents' own education is utilised. It has to be emphasised that this approach gives a depth of historical account which most likely has never done before in Georgia, but at the same time the selected method is not without its shortcomings. Two major problems might stem from biased recall and various mortality rates of respondents based on their social-economic status. Nevertheless, we make an assumption that both of those errors are randomly distributed among the respondents. The questions actually utilised concern actual behaviours, situations, or choices, rather than opinions, preferences, or views. Obviously, the problems with accurate reporting from memory are expected to occur but unless these effects stem from a selected group and simultaneously imply over- or underestimation, they are less problematic. The existing research into the quality of retrospective information confirms that reporting errors are more or less randomly distributed across various groups (Kraaykamp, 2003). Associative analysis between attained education and occupation and social origin is conducted on the yearly basis as sample allows for the most of years to have sufficiently large number of observations to derive statistically meaningful calculations.

To estimate overtime changes in the ascriptive inequality in life chances in multivariate settings, two separate approaches are used. First of all, I create 5-year dummy variables for 12 cohorts, starting from 1926-30 and ending in 1980-85. I interact these dummy variables with social origin indicators for educational attainment models and with respondent own

attainment for occupational attainment models and include them in regressions. The reference category I use is the cohort of 1966-70, which can be regarded as the period of mature communism. The comparison with this base category allows us to see how the ascription in life chances has been changing in communism and during the transition. After measuring the role of social origin on life chances, I also test the overtime changes in different components of ascription by simply limiting models for people born in 10-year periods and comparing results across the models. Given the importance of social origin for educational attainment, as well as the central role of own education for service class destination, these variables are controlled when testing other hypothesised factors. I employ linear probability models using ordinary least square regressions (OLS) to explore how the hypotheses independent variables associate with the dependent variables. Coefficients from linear probability models are almost similar to marginal effects for logistic regressions, but the former are easier to estimate and interpret (Bernardi and Cebolla, 2011). For the selection of the field of studies I use multinomial logistic regressions due to the ordinal form of the created dependent variable. To account for heteroskedasticity in regressions robust standard errors are estimated (Cameron and Trivedi, 2009), but because space constrains they are not shown in presented tables and figures.

EDUCATIONAL AND OCCUPATIONAL UPGRADE

Before I test the outlined hypotheses on the role of ascription in life chances in Georgia, some preliminary clues can be derived from the review of trends in educational and occupation upgrade. The structural changes have direct impact on ascriptive inequality because changes in the educational system, the overall level of education in population as well as labour market conditions affect the pattern of matching of labour force and available jobs (Gerber, 2002). In normal conditions, educational upgrade should be associated with the corresponding expansion of high quality jobs on the labour market, which can be described as meritocratic, achievement-based process. On the other hand, if the number of well qualified individuals is higher than the appropriate number of jobs then this leaves more space for ascription in stratification process.

The inflation of credentials

Figure 1 clearly shows educational upgrade in Georgia for both gender groups over the course of the 20th century. People with only pre-primary and primary levels of education virtually disappear for the cohorts born after the Second World War. Before this period women tend to be overrepresented among the least and underrepresented among the most educated. The gender balance only equalised for cohorts born after 1961-65, although it again increased for the latest generation. The trend for the last two cohorts indicates on the substantial expansion of tertiary education as well as lower secondary level of education on the expanse of the reduction in post-secondary non-tertiary levels of education.

Interestingly women's share with post secondary non-tertiary education decreased more rapidly than for men This is in line with the official statistics on the substantial decline of people with vocational education after 1989 (Branco, 2010). The share of individuals with primary and pre-primary education among population apparently increased more than twice in comparison to the previous cohort. Overall, females are characterised with the higher levels of education because they are more likely to have post secondary non-tertiary education, while men are much more likely to quit their education at upper secondary level.

The implication of educational expansion on the equality of access of education is ambiguous. On the one hand, new positions in higher educational institutions might create greater opportunities for all social groups, but on the other hand, in line with the maximally maintained inequality hypothesis (Raftery and Hout, 1993), the expansion first and the foremost would affect those students who come from the families with higher socioeconomic status but could not qualify for a university degree without such an expansion. Furthermore, in theory more educated labour force should lead to better welfare outcomes, but this is likely to happen when the restructuring of education is associated with the corresponding development on labour market. It is well recognised that the inflation of credentials occurs when educational upgrading is more intense than occupational upgrading (Wolbers et al., 2001). The nature of credentials' inflation is that education becomes essential but not a sufficient factor for labour market success. What it means is that those who are low educated have to compete with the higher educated individuals for the same jobs. In a competitive market employers must prefer those candidates with the higher formal educational credentials. However much will depend on the structure of the labour market, which is reviewed in the next subsection.

Figure 3: The educational expansion for the cohorts born from 1890 to 1980, the relative share of occupations
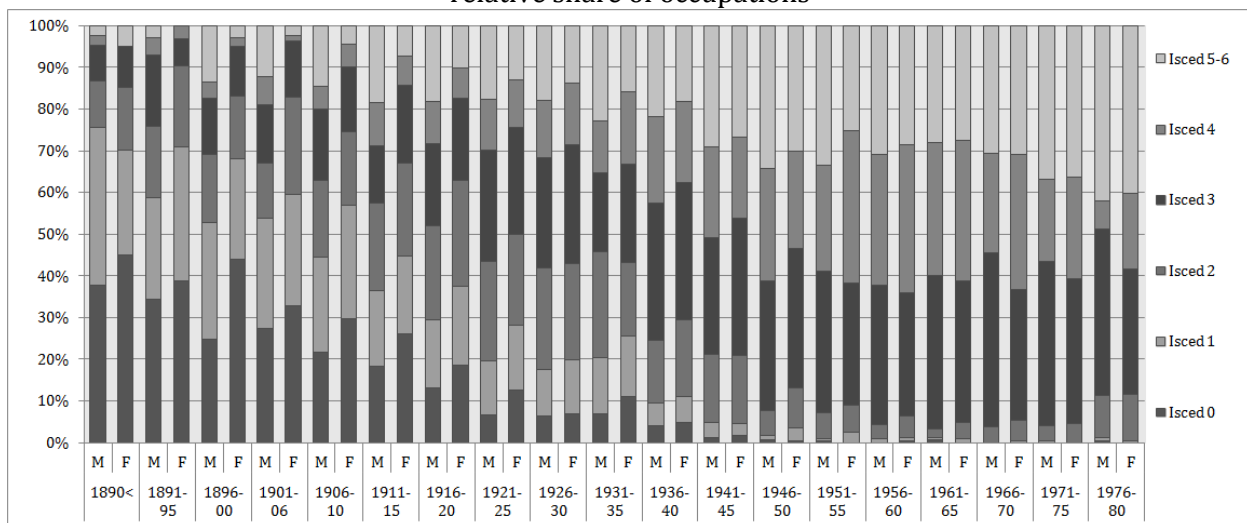
Notes: ISCED 0=Pre-primary education; ISCED 1=Primary level; ISCED 2=Lower secondary level; ISCED 3=Upper secondary level; ISCED 4: Post secondary non-tertiary; ISCED 5=First and second stage of tertiary. To define educational structure for cohorts born before 1931-35, the respondents' answers on their parents educational attainment are used, for the later cohorts the respondents' own education is utilized.
Source: Author's calculation based on data from UNECE (2012)

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The rigidness of occupational structure

Figure 2 presents development of occupational structure of labour market in Georgia for the cohorts born from 1890 to 1980. Several characteristics are outstanding in the observed trends. There is a clear trend of decreasing share of elementary occupations in the overall distribution of jobs. If for cohorts born before 20th century, elementary occupations, which encompass basic jobs in sales and services as well as labourers in mining, construction, manufacturing, transport, agriculture, fishery and related spheres, provided more than 40 percent of all available jobs, its share decreased to less than 10 percent for the post-Second World War generations. On the other hand, the expansion has been taking place for service related occupations during the Russian Empire, the Soviet Union and in the independent Georgia. It generally considered that a higher share of service occupations, in which females are overrepresented, is an indication of economic development. Along with the industrialisation process, the relative size of plant and machine operators and assemblers has been also increasing for the most part of last century but started to shrink for the cohorts born after 1960s. In both of these sets of occupations males are expectedly overrepresented. Figure 2 also shows that the share of legislators, senior official, managers and professionals has not been significantly changing from the beginning of 20th century. Professional occupations, in relative size, experienced only a marginal growth in the second half of the twentieth century. Nevertheless, significant upgrade among females is observed in the same period. For the latest cohort, more than 35 percent of economically active females report to belong to one of the occupations listed under ISCO 2 code.

Figure 4: The development of occupational structure across gender for the cohorts born from1890 to 1980, the relative share of occupations
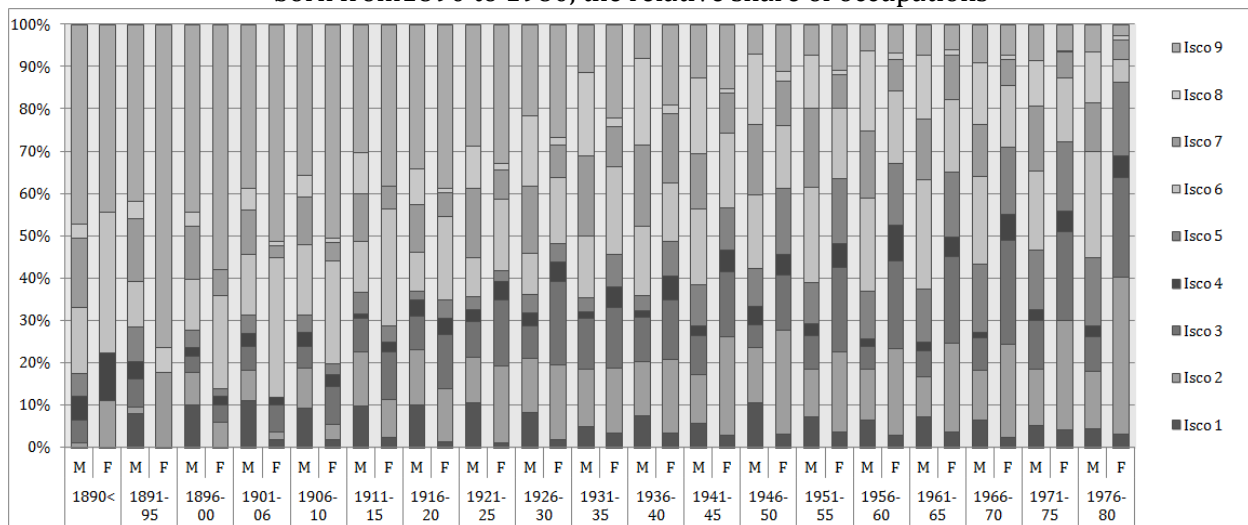
Notes: ISCO 1=Legislators, senior officials and managers; ISCO 2=Professionals; ISCO 3=Technicians and associate professionals; ISCO 4=Clerks; ISCO 5=Service workers and shop and market sales workers; ISCO 6=Skill agricultural and fishery workers; ISCO 7=Craft and related workers; ISCO 8=Plant and machine operators and assemblers; ISCO 9=Elementary occupations. To define occupational structure for cohorts born before 1931-35, respondents' answers on their parents occupational belonging are used, for the later cohorts respondents own occupations are utilized. *Source:* Author's calculation based on data from UNECE (2012)

The comparison of the trends in educational and occupational upgrade allows us to make several conclusions. Although educational and occupational upgrade throughout the past century has been taking place, the educational expansions after 1970s did not associate with corresponding upgrade in occupational structure, particularly in legislative, senior official and managerial and professionals occupations. Interestingly, the relative share of females in professional occupations has dramatically increased by 10 percentage points. This large growth can be attributed to the fact that the relative share of females who report in the survey their occupational status decreased much more substantially (from 75.0 in 1966-70 to 43.2 percent in 1976-80) than the same share of males (from 96.9 in 1966-70 to 77.1 percent in 1976-80). This means that more females are restricted in their chances to enter labour market, but if they do, their have higher chances to end in ISCO 1-2 occupations. A very few females can be found among skill agricultural, fishery, craft and related workers. To summarise, it can be assumed that educational expansion outperformed occupational upgrading in the recent decades which leads to the inflation of credentials. Already for the cohorts born during and after of the Second World War labour market was not able to accommodate all higher educated individuals in ISCO 1 and 2 occupations. The intense inflation of credentials most likely occurred for cohorts born since the end of the 70s when the higher education expanded while ISCO 1 and 2 jobs did not. For the latest cohort for which the data is available more than 40 percent of males have higher education, while the share of jobs in 'legislators, senior officials and managers and professionals' is less than 20 percent. It is clear that higher education became increasingly accessible to youth, but at the same time educational credentials do not at all guarantee access to the high quality jobs.

Social origin and educational and occupational attainment

In order to understand what are the links in the changing educational and occupational context between attained education and occupation one the one hand, and the main ascriptive factor such as social origin, one the other, I regress respondents' ISCED 5-6 and ISCO 1-2 on parental education and occupation, respectively. Regressions are run for every respondents' birth year, starting from 1926 and ending in 1983, overall amounting to 58 separate yearly regressions. Figure 5 illustrates the OLS coefficients from these calculations the absolute majority of which are statistically significant. Before 1940s associations between parental education and education attainment was not conclusive, but for males these association were slightly higher than for females. The relationship stabilised for those born in 1950s when the rates of associations for males and females came close to each other. Although, the higher ascription is already obvious in the 1960s and the beginning of 1970, the increased educational inequalities become much higher after 1973. This period coincides with a generation that had to make crucial educational decisions during the first years of transition. Indeed, the highest association between parents and their offspring education is observed for those born in 1981 who had to enter the decisive period for their life chances in the beginning of 1990s. Ongoing military confrontations, thousands of internationally displaced people, as well as drastic reduction educational expenditure and other public services had to affect educational performance of children. However,

increased association between children and their parents educational attainment indicates that not everyone had the same opportunities. Children with better educated parents were much more likely to still attain higher education.

Figure 5: The attainment of higher education (ISCED 5-6) and service class job (ISCO 1-2) conditional to parental education and occupation, regression coefficients from linear probability models after OLS
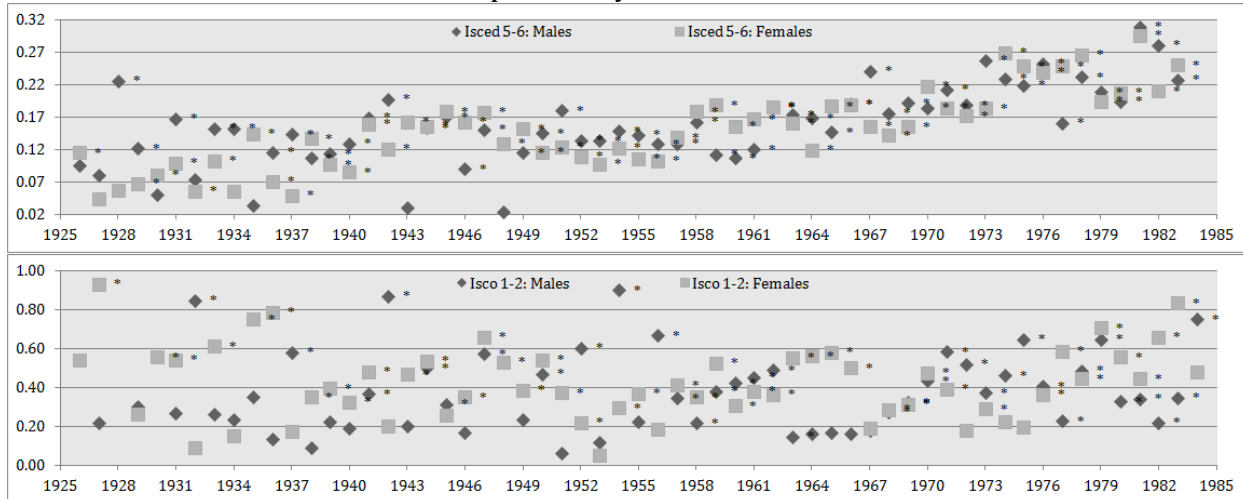
Notes: * denotes statistical significance at the 0.10 level or higher. Separate regressions are run for each year, with no controls. *Source:* Author's calculation based on data from the Generations and Gender Survey (UNECE, 2012)

The apparent fact that parental education became more important for offspring higher education attainment does not say much whether or not the attained occupational statues became more dependent on social origin. Figure 5 shows associations between respondents service class destination and their parents' service class membership. Unlike the educational graph, we observe a less clear trend over the course of the 20th century. Regression coefficients between parental and respondents' social class increased for the cohort of 1940s. The same trend was also seen for the higher educational attainment. One of the explanations for this could be the Second World War. It might the case that during the war people with higher occupational status were more likely to avoid a direct engagement in battles and therefore had the higher chances of survival and successful breeding. If people with higher social status were more likely to have children it also could alter patterns of ascribed inequality. Towards the end of 1940s and the first half of 1950s, the regression coefficients decline, but they increase again in 1970s, especially for females. Unlike the graph on education, the trends of ascription in occupational attainment is less clear-cut. One of the reasons why educational and occupational attainment differ from each other is that the former is a process which lasts much longer than the latter. Changes in structural conditions could be reflected much later in occupational attainment than for educational sphere. Another explanation could be that inequalities increased only for educational attainment, but because of the growth in returns to higher education, destination position in labour market became more likely to be earned through education than this was previously the case. These speculations are dealt more rigorously in the preceding multivariate analysis.

MULTIVARIATE ANALYSIS OF ASCRIPTIVE INEQUALITY

I start multivariate analysis by testing the links between social origin and respondents' educational and occupational attainment. This is followed by assessment of the consequences on life chances stemming from other hypothesised ascribed characteristics, net of social origin. In each set of calculations, when respondents attainment of higher educational is studied, parental education and occupation, as the major source of ascription, is controlled for. In models with service class attainment as the dependent variable respondents' own education is also included in the regressions.

Parental education and occupation

Table 1 shows the output from the linear probability models in which gender and age of respondents are fixed. Expectedly parents' socio-economic status strongly correlates with the respondents' educational attainment. The cohort dummies illustrate that controlling for parental education and social class, opportunities for higher education attainment actually increased for those born in 1971-80, in comparison to the cohort of 1966-1970. In line with Hypothesis 1 parental education strongly affects the respondents chances of attaining higher education in all models. Moving one ladder up on the parents' ISCED scale increases the respondents' chances of tertiary educational attainment by 16 percent, when parental occupation is controlled for. The same applies to parents' occupation. Coming from a family where mother's or father's occupation is described as ISCO 1-2 increases the chances of higher education attainment by 41 percent. In models 5, when education and cohort interactions are included, the effect is reduced by more than a half, to 19 percent. On the other hand, parental ISCO 9 background reduces the chances of higher education attainment by 21 and 9 percent, when parental education is or is not controlled for, respectively. The goodness of fit of regressions allows us to conclude that parental education is more important ascriptive factor for offspring higher education, explaining 21 percent of variation, while parents' occupation only accounts 14 percent of the dependent variable variance.

Models in Table 1 also answer a question raised in the previous section – whether or not the chances of higher educational attainment changed from cohorts born in 1926-30 to 1981-85, conditional to individuals' social origin. This is done by including in the models interactions between parental education and cohort dummies, one the one hand, and parental occupation and cohort dummies, on the other. Model 2 looks only on cohort * parental education interactions and reveals that the role of parental education increased significantly for the transitional generation, those who were born in 1971-80 period. The reason why we do not observe statistically significant effect for the latest, 1981-85 cohort, could be that the analysis excludes those respondents who were still in education during the interviews, in 2006. The results also indicate that the ascription in higher education attainment has been lower for all cohorts before 1970s. In Model 4 also shows that the effect of service class origin did not change across time, however the negative effect of social origin from the elementary occupations seems to be on rise. For cohorts born in 1976-85, coming from ISCO 9 social origin associates with the lower chances of higher

education attainment than is the case for those born in 1966-70. Model 6 simultaneously includes interactions for both components of social background: education and occupation. The fact that no statistically significant results are shown for social origin * cohort interactions most likely means that parents' education and occupation are strongly correlated.

Table 1: The attainment of higher education (ISCED 5-6) conditional to parental education (ISCED 0-6) and occupation (ISCO 1-2 and 9), regression coefficients from linear probability models

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	–.53***	–.64***	.19	.21*	–.40***	–.47***
Social background						
Parents' education (isced 0-6)	.15***	.18***	–	–	.13***	.16***
Parents' occupation (isco 1-2)	–	–	.39***	.41***	.19***	.19***
Parents' occupation (isco 9)	–	–	–.13***	–.21***	–.05***	–.09***
Cohort dummies						
Cohort 1926-30	–.16	.08	–.19	–.22	–.12	.13
Cohort 1931-35	–.12	.10	–.16	–.22*	–.09	.01
Cohort 1936-40	–.13	.11	–.13	–.13	–.09	.15
Cohort 1941-45	–.07	.05	–.07	–.06	–.05	.01
Cohort 1946-50	–.06	.13*	–.04	–.03	–.04	.08
Cohort 1951-55	–.06	.14**	–.05	–.04	–.04	.12
Cohort 1956-60	–.02	.13**	–.03	–.07	–.01	.06
Cohort 1961-65	–.02	.05	–.03	–.04	–.02	.07
Cohort 1971-75	.06***	–.06	.05**	.04	.05**	–.07
Cohort 1976-80	.14***	–.03	.11***	.09**	.11***	–.06
Cohort 1981-85	.04	–.08	.00	–.03	.00	–.13
Cohort-education interactions						
Coh 1926-30 * par. edu.	–	–.11***	–	–	–	–.11***
Coh 1931-35 * par. edu.	–	–.08***	–	–	–	–.04*
Coh 1936-40 * par. edu.	–	–.09***	–	–	–	–.08***
Coh 1941-45 * par. edu.	–	–.03**	–	–	–	–.01
Coh 1946-50 * par. edu.	–	–.05***	–	–	–	–.03
Coh 1951-55 * par. edu.	–	–.06***	–	–	–	–.05**
Coh 1956-60 * par. edu.	–	–.04***	–	–	–	–.03
Coh 1961-65 * par. edu.	–	–.02	–	–	–	–.02
Coh 1971-75 * par. edu.	–	.03*	–	–	–	.03
Coh 1976-80 * par. edu.	–	.04**	–	–	–	.04
Coh 1981-85 * par. edu.	–	.03	–	–	–	.03
Cohort-isco 1-2 interactions						
Coh 1926-30 * par. isco 1-2	–	–	–	–.10	–	.07
Coh 1931-35 * par. isco 1-2	–	–	–	–.03	–	–.08
Coh 1936-40 * par. isco 1-2	–	–	–	–.10	–	–.01
Coh 1941-45 * par. isco 1-2	–	–	–	.01	–	–.05
Coh 1946-50 * par. isco 1-2	–	–	–	–.11*	–	–.10
Coh 1951-55 * par. isco 1-2	–	–	–	–.12*	–	–.06
Coh 1956-60 * par. isco 1-2	–	–	–	.03	–	.04
Coh 1961-65 * par. isco 1-2	–	–	–	.02	–	.01
Coh 1971-75 * par. isco 1-2	–	–	–	–.00	–	–.00
Coh 1976-80 * par. isco 1-2	–	–	–	–.02	–	–.01
Coh 1981-85 * par. isco 1-2	–	–	–	.00	–	.01
Cohort-isco 9 interactions						

(continued)

Table 1. (Continued)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Coh 1926-30 * par. isco 9	–	–	–	.13**	–	.04
Coh 1931-35 * par. isco 9	–	–	–	.18***	–	.11*
Coh 1936-40 * par. isco 9	–	–	–	.06	–	–.01
Coh 1941-45 * par. isco 9	–	–	–	.01	–	.01
Coh 1946-50 * par. isco 9	–	–	–	.05	–	.02
Coh 1951-55 * par. isco 9	–	–	–	.08*	–	.04
Coh 1956-60 * par. isco 9	–	–	–	.14***	–	.09**
Coh 1961-65 * par. isco 9	–	–	–	.02	–	–.01
Coh 1971-75 * par. isco 9	–	–	–	.06	–	.06
Coh 1976-80 * par. isco 9	–	–	–	.08*	–	.06
Coh 1981-85 * par. isco 9	–	–	–	.17***	–	.08
Observations	8812	8812	8098	8098	7838	7838
Adjusted R^2	.20	.21	.14	.14	.22	.23

Notes: ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels. Reference categories are: parental occupation ISCO 3-8, cohort 1965-75, cohort 1965-75*parents' ISCED 0-6 and cohort 1965-75*parents' ISCED 3-8. Models control for sex and age of respondents. Robust standard errors are calculated, not shown. *Source:* Author's calculations based on the data from the Generations and Gender Survey (UNECE, 2012)

Models in Table 2 test Hypothesis 2 on how the destination to service class occupation is associated with social origin and respondents' own education. In Models 2, 4 and 6 when respondents' education is introduced into regressions, the role of parental education and occupation is substantially reduced but still remains statistically significant. In Models 3, 6, and 9 positive and significant coefficients for cohort dummies in 1976-80 and 1981-85 indicate that, controlling for other factors, labour market created new positions in service occupations. When overtime changes and respondents' own education are controlled, moving up on every ladder of parents' ISCED increases the chances of service class destination by 5 percent. Cohort * education interactions show the growing importance of parental education on the probability of attaining a ISCO 1-2 occupation. In Models 4, 5, and 6 parental occupation is also a significant predictor of offspring's life chances. Coming from ISCO 1-2 and ISCO 9 occupational origin is associated with the positive and negative chances of ending up in the highest occupational group, respectively. In Model 6, when respondents' education is controlled for, these effects amount to 13 and –4 percent accordingly, in comparison to parents' social background from other occupations. Both parental education and occupation maintain strong statistical significance in Models 7, 8, and 9 when all social origin characteristics are simultaneously introduced into regressions.

Cohort * occupation interactions in Models 5 and 6 reveal the growing importance of parents' occupation on their sons' and daughters' chances of attainment service class occupation for those born in1976-85. This effect is also sustained in Models 8 and 9 when education and cohort * education interactions are included. Perhaps the most interesting findings are given in Models 3, 6, and 9 when respondents' educational attainment is controlled for. Own education is clearly the most important determinant of labour market destination and its inclusion in all Models increases explained variation of the dependent variable by 17 and 20 percentage points in Models 6 and 9, respectively. The fact that respondents' educational attainment is a decisive factor for school-to-work transition is a positive phenomenon, but the observed overtime trends are less encouraging. In all models

cohort-respondents' education interactions indicate that the role of respondents' education on labour market outcomes has been decreasing for people born in 1976-80 and 1981-1985. A cautionary note for these findings is that attained education might lead to the better chances of service job destination as respondents become older. Since the last two cohorts are represented by people whose age varies from 21 to 30, the result should not be considered as definitive picture of the actual labour market relationships. Presented evidence clearly indicates on statistically significant relationships between social origin and life chances but the exact mechanism by which inequalities are generated and sustained are not known. In the following sections, I will try to demonstrate some of the mechanism through which social origin determines individuals' life chances.

Table 2: The attainment of service class job (ISCO 1-2) conditional to parental education (ISCED 0-6) and occupation (ISCO 1-2 and 9), regression coefficients from OLS models

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Intercept	–.39***	–.43***	–.97***	.21	.24*	–.73***	–.24*	–.27**	–.85***
Social background									
Parents' education (isced 0-6)	.11***	0.13***	.05***	–	–	–	.09***	.10***	.04***
Parents' occupation (isco 1-2)	–	–	–	.34***	.28***	.13***	.20***	.14***	.09*
Parents' occupation (isco 9)	–	–	–	–.10***	–.14***	–.05*	–.04***	–.06**	–.03
Respondent own education									
Isced 0-6	–	–	.20***	–	–	.21***	–	–	.20***
Cohort dummies									
Cohort 1926-30	–.04	.03	.21	–.01	.02	.24*	.01	.09	.11
Cohort 1931-35	–.01	.05	.26**	–.01	–.05	.26**	.01	–.04	.11
Cohort 1936-40	–.02	.11	.12	.02	.03	.09	.02	.16	.08
Cohort 1941-45	–.03	–.02	.05	.01	.04	.02	–.00	–.04	–.10
Cohort 1946-50	–.01	.01	–.10	.03	.03	–.09	.01	.01	–.13
Cohort 1951-55	–.03	.09	–.03	–.01	–.01	–.08	–.01	.06	–.09
Cohort 1956-60	–.01	.08	–.03	–.00	–.03	–.09	.00	.03	–.08
Cohort 1961-65	–.00	.04	–.05	–.01	–.01	.00	–.00	.08	.01
Cohort 1971-75	.03	.01	.09	.01	–.02	.09	.02	.04	.13
Cohort 1976-80	.08**	–.09	.16*	.04	–.01	.31***	.05	–.02	.25**
Cohort 1981-85	.04	–.17*	.30***	–.01	–.05	.52***	.01	–.05	.44***
Cohort-education interactions									
Coh 1926-30 * par. edu.	–	–.03	–.01	–	–	–	–	–.02	–.01
Coh 1931-35 * par. edu.	–	–.02	–.02	–	–	–	–	.02	.01
Coh 1936-40 * par. edu.	–	–.05***	–.04**	–	–	–	–	–.05**	–.04**
Coh 1941-45 * par. edu.	–	.00	.00	–	–	–	–	.03	.01
Coh 1946-50 * par. edu.	–	–.00	.01	–	–	–	–	.00	–.00
Coh 1951-55 * par. edu.	–	–.04**	–.02*	–	–	–	–	–.03	–.02
Coh 1956-60 * par. edu.	–	–.03*	–.02	–	–	–	–	–.02	–.01
Coh 1961-65 * par. edu.	–	–.01	–.01	–	–	–	–	–.02	–.02
Coh 1971-75 * par. edu.	–	.00	–.01	–	–	–	–	–.01	–.02
Coh 1976-80 * par. edu.	–	.04**	.03	–	–	–	–	.00	.01
Coh 1981-85 * par. edu.	–	.05**	.07**	–	–	–	–	.00	.02
Cohort-isco 1-2 interactions									
Coh 1926-30 * par. isco 1-2	–	–	–	–	–.05	–.01	–	–.02	.01
Coh 1931-35 * par. isco 1-2	–	–	–	–	.10	.06	–	–.06	–.01
Coh 1936-40 * par. isco 1-2	–	–	–	–	–.04	–.03	–	–.02	–.00

(continued)

Table 2. (Continued)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9
Coh 1941-45 * par. isco 1-2	–	–	–	–	.00	–.01	–	–.09	–.05
Coh 1946-50 * par. isco 1-2	–	–	–	–	.06	.09	–	.04	.08
Coh 1951-55 * par. isco 1-2	–	–	–	–	–.01	.02	–	.02	.03
Coh 1956-60 * par. isco 1-2	–	–	–	–	.07	.04	–	.07	.05
Coh 1961-65 * par. isco 1-2	–	–	–	–	.05	.06	–	.06	.08
Coh 1971-75 * par. isco 1-2	–	–	–	–	.07	.07	–	.11	.10
Coh 1976-80 * par. isco 1-2	–	–	–	–	.18**	.20***	–	.20**	.20**
Coh 1981-85 * par. isco 1-2	–	–	–	–	.15*	.20**	–	.16	.19*
Cohort-isco 9 interactions									
Coh 1926-30 * par. isco 9	–	–	–	–	.00	–.00	–	–.02	.00
Coh 1931-35 * par. isco 9	–	–	–	–	.11**	.06	–	.08	.07
Coh 1936-40 * par. isco 9	–	–	–	–	.04	–.00	–	–.00	–.02
Coh 1941-45 * par. isco 9	–	–	–	–	–.06	–.03	–	–.02	–.01
Coh 1946-50 * par. isco 9	–	–	–	–	.02	.03	–	.02	.03
Coh 1951-55 * par. isco 9	–	–	–	–	.06	.03	–	.04	.02
Coh 1956-60 * par. isco 9	–	–	–	–	.10**	.03	–	.07*	.02
Coh 1961-65 * par. isco 9	–	–	–	–	–.03	–.04	–	–.05	–.04
Coh 1971-75 * par. isco 9	–	–	–	–	.05	.04	–	.04	.03
Coh 1976-80 * par. isco 9	–	–	–	–	.03	–.01	–	.01	–.00
Coh 1981-85 * par. isco 9	–	–	–	–	.07	–.01	–	.00	–.03
Cohort-resp. edu. interactions									
Coh 1926-30 * resp. isced 0-6	–	–	–.05**	–	–	–.05**	–	–	–.01
Coh 1931-35 * resp. isced 0-6	–	–	–.06**	–	–	–.07***	–	–	–.04
Coh 1936-40 * resp. isced 0-6	–	–	–.01	–	–	–.02	–	–	.01
Coh 1941-45 * resp. isced 0-6	–	–	–.02	–	–	–.00	–	–	.01
Coh 1946-50 * resp. isced 0-6	–	–	.01	–	–	.02	–	–	.03
Coh 1951-55 * resp. isced 0-6	–	–	.01	–	–	.01	–	–	.03
Coh 1956-60 * resp. isced 0-6	–	–	.02	–	–	.01	–	–	.02
Coh 1961-65 * resp. isced 0-6	–	–	.02	–	–	–.00	–	–	.01
Coh 1971-75 * resp. isced 0-6	–	–	–.00	–	–	–.02	–	–	–.01
Coh 1976-80 * resp. isced 0-6	–	–	–.05**	–	–	–.07***	–	–	–.07***
Coh 1981-85 * resp. isced 0-6	–	–	–.12***	–	–	–.12***	–	–	–.13***
Observations	6926	6926	6926	6390	6390	6390	6167	6167	6167
Adjusted R²	.14	.15	.32	.13	.13	.33	.17	.17	.34

Notes: ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels. Reference categories are: parental occupation ISCO 3-8, cohort 1965-75, cohort 1965-75*parents' ISCED 0-6 and cohort 1965-75*parents' ISCED 3-8. Models control for sex and age of respondents. Robust standard errors are calculated, not shown. *Source:* Author's calculation based on data from the Generations and Gender Survey (UNECE, 2012)

Main subject of studies

As stated in Hypothesis 3, one of the ways through which parental social background may associate with labour market destination is by affecting the children's selection of fields of study. Figure 6 shows log odds from multinomial regressions which reveal how parents' ISCED is linked with the various educational specialisation of their children, controlling for parental occupation. For the cohort born in 1976-85, the impact of parents' education is the strongest on the selection of architectural and engineering fields of studies. Educational background also strongly affects choices of fields in social science and business and legal studies. Social background has the least effect on selecting clerical and service related fields of studies. The general trend from Figure 6 is that the role of parental education on the selection of the main subject of studies increased over the last century. The log odds from multinomial logistic regressions have the lowest values for the cohorts born before 1955, and the highest for the cohort of 1976-85. To complement the findings from the previous subsection, apparently parents' education has become an important factor not only for the general attainment of higher education but also for selecting specific fields of studies. Next step of the analysis should be testing how the selected fields of educational specialisation associate with the respondents' chances of attaining ISCO 1-2 occupation.

Figure 6: The attainment of service class job conditional to the main subject of studies
Regression coefficients from multinomial logistic regressions

Notes: * denotes statistical significance at the 0.10 level or higher. Reference category is specialisation craft, trade, plant and machinery professions fields of study. Models control for sex, age and their parents' education and social class. Robust standard errors are calculated, not shown. *Source:* Author's calculation based on data from the Generations and Gender Survey (UNECE, 2012)

The right side of Figure 6 shows regression coefficients from linear probability models which reflect how various specialities of individuals associate with a probability of transition to one of the service class occupations, controlling respondents' gender, age and social origin. In the pooled sample we can see that physical, mathematical and computing science fields, life science and health related fields, along with subjects preparing teaching specialists (at all levels), social scientists are all associated with the highest chances of ending up in one of service class occupations. As the sensitivity analysis, I also regressed

selected fields of study on the probability of ending up only in ISCO 1 – legislators, senior officials, and managers – occupations only. This is done because some fields of studies such as primary and secondary school teaching subjects are logically associated with work in corresponding occupations which might not be inherently very prestigious or well-paid. Anyway, as shown in the appendix, having more rigorous dependent variable – the attainment of ISCO 1 job – does not significantly affect our findings. People with the same subjects of study, as noted above, have the highest chances of getting in the most prestigious occupations. Interestingly, unlike the effect of parental education on the selection of fields of studies, the effect of selected fields of studies on the transition to service class occupation has been declining over the course of the 20th century. It appears that parents invest in their children's specific areas of education but these specialties are becoming less important for labour market outcomes.

## Regions and rural-urban divide

To test hypothesis 4 on the importance of location and rural-urban ascription in life chances, Figure 7 shows linear probability coefficients for the respondents residence at age 15 in Georgian regions which are regressed on educational and occupational attainment. Models control for respondents age, gender and social origin. This means that presented results illustrate net effect of the regional settlement on educational and occupational attainment. The last set of bars shows the average effect of region of birth on educational attainment for all cohorts. Two regions for which the birth of respondents associates with the significantly lower life chances are Shida Kartli and Samtskhe-Javakheti. For the cohort born in 1976-85, living in both of these regions at age 15, net of social origin, reduces the chances of higher educational attainment by 12 percent. As noted in the hypotheses formation section, these regions are mostly populated by ethnic minorities which presumably explains their observed disadvantages. Still, the overall trend indicates that regional inequalities in access to education have been decreasing over the course of the century. For cohorts born in 1966-75 and 1976-85 birth in Abkhazia, in comparison to Tbilisi, positively associates with the overall attainment but the observed coefficients are only marginally significant.[3] The highest inequalities were observed for those born from 1926 to 1945, especially in Adjara, SamtskheJavakheti, and Kvemo Kartli. The declining effect of regions can be explained by the gradual development of educational infrastructure and development of communications between various Georgian regions of the course of century.

In order to understand how rural-urban divide associates with attainment, I utilise information on current settlement of respondents. As was noticed above, earlier study finds significant rural disadvantages in access to higher education, but it lacks information on parental socio-economic background and therefore it could overestimate disadvantage of rural settlements. Indeed, survey data show that parental educational and occupations attainment in Georgia's rural settlements is substantially lower. It is also a possibility that

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[3] This is to the contrary of the expected results. One explanation could be that those from Abkhazia who made into the survey are self-selected group of people.

the lower chances of educational and occupational attainment of regions, shown in Figure 7, stems precisely from the fact that regions tend to include rural areas in which resident population have the lower socio-economic status. This hypothesis is tested in Table 3 where we utilise data on rural-urban divide in the current place of settlement. This is done because the dataset does not distinguish type of residence at age 15 nor at respondents' birth date. Rural areas across the regions, in the model with the pooled sample, demonstrate lower chances of educational and occupational attainment. For the cohort born in 1976-85 if the residence in rural settlements of Shida-Kartli, Kvemo-Kartli and Samtskhe-Javakheti leads to 23, 15 and 25 percent lower chances of attaining higher education in comparison to Tbilisi, the same association is much lower or statistically insignificant for the urban areas of the same regions. For occupational attainment the relationship between rural disadvantages are not as strongly manifested, which might have the following explanation. ISCO 1-2 jobs, which is used as the dependent variable in the models, are also distributed across the rural areas because the large share of these jobs come from public service and administration sector. Apparently labour market position depends less on settlement type than educational attainment.[4]

Figure 7: The attainment of higher education and service class occupation conditional to place of residence at age 15, Regression coefficients from linear probability models
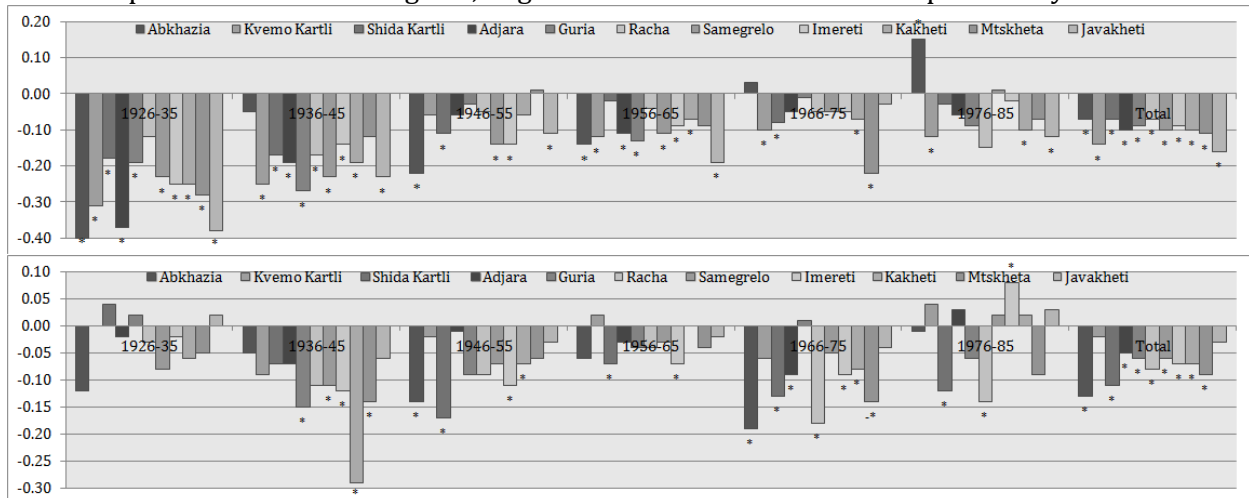
Notes: * denotes statistical significance at the 0.10 level or higher. Reference category is residence in Tbilisi. In the models on higher education attainment sex, age and education of respondents and their parents' education and social class is controlled. Robust standard errors are calculated. *Source:* Author's calculation based on data from the Generations and Gender Survey (UNECE, 2012)

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[4] Another explanation of the observed tendency is that people from the urban areas and capital city migrate to regions to obtain more prestigious jobs, which deflates the effect of settlement on occupational attainment.

Figure 3: The attainment of higher education (ISCED 5-6) and service class job (ISCO 1-2) conditional to place of residence across 11 regions of Georgia and rural and urban settlements at the time of interview, coefficients from linear probability models

		Cohorts												
		1926-35		1936-45		1946-55		1956-65		1966-75		1976-85		Total	
		Dependent variable		Dependent variable		Dependent variable		Dependent variable		Dependent variable		Dependent variable		Dependent variable	
		ISCED 5-6	ISCO 1-2	ISCED 5-6	ISCO 1-2	ISCED 5-6	ISCO 1-2	ISCED 5-6	ISCO 1-2	ISCED 5-6	ISCO 1-2	ISCED 5-6	ISCO 1-2	ISCED 5-6	ISCO 1-2
Qvemo-Kartli	R	–.16*	–.01	–.20***	.03	–.16***	.04	–.24***	–.05	–.22***	–.04	–.23***	–.04	–.23***	–.03
	U	–.29***	–.20**	–.27***	–.12*	–.10	–.04	–.14***	–.02	–.21***	–.06	–.11*	.09	–.17***	–.05*
Shida-Kartli	R	–.14	–.03	–.10	.04	–.19***	–.11***	–.15***	–.09**	–.19***	–.10**	–.15**	–.11**	–.15***	–.08***
	U	.54***	.45***	–.30***	–.01	–.05	–.10	–.03	–.17***	–.13**	–.16**	–.06	–.12	–.07**	–.13***
Adjara	R	–.34***	–.14***	–.18***	.14**	–.10*	.02	–.13**	.00	–.13**	–.02	–.12*	.04	–.14***	.00
	U	–.10	.01	–.20***	–.12**	–.12*	.01	–.18***	–.09**	–.08	–.12**	–.08	–.02	–.13***	–.08***
Guria	R	–.25***	–.06	–.18***	–.00	–.18***	–.03	–.26***	–.03	–.10	.04	.00	–.03	–.15***	–.03
	U	–.15	.29	–.25***	–.04	–.05	.05	–.28***	–.10**	–.04	–.00	–.27***	–.10	–.17***	–.02
Racha and Qvemo Svaneti	R	–.12	–.00	–.11	.26**	–.19**	.03	–.31***	–.06	–.27***	–.11	–.23**	–.08*	–.21***	.00
	U	–.37***	–.14	–.36***	–.20***	–.12	–.26**	–.09	–.01	–.04	–.10	–.14	–.19*	–.11	–.11
Samegrelo and Zemo Svaneti	R	–.23***	–.06	–.23***	–.02	–.17***	.03	–.25***	–.06	–.11**	–.04	–.05	–.00	–.17***	–.04*
	U	–.22**	.06	–.07	.00	–.22***	–.06	–.12**	–.00	–.14**	–.08*	–.01	–.04	–.12***	–.05**
Imereti	R	–.31***	–.09*	–.12**	–.05	–.23***	–.05	–.18***	–.11***	–.18***	–.06*	–.17***	–.02	–.19***	–.08***
	U	–.26***	–.04	–.09	–.08	–.17***	–.06	–.13***	–.07*	–.05	–.05	.06	.08	–.09***	–.05***
Kakheti	R	–.23***	–.07	–.22***	–.19***	–.13**	–.01	–.17***	–.06*	–.17***	–.09**	–.17***	.05	–.18***	–.06***
	U	–.09	.03	–.17*	–.32***	.02	–.02	–.10	.04	–.05	–.06	–.17**	–.20***	–.09**	–.06*
Mtckheta-Mtianeti	R	–.16	–.05	–.08	.05	–.10	–.06	–.22***	–.12**	–.28***	–.10**	–.06	–.05	–.17***	–.08***
	U	n/a	n/a	–.10	–.31***	–.04	.05	–.40***	.44	–.11	.10	–.06	–.29*	–.09	.00
Samtckhe-Javakheti	R	–.34***	.06	–.22***	.09	–.14**	.09	–.29***	–.06*	–.15***	–.01	–.25***	–.01	–.24***	.01
	U	–.23	–.11	.02	.04	–.15	.03	–.22***	.00	–.12	–.07	.14	–.00	–.11**	–.02
Observations		488	406	847	706	1344	1213	1908	1688	1785	1376	1466	778	7994	6218
Adjusted R²		.20	.43	.26	.42	.20	.36	.26	.33	.27	.29	.26	.32	.24	.33

Notes: ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels. R=rural settlement, U=urban settlement. Reference category is residence in Tbilisi. In the models on higher education attainment sex, age and education of respondents and their parents' education and social class is controlled. Robust standard errors are calculated. *Source:* Author's calculation based on data from the Generations and Gender Survey (UNECE, 2012)

Family disruption and relationships

In this section I test how ascriptive family factors are associated with educational and occupational outcomes in Georgia: I hypothesised that the quality of relationship with parents, not living with both biological parents, and the number and composition of siblings are affecting individuals life chances. Figure 8 illustrates how the quality of relationship with parents before age 15 and not living with biological parents at age 15 associate with the chances of obtaining higher education and service class occupation. Most of the coefficients are below zero, reference being living with both parents in case of the quality of relationships, which means that both of these dimensions are negatively linked to educational and occupational dimensions. Nevertheless, statistical significance of the results is modest. The relationship with parents and not living with both parents had most significant association with life chances for those born in 1926-35. In this period, the lower score by one point of the index of the quality of relationships with parents at age 15 is associated with 4 percent lower likelihood of attaining higher education, while not living with biological parents at the same age is associated with lower chances or attaining higher education and service class job by 12 percent. It seems that outlined relationships have been mitigated over time, but for those born in 1966-75 not living with both parents again leads to 12 percent lower likelihood of transiting to higher education. For the pooled model, Figure 8 shows that the effect of family relationships is upheld, but the scale of relationship is small. Figure 8 also tests whether or not living without both parents at age 15 and the overall quality of relationships with parents have direct effect on occupational destination, or these effects are mediated by educational attainment. Overall, regression coefficients do not reveal statistically significant relationships between the family disruption, relationships and occupational attainment, when respondents education is controlled for. Apparently education is mediating factor of family dynamics on labour market success.

Figure 8: The attainment of higher education and service class occupation conditional to relationship with parents and living with both parents at age 15, coefficients from linear probability models
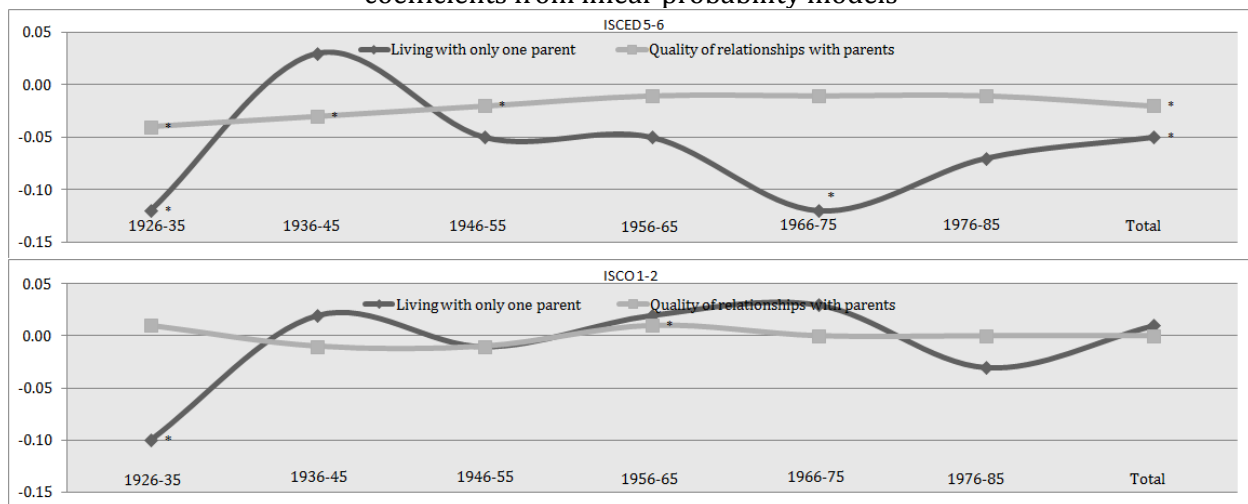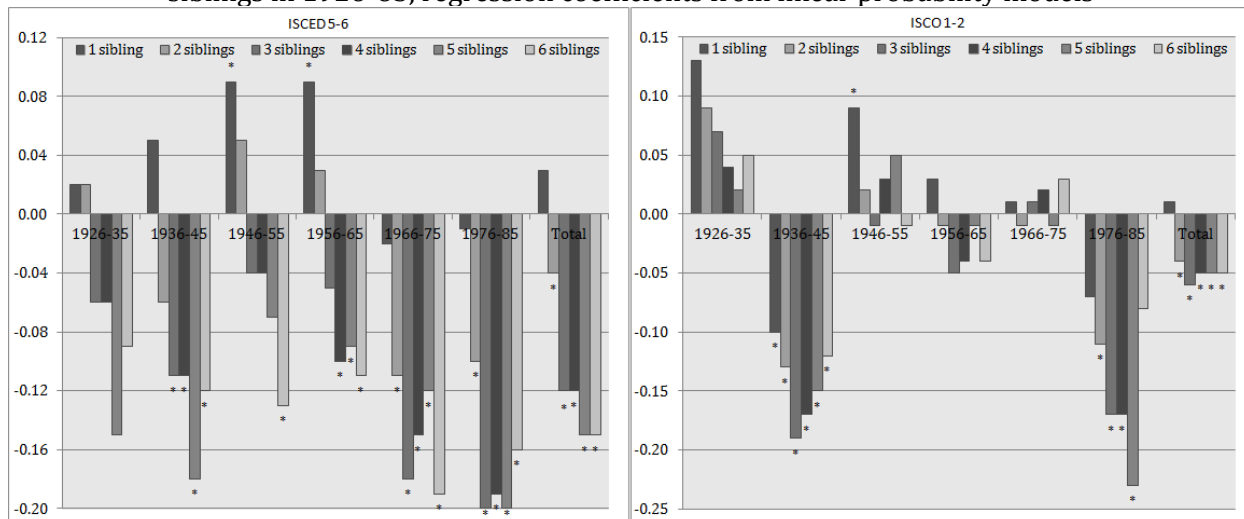

Notes: * denotes statistical significance at the 0.10 level or higher. Reference categories are living with both parents at age 15 . In the models on higher education attainment sex, age and education of respondents and their parents' education and social class is controlled. In the models on service class job attainment

respondents own education is also controlled. Red fill of markers indicate at least at 10 percent statistical significance. *Source:* Author's calculation based on data from Generations and Gender Survey (UNECE, 2012)

To test how the number of siblings associates with life chances in Figure 9 shows regression coefficients where dependent variables are higher education and ISCO 1-2 job attainment, while independent variables are dummies for the number of siblings, and having no siblings is a reference category. The general conclusion is that the higher number of siblings leads to lower chances of educational attainment. This is particularly so for the two latest cohorts, born in 1966-75 and 1976-85. Having three or more siblings lead to about 20 percent lower probability of higher educational attainment. Interestingly there is no much difference between having three and more siblings for educational attainment. The second graph in Figure 9 looks whether or not the direct effect of the number of siblings is upheld for occupational attainment. As before this is done my controlling for the respondents' own education. Regression coefficients indicate that the effect of the number of siblings on the likelihood of attaining ISCO 1-2 occupational status is statistically significant for the latest analysed cohort. Having three or four siblings associates with 17 percent lower chances of entering the top occupations, while the effect of having five brothers reduces this likelihood by 23 percent. For unknown reasons the number of siblings had statistically significant effect for the cohort born in 1936-45 when having more than one sister or brother significantly reduced chances of labour market success. One explanation of the fact that in 1976-85 the number of siblings became again important both for education and occupational outcomes is that the transitional crisis reduced the available family resource per child in a large family and consequently leading to sibling disadvantage in life chances.

Figure 9: Attainment of higher education and service class occupation conditional to the number of siblings in 1926-85, regression coefficients from linear probability models

Notes: * denotes statistical significance at the 0.10 level or higher. Reference category is having no siblings. In the models on higher education attainment sex, age and education of respondents and their parents' education and social class is controlled. In the models on service class job attainment respondents own education is also controlled. Robust standard errors are calculated. *Source:* Author's calculation based on data from Generations and Gender Survey (UNECE, 2012)

Last but not least I test how the composition of siblings affect life chances by introducing in models the dummy variables for various combination of brothers and sisters. The reference category in all models is again having no siblings. The general overview of Table 1 shows that having no siblings or having only one sister is the most advantageous in terms of educational and occupational attainment. The composition of siblings again is more pronounced for the cohort born in 1936-45, but the effect re-emerges in 1976-85. For educational attainment a general trend is the higher number of brothers is particularly negative for attainment. Especially disadvantageous is having 2 brothers and 2 sisters,–35 percent effect, 2 brothers and 1 sister, –28 percent effect, 3 or more brothers and 2 sisters – 24 percent effect, 3 brothers and no sisters, –23 percent effect. The composition of siblings also has a direct effect on occupational attainment. In Table 2, when the respondents' own education is controlled for, the sibling composition still maintains statistical significance on the chances of obtaining a position in ISCO 1-2 occupation. Having no siblings again appears to be most conducive for labour market success. The most unfavourable sibling compositions for labour market outcomes for the latest cohort are: having 3 brothers and 1 sister (–34 percent), 3 brothers and 2 sisters (–23 percent), 1 brother and 3 sisters (–21 percent), no brothers and 3 sisters (–18 percent), 1 brother and 2 sisters (–15 percent). This is a solid evidence that the composition of siblings bypasses education effect and in the long run reduces the life chances of the individuals, net of education effects.

Table 4: Attainment of higher education and service class occupation conditional to the number and composition of siblings in 1926-85, regression coefficients from linear probability models

Indep var	Dep. var.	Cohorts						Total
		1926-35	1936-45	1946-55	1956-65	1966-75	1976-85	1926-85
0 Bro, 1 Sis	Isced 5-6	.01	.06	.16**	.13**	.02	.02	.07***
	Isco 1-2	.16	–.10	.08	.02	.01	–.05	.01
0 Bro, 2 Sis	Isced 5-6	.03	–.06	.06	.02	–.13**	–.09	–.05**
	Isco 1-2	.10	–.21***	–.01	–.01	–.00	–.18**	–.05**
0 Bro, =>3 Sis	Isced 5-6	–.08	–.11	–.08	–.04	–.17**	–.11	–.10***
	Isco 1-2	.13	–.24***	–.03	–.03	–.05	–.18*	–.08**
1 Bro, 0 Sis	Isced 5-6	.03	.05	.05	.05	–.05	–.04	.00
	Isco 1-2	.10	–.10	.10*	.03	.01	–.09	.00
1 Bro, 1 Sis	Isced 5-6	–.03	–.13**	.04	.01	–.14***	–.07	–.06***
	Isco 1-2	.06	–.14**	.04	.00	–.02	–.08	–.03
1 Bro, 2 Sis	Isced 5-6	–.10	–.13**	–.02	–.05	–.18***	–.21***	–.12***
	Isco 1-2	.02	–.16**	–.04	–.04	–.00	–.15**	–.07***
1 Bro, =>3 Sis	Isced 5-6	–.02	–.15**	–.04	–.12**	–.10*	–.04	–.11***
	Isco 1-2	.01	–.16**	–.03	–.04	.06	–.21***	–.07**
2 Bro, 0 Sis	Isced 5-6	.09	.09	.09	.08	–.03	–.17***	–.00
	Isco 1-2	.12	–.05	–.02	–.03	–.00	–.12*	–.04
2 Bro, 1 Sis	Isced 5-6	–.04	–.08	–.04	–.05	–.20***	–.28***	–.12***
	Isco 1-2	.13	–.17**	.04	–.06	.04	–.15*	–.04
2 Bro, 2 Sis	Isced 5-6	–.13	–.06	–.02	–.12**	–.19***	–.35***	–.14***
	Isco 1-2	.12	–.19***	.04	–.03	.05	–.04	–.03
2 Bro, =>3 Sis	Isced 5-6	–.08	–.24***	–.05	–.08	–.16*	–.21*	–.15***
	Isco 1-2	.11	–.15**	.10	–.08	–.14*	–.24	–.05
=>3 Bro, 0 Sis	Isced 5-6	.04	–.07	–.11	–.10	–.20***	–.23***	–.14***
	Isco 1-2	–.03	–.22***	–.03	–.05	.05	–.17**	–.08**
=>3 Bro, 1 Sis	Isced 5-6	–.10	–.13*	–.11*	–.17***	–.08	–.22**	–.16***
	Isco 1-2	–.04	–.21***	.04	–.04	–.05	–.34***	–.09***
=>3 Bro, 2 Sis	Isced 5-6	–.15	–.22***	–.12*	–.03	–.16*	–.24***	–.16***

	Isco 1-2	.00	–.11	–.02	.08	.08	–.23***	–.02
=>3Bro,=>3Sis	Isced 5-6	–.14	–.08	–.09	–.10	–.19***	–.18**	–.14***
	Isco 1-2	–.02	–.07	.02	–.07	.06	–.08	–.05
Observations	Isced 5-6	488	847	1344	1908	1785	1466	7994
	Isco 1-2	406	706	1213	1688	1376	778	6218
Adjusted R²	Isced 5-6	.14	.26	.20	.25	.27	.26	.23
	Isco 1-2	.42	.41	.36	.32	.28	.32	.33

Notes: Reference category is having no brothers and sisters. In the models on higher education attainment sex, age and education of respondents and their parents' education and social class is controlled. In the models on service class job attainment respondents own education is also controlled. Robust standard errors are calculated. *Source:* Author's calculation based on data from Generations and Gender Survey (UNECE, 2012)

CONCLUSIONS

In this study I analysed educational and labour market outcomes attributed to individuals' characteristics they have no control over. Findings indicate that there is strong correlation between respondents life chances and their ascriptive environment, and such inequalities, in my normative stance, are unfair. In line with Hypothesis 1, not only parental social background remain decisive for educational attainment, but its effect also increased for those born since 1970s. Although higher education increasingly depends on the social origin, its association with the chances of attaining ISCO 1-2 occupation has been decreasing. Furthermore, according to confirmed Hypothesis 2 the effect of social origin on labour market destination remains significant after controlling for respondents' own education. Apparently education is a mediating factor for labour market outcomes, but statistically significant effect also stems directly from social origin to occupational destination. It is known that transition to a market economy in other countries has been linked to higher inequalities (Bukodi and Goldthorpe, 2010), but the apparent decrease of the role of education in individuals occupational attainment indicates that employers in their hiring decisions pay increasingly less attention to formal educational degrees. One of the main reasons for this, is the inflation of credentials as the result of the dissimilar developments in the qualitative structure of education and employment. It would be mistaken to think that inequalities will be eliminated without fundamental changes in the existing job structure. Unless labour market creates more high qualified jobs and will use education as the main formal selection criteria, individuals will relay on their social origin to make advances in life.

In line with Hypothesis 3, one of the ways in which inequalities are generated is the selection of the specific fields of studies, which has became increasingly dependent on social origin. Parents play important role in reproduction of material and cultural capital in their offspring as they can provide information and advice on the important issues of studies. Itself the selected field of studies, in line with the process of inflation of credentials, becomes less important for occupational attainment. This means that attainment of some specific fields of studies is increasingly unequal, however even if individuals manage to get through these constrains the value of obtained education becomes less relevant for occupational success. Concerning Hypothesis 4, possibly the reason of progressive

reduction of regional and spatial inequalities is the development of infrastructure and communications in Georgia as well as the establishment of educational institutions in these localities over the course of the 20th century. The spatial differences within the regions between rural and urban areas are more pronounced, but historical trend of reduction is also apparent. Gradual urbanisation of the population of Georgia will further reduce spatial ascription and potentially can lead to the higher levels of equality. It seems that the net effect of residence is mainly related to ethnic rather than geographic vector. Kvemo Kartli and Samtskhe Javakheti are the only regions for the latest generation, which maintain statistically significant and negative effect on higher educational attainment.

The study partially confirms Hypothesis 5. Although I did not find a significant effect of the quality of parents-children relationships and the absence of at least one biological parent in a family, these dimensions might be still relevant for life chances. First of all, the survey does not allow to distinguish what are the reasons of this family disruption at age 15. On the other hand, respondents might overestimate their positive relationships with parents, which does not allow statistical models to reveal their correct effect on life chances. What appears to matter strongly and significantly both on educational and occupational outcomes in the size and composition of sibship. Maybe the main reasons why the effect of the sibship size became important for life chances in the recent decades is the erosion of family-cantered social policies. At the same time, awareness that the lower number of children leads to better life chances might further depress fertility rates in already rapidly ageing Georgian society. The policies can be applied to assist the large families with targeted (educational) grants in order to compensate siblings' ascriptive inequalities. This option might have two positive consequences: maintaining high birth rates in those families who chose to have a higher number of children on the one hand, and providing to these children with the most decisive life asset – skills and education. The high negative consequences of having brothers on life chances is not something unique for Georgia, but whatever are its determinants, more active parental or societal involvement in families with predominantly male siblings could reduce ascriptive inequalities and lead to more equal society. And finally it has to be mentioned, the evidenced presented in this study applies to period before 2006 and does not reflect the significant educational and labour market changes that have taken place after the Rose Revolution.

ABOUT THE AUTHOR

Alexi Gugushvili is a doctoral researcher in the Political and Social Sciences at the European University Institute (EUI) in Florence, Italy. He holds MSc in Policy Studies from the University of Edinburgh and has been a Hansard Research Scholar at the London School of Economics and a Visiting Research Fellow at the Harvard Kennedy School of Government. Before joining the EUI, Alexi worked for various governmental and civil society organisations, including the Personal Accounts Delivery Authority of the UK Department for Work and Pensions, and taught courses in Social Policy and Econometrics in several universities in Georgia. Using qualitative and quantitative methods, his primary research interests include welfare perceptions, emigration intentions, and social stratification. Alexi has published on life course, social class, material deprivation, labour market, poverty, welfare research framework and has authored and co-authored a number of reports for the Government of Georgia, UNDP, and European Training Foundation. Lately, he has also been an expert for the European Union Democracy Observatory on Citizenship and the Consortium for Applied Research on International Migration at the Robert Schuman Centre for Advanced Studies.

Table 1: The respondents main subject of studies conditional to parental education and occupation, regression coefficients from multinomial logit models

	1926-35	1936-45	1946-55	1956-65	1966-75	1976-85	1926-85
Physical, math. and computing science fields							
Parents' edu. (isced 0-6)	27.08***	0.42	0.78***	0.83***	1.16***	1.19***	0.85***
Parents' occup. (isco 1-2)	-5.01*	1.46	1.08*	2.07***	1.25*	1.00	1.40***
Parents' occup. (isco 9)	-14.78***	-0.08	-0.30	-0.44	-1.12	0.17	-0.36
Architectural and engineering fields							
Parents' edu. (isced 0-6)	0.85***	0.93***	0.79***	0.87***	1.21***	1.61***	0.93***
Parents' occup. (isco 1-2)	-0.50	0.36	0.44	1.64***	1.22**	-0.02	0.86***
Parents' occup. (isco 9)	0.16	-0.03	-0.51	-0.66**	-0.89**	0.47	-0.46***
Life science and health related fields							
Parents' edu. (isced 0-6)	0.76***	0.33	0.56***	1.01***	1.51***	1.14***	0.75***
Parents' occup. (isco 1-2)	-0.09	1.61*	1.21**	1.99***	1.45**	0.66	1.46***
Parents' occup. (isco 9)	0.94	-0.62	-0.55	-0.28	-0.15	-0.18	-0.22
Teaching fields							
Parents' edu. (isced 0-6)	0.21	0.63**	0.22	0.83***	0.63***	0.92***	0.53***
Parents' occup. (isco 1-2)	0.88	0.10	0.90	1.37*	0.91	0.44	0.97***
Parents' occup. (isco 9)	0.66	-0.54	0.21	0.11	-0.43	-0.43	-0.12
Other professional fields							
Parents' edu. (isced 0-6)	0.51	0.73***	0.44***	0.86***	0.92***	1.37***	0.79***
Parents' occup. (isco 1-2)	0.40	1.16	1.01*	2.03***	1.27**	0.24	1.13***
Parents' occup. (isco 9)	-17.99***	-0.72	-0.56	-0.13	-1.14***	-0.52	-0.62***
Social science fields							
Parents' edu. (isced 0-6)	0.68**	0.70***	0.59***	0.86***	0.93***	1.36***	0.77***
Parents' occup. (isco 1-2)	-0.75	0.80	0.37	1.74***	1.52***	0.37	1.10***
Parents' occup. (isco 9)	0.52	-0.07	-0.55	0.09	-0.82**	-0.85	-0.39**
Physical and engineering science associate							
Parents' edu. (isced 0-6)	0.09	0.28	0.25*	0.26**	0.00	0.76***	0.21***
Parents' occup. (isco 1-2)	-0.50	-14.39***	0.30	0.38	0.23	-1.08	-0.04
Parents' occup. (isco 9)	0.41	0.32	-0.37	-0.37	-0.90***	-0.34	-0.39**
Life science and health associate fields							
Parents' edu. (isced 0-6)	0.71**	0.31	0.09	0.43***	0.31**	0.40	0.27***
Parents' occup. (isco 1-2)	-1.76	0.15	0.06	1.00	0.89	-0.56	0.35
Parents' occup. (isco 9)	0.08	0.27	0.13	0.16	-0.81**	-0.75	-0.19
Teaching and other associate fields							
Parents' edu. (isced 0-6)	0.18	0.29	0.17	0.34***	0.35**	0.63**	0.29***
Parents' occup. (isco 1-2)	0.20	0.18	0.16	1.01	0.79	-1.05	0.35
Parents' occup. (isco 9)	0.62	-0.06	0.17	-0.08	-0.67**	-0.70	-0.20
Clerical and service related fields							
Parents' edu. (isced 0-6)	0.29	0.15	-0.17	0.08	0.03	0.71*	0.06
Parents' occup. (isco 1-2)	-1.48	-0.05	0.24	1.37*	-0.66	-0.71	0.26
Parents' occup. (isco 9)	-0.19	-0.22	-0.20	-0.10	-0.28	-0.98	-0.25
Observations	230	458	874	1283	1148	839	4850
Pseudo R²	.10	.12	.10	.11	.13	.15	.12

Notes: Reference category is the birth in December. Models control for sex and age of respondents. Robust standard errors are calculated. *Source:* Author's calculation based on data from the Generations and Gender Survey (UNECE, 2012)

Table 2: The attainment of a job in 'legislators, senior officials and managers' occupations conditional to the main subject of studies, regression coefficients from linear probability models

	Cohorts						Total
	1926-35	1936-45	1946-55	1956-65	1966-75	1976-85	1926-85
Physical, math. and computing science fields	0.82***	0.79***	0.61***	0.59***	0.49***	0.28**	0.57***
Architectural and engineering fields	0.76***	0.58***	0.42***	0.41***	0.35***	0.20***	0.41***
Life science and health related fields	0.78***	0.77***	0.55***	0.63***	0.51***	0.36***	0.59***
Teaching fields	0.75***	0.81***	0.57***	0.67***	0.39***	0.36***	0.57***
Other professional fields	0.78***	0.60***	0.51***	0.52***	0.42***	0.27***	0.46***
Social science fields	0.67***	0.74***	0.58***	0.55***	0.42***	0.34***	0.52***
Physical and engineering science associate	-0.01	0.01	0.03	0.01	-0.03	-0.07	-0.00
Life science and health associate fields	0.04	-0.01	-0.10***	-0.03	-0.10***	-0.18***	-0.07***
Teaching and other associate fields	-0.02	0.10*	-0.04	-0.04	-0.02	-0.08*	-0.03
Clerical and service related fields	-0.09**	-0.02	-0.08**	-0.04	-0.04	0.08	-0.06***
Observations	210	423	821	1186	949	481	4076
Adjusted R²	0.63	0.52	0.42	0.44	0.30	0.31	0.41

Notes: Reference category is specialisation craft, trade, plant and machinery professions fields of study. Models control for sex, age and their parents' education and social class. Robust standard errors are calculated, not shown. *Source:* Author's calculation based on data from the Generations and Gender Survey (UNECE, 2012)

Table 3: The attainment of higher education (ISCED 5-6) conditional to place of residence across 11 regions of Georgia and rural and urban settlements at the time of interview, coefficients from linear probability models

	Cohorts						Total
	1926-35	1936-45	1946-55	1956-65	1966-75	1976-85	1926-85
Abkhazia	-0.33***	-0.26**	-0.28***	-0.23***	-0.10	0.06	-0.16***
Qvemo-Kartli	-0.40***	-0.47***	-0.25***	-0.34***	-0.35***	-0.33***	-0.35***
Shida-Kartli	-0.30***	-0.36***	-0.24***	-0.20***	-0.20***	-0.17***	-0.23***
Adjara	-0.28***	-0.39***	-0.24***	-0.25***	-0.31***	-0.24***	-0.27***
Guria	-0.19**	-0.42***	-0.15**	-0.32***	-0.22***	-0.22***	-0.25***
Racha and Qvemo Svaneti	-0.29***	-0.35***	-0.22***	-0.20**	-0.29***	-0.35***	-0.26***
Samegrelo and Zemo Svaneti	-0.22***	-0.41***	-0.23***	-0.23***	-0.23***	-0.17***	-0.23***
Imereti	-0.25***	-0.31***	-0.21***	-0.20***	-0.21***	-0.15***	-0.20***
Kakheti	-0.32***	-0.38***	-0.21***	-0.24***	-0.28***	-0.27***	-0.27***
Mtckheta-Mtianeti	-0.36***	-0.34***	-0.13*	-0.28***	-0.41***	-0.19***	-0.28***
Samtckhe-Javakheti	-0.41***	-0.40***	-0.29***	-0.37***	-0.37***	-0.34***	-0.36***
Observations	944	1234	1531	2072	1864	1557	9375
Adjusted R²	0.08	0.10	0.03	0.05	0.06	0.08	0.06

Notes: ***, **, and * denote statistical significance at the 0.01, 0.05, and 0.10 levels. Reference category is residence in Tbilisi. In the models on higher education attainment sex and age are controlled. Robust standard errors are calculated. *Source:* Author's calculation based on data from the Generations and Gender Survey (UNECE, 2012)

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