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> EDUCATION RETURN, LABOUR MARKET AND JOB SATISFACTION IN GEORGIA





**Education Return**,

Labour Market

and Job Satisfaction in Georgia

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# Table of Contents

Introduction 4
Summary of Main Findings 5
Part 1. Importance of Formal Education for Employment and Individual Economic Return to Education
Context
Data Analysis11
Main Findings13
Summary 25
Part 2. Assessment of Compatibility of Education with employment and Competences of the Labour Force in Georgia
Subchapter 2.1. Education-Job Vertical and Horizontal Mismatch
Context
Main Findings
Summary
Subchapter 2.2. Assessment of Transferable Competences of Employees in Georgia
Context
Main Findings
Summary
Subchapter 2.3. Competences of Unemployed Respondents and Job-seeking Activities 57
Context
Research Method58
Main Findings
Summary
Part 3. Job Satisfaction
Context
Data Analysis69
Summary 82
Recommendations
Annex A
Annex B
Bibliography

# Introduction

The present research conducted by the Center for Social Sciences (CSS) touches upon the ties between education and employment in Georgia and covers three main dimensions: individual return of education (financial benefits), compatibility of education with the labour market, and job satisfaction. Data analysis presented in this paper is based on the nationwide representative quantitative survey carried out by CSS in summer 2016 as a part International Social Survey Program (2015 Work Orientation IV Survey); we also used the World Bank 2013 statistical database. The data was analysed using the SPSS statistical program.

The publication consists of three interconnected chapters. The structure consecutively follows the abovementioned topics that are actively studied by the economics of education in the contemporary world. Since our main objective was to show the real picture of the relations between education and employment in Georgia, we believe that the research findings will largely contribute to the better understanding and development of the state education policy. Each chapter consists of three parts: context, i.e. literature review; overview of the main findings, i.e. in-depth analysis of the obtained data; and summary discussion containing all the major conclusions and findings of the research. At the end of the publication, certain recommendations are provided for the state agencies and educational institutions. The publication ends with annexes containing tables and diagrams and the respective bibliography.

# **Summary of Main Findings**

The research revealed the following tendencies:

- Only 33% of the interviewed respondents is employed in a paid work; this number includes self-employed respondents with income. The biggest share of the employed individuals (58%) has higher education;
- Public sector is the main employer in Georgia (75%). Majority of the respondents is employed in the field of education (23%), which is reported to be the one of the lowproductive fields of the country's GDP;
- Compared to the general (school) education, undergraduate education (Bachelor's degree) increases employment opportunities at least 3 times, while graduate education (Master's degree) 5 times. Nevertheless, the level of formal education does not determine whether an individual gets employed in a high-skilled or a low-skilled field;
- Master's degree does not guarantee higher remuneration or employment in one's own profession, but rather an increased opportunity for employment in general;
- > Each additional year of formal education increases monthly income with 7% on average;
- Monthly income (remuneration) after taxes of the respondents with higher education consist of 623 GEL on average; in case of school education, this indicator equals to 497 GEL, while in case of vocational education - 375 GEL. As usual, employers set higher education as a prerequisite for employment despite the type of occupation or remuneration;
- Men have 1.5 higher chances for employment than women. Men's monthly income (net) exceeds that of women by 55%. Each additional year of formal education determines 9% of increase in monthly salary for women, while this indicator equals to 11% in case of men;
- Georgia faces the problem of demographic ageing (Tsuladze, 2013) that is reflected on the distribution of labour force on the market. The biggest share of the employed individuals obtained higher education in the Soviet or partly post-Soviet period (65%). Field of education is the leading employment sector, where the aging problem of the labour force is the most visible;
- Low-productive labour market in Georgia is caused by the so-called *credentials* (knowledge) inflation (vertical mismatch), disbalance between the types of occupation required by the contemporary labour market and the professions young people mostly acquire at higher education institutions (horizontal mismatch);

- The population lacks two extremely important skills for labour productivity –English language proficiency and computer literacy. It is also noteworthy that the development of these skills goes in a very slow pace in Georgia. Experience of intensive work with the computer enhances employment chances almost twice;
- Lack of relevant knowledge and competences predominantly affects the development of innovative industries, while this sphere is largely misrepresented on the "traditional" national market;
- More than half of the economically active population searching job falls under 25-44 age group with the majority of male population;
- The biggest part of the economically active population resides in cities; however, the unemployment rate in the rural setting automatically decreases, if we unite the individuals self-employed in the agricultural sector in the group of employed ones;
- 61% of the economically active population searching job has either higher or vocational education and falls under the mid or highly qualified labour force category. Nevertheless, in order to get an anticipated job, majority of the respondents (despite educational or employment background) identify higher education as a prerequisite for employment;
- The biggest part of unemployed individuals falls under the highly-educated category (i.e. having higher education). Therefore, the respondents' attitude that higher education is a prerequisite for employment may be out of line with the actual requirements of the labour market that, according to various studies, mostly seeks for low-skilled labour force. Again, this assumption points at the existing disbalance between supply and demand on the labour market;
- Skills developed in informal educational settings, ways of job search and offers that unemployed respondents find acceptable are important factors for employment. The research shows that the job-seeking respondents are not able to professionally develop through informal education (e.g. trainings) that, in its turn, enhances the mismatch between the applicants' skills and labour market demands;
- Similar to the employed respondents, the job seekers also prefer to use informal methods (social contacts) while looking for job, rather than the formal ones;
- Income satisfaction significantly determines job satisfaction for all age categories except for 18-25 age group. For the latter promotion and career development perspectives are much more important;
- When measuring job satisfaction, none of the age groups report statistically significant correlation between job satisfaction and actual nominal salary. Statistical correlation is

observed between job satisfaction and subjective assessment of one's own salary, i.e. income satisfaction. This leads to an assumption that for the majority of the respondents, job satisfaction is determined by the fact of having a job with at least some salary, even a low one;

- None of the age groups reported job autonomy as a predictor for job satisfaction, meaning that in Georgia majority of the respondents does not care about the possibility of independent decision-making, task distribution or time allocation, that is one of the major factors for job satisfaction in number of countries (Nguyen et al., 2003; Amarasena et al., 2015; Belias et al., 2015);
- Social capital at the workplace, i.e. relationship with colleagues and supervisors, significantly determines job satisfaction. Such an influence of social capital on job satisfaction can be explained by the Georgia's collectivist orientation where the informal relationship between colleagues is an integral part of the job.

# Part 1. Importance of Formal Education for Employment and Individual Economic Return to Education

#### Context

Education is perceived as the best investment for formation of a highly qualified and well-paid labour market. Education ensures individuals' economic inclusion through enhancing their knowledge and developing skills, and provides means for productive participation in the economy (OECD, 2016). The economic influence of education is studied by the Economics of Education since 1950s (Gary Becker, Jacob Mincer and Theodore Schultz) with human capital theory as one of the leading theories of the discipline. The theory promotes human capital as the central factor for economic development; in particular, it serves as a basis of economic growth. Therefore, there is a tight positive causal link between education and economy on macro (country, society) and micro (personal, individual) levels (World Bank, 2008).

According to the critical assessment of part of the higher education scholars, growing importance of knowledge, research and innovation for global economy transforms traditional academic and educational value of university into one driven by political-economic interests (Stiwne et al., 2010). Discourse of a knowledge society pays particular attention to the employment issues. In this context, the Bologna Process has altered the concept of "knowledge." As a result of these transformations knowledge becomes as a product and a capital. In its essence and form, knowledge becomes connected with the context where various actors try to gain power, status and financial positions. Under these circumstances, higher education institutions are forced to adapt to these modern demands and increase the number of students through offering adequate and relevant programmes to them. Knowledge society is a knowledge-user society where students become customers, discuss and evaluate education as a future investment and see diploma as means for entering the labour market (ibid, pp. 35-37). Consequently, inquisitive learning, implying natural interest and desire to gain knowledge for personal development, loses its importance in the teaching-learning process (Brown, 2003). It is obvious that this principle has nothing in common with the principles of customer market.

Some international scholars discuss this transformation process and its relations with the market economy in a wider context, in particular, in the context of *Europeanization of education* (implying the modernization of educational systems in accordance with the European/EU standards), and connect it to the homogenization of national higher education systems (Beukel, 2001; Bache 2016). Europeanization of higher education (despite being discussed or not together with homogenization issues) has rather important political and economic dimensions (Robertson, 2009; Bache 2016). Political dimension combines the values constructing the European identity (e.g. democracy, social responsibility, etc.) and aims to enhance the EU's political legitimation and the revival of the universal narrative of European identity. In its turn, this guarantees the

8

strength of European integration and enlargement. Economic dimension concerns the marketization of higher education systems, i.e. the educational system depends upon and is managed by the demands of the market, produces competitive labour force used by the market in accordance to its merits. On the other hand, academic freedom, autonomy and ability of higher education institutions neglect the commercialization policy is under question. Though, even in this case, universities are at risk of becoming outsiders of the competitive educational market that forces them to unwillingly get involved in the commercialization process of education (Bache, 2016).

It is well-known that Georgia joined the Bologna Process in 2005, while in 2013 it became an affiliated member of the European Association for Quality Assurance in Higher Education (ENQA). Alongside certain reforms, membership of the Bologna Process and EQNA envisages enhancement of students' competitiveness and employment opportunities. Furthermore, the standards of higher education quality assurance developed by ENQA in 2009 recognize the employment rate of university graduates as one of the important key performance indicators (Lezhava & Amashukeli, 2016). Therefore, employability of university graduates is tightly connected with the Bologna Process. In the context of modernization of the national higher education [of Georgia], the political and economic dimensions of education are reflected in the Law on Higher Education of Georgia (Chapter 1, Article 3, Point 1), and the Strategy of Socio-Economic Development of Georgia 2020. This topic is also discussed in the various documents concerning strategic development of education and science (Lezhava & Amashukeli, 2016). These documents underline the importance of education in the success of Georgia's European integration, establishment of democratic principles and values, development of competitive human capital for internal and external labour markets. In addition, the enhanced collaboration between the education system and private sector is also discussed (ibid).

Nevertheless, independent from the criticism of marketization of knowledge and education, number of empirical (econometric) studies confirms the causal relations between education and economic development on micro and macro levels. In macroeconomics the abovementioned is strengthened by the argument that the educated labour force has much more opportunities to produce innovative and better output/production in various directions; job quality of employed personnel is also improved due to education that contributes to the improvement of production effectiveness and technological development. Macroeconomics studies the links between different indicators of education (aggregated data) and economic development. In the past the years of formal education were recognized as the major indicators of education. Currently, indicators such as cognitive skill test results are widely used in the economics of education (for detailed discussion, see Chapter 2); while GDP and related indicators are used as standard measurements for the economic growth (OECD, 2016; Education and Economic Growth, n.d.). At the microeconomic level the links between individual educational achievements (for instance, level of formal education) and education return (financial profit) are discussed widely. It implies

9

that the higher the level of education of an individual (more years s/he has spent in formal education), the higher the remuneration and financial well-being of an individual (OECD, 2016, pp. 45-47, 114-153). Nevertheless, modern economy of education also envisions that the relationship between education and economy is not universal due to the heterogeneous educational systems of different countries, difference in the quality of education, and therefore, possibility of the labour force to create innovative product and/or adapt to new technologies and the requirements of the modern economy. At the same time, distribution of education and allocation of human capital (labour force) on the national labour market are also fairly important factors (ibid, p.47).

The present publication of the Center for Social Sciences looks at the return of higher education of the Georgian population from the microeconomic perspective in order to evaluate personal/individual return (financial gain) to the number of years invested in education and the impact of higher education on the employment opportunities. As already mentioned above, individual education return shows the tendency of growth of individual's personal income (if any) in accordance with the years spent on formal education. For this purpose, one of the most wellknown methods is Jacob Mincer's *Earning Function* (1974); in addition, in order to identify nonmonetary benefits of education we used the following variables connected with employment opportunities, professional growth and development, stability of one's job, level of autonomy in the working process, etc. that in the end influences job satisfaction as well (for further discussion of job satisfaction, please see Chapter 3).

Studying economic effects of education became particularly popular in 1980-90s due to existing income inequalities in number of countries. According to the international studies on education individual return, for each additional year of formal education individual financial return increases by 10% on average (Psacharopoulos & Patrinos, 2004, p. 112). It is noteworthy that the highest coefficient of economic return is observed in low- and middle-income countries (10.9-10.7%, respectively).<sup>1</sup> In higher income countries the coefficient of education return equals to 7.4%. It also should be underlined that the education return has decreased by 0.6% for last 12 years due to the increased access to formal education in the world, and thus, increased average indicator of years spent in formal educational settings (especially in the countries with strong economy). These circumstances enhance competition on the labour market by oversupplying human capital, as well as increasing the number of low-income jobs that decreases the individual financial return of education (ibid, pp. 113-115). According to the report of Organization of Economic Cooperation and Development (OECD) published in 2016, the highest financial return (net amount) is observed for higher education. However, compared to the other levels of formal education, general education is also beneficial both on individual and public levels. In OECD countries, around 44% of the population with general (school) education earns more than

<sup>&</sup>lt;sup>1</sup> According to the World Bank June 2017 data, Georgia is listed among lower middle-income category. See https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups

average, while in case of higher education, this number equals to 70%. In respect to gender, net financial return of women with higher education constitutes 2/3 of that of men with higher education.

It is also interesting to look at the findings of OECD 2016 research about the economic return, according to which the following fields are associated with higher financial return: engineering and construction; social sciences, business and law; exact and natural sciences and computer sciences. The financial gain of highly educated individuals occupied in these fields exceeds the financial return of other graduates by 10%. As for the pedagogy, education and humanities, languages and arts, the financial benefit of their graduates is 15% less than the average (OECD, 2016, pp. 115-115).

Overall, it should be admitted that the research on individual return to education is rather important and is systematically studied in the developed world. The assessment of the study findings is essential for elaborating education and economic strategy (OECD, 2016). Similar research has never been done in Georgia so far, therefore, based on the nationwide representative survey, the present publication is the first attempt to evaluate the higher education economic effect and employment opportunities on an individual level in Georgia. We believe the study findings will contribute to the educational policy planning in order to enhance the compatibility of higher education with the labour market demands and construct effective labour market.

# **Data Analysis**

Data analysis provided in the first chapter of the present publication is based on the nationwide household survey conducted by the Center for Social Sciences in June-July 2016. In total 1488 respondents participated in the study. The following four-stage procedure was used for conducting the representative survey:

- Based on the data of the National Statistics Office of Georgia, the electoral units clusters were identified;
- Electoral units (clusters) were stratified (cities, villages) according to the following principle:
   on average, 8 structured interviews were conducted on each electoral unit;
- Based on a random sampling method the first household address was identified on each selected electoral unit that served as a basis for interviewing each eighth household;
- ➢ Kish grid was used to identify the respondents in each household.

This chapter provides data analysis in multiple directions:

Overview of the employment tendencies on the national labour market;

- Assessment of the importance of formal education for employment and employment opportunities;
- Individual economic return to education.

We used descriptive and explanatory statistics (Pearson bivariate correlation, linear and binary logistical regressions, One-way ANOVA, T-test) for analysing the obtained data. Within the explanatory statistical analysis and measuring the individual economic return to education, we used the abovementioned Mincer's Earning Function - a statistical model that aims to empirically measure the interrelation between human capital and income. The Mincer formula looks as follows:  $ln(Y) = ln(Y_0) + \beta_1 S + \beta_2 x + \beta_3 x^2 + \epsilon$  (Mincer, 1974), and is based on a linear regression showing how income of an individual may increase by each additional year of education (S) or working experience [again, calculated in years] (x). "ɛ" denotes any additional variable that potentially can affect earnings, such as motivation, transferable skills, various demographic variables. As for Y<sub>0</sub>, this variable stands for potential earning of an individual having neither formal education nor working experience (Lemieux, 2003). Since our sample did not contain any respondents that would fit in the two latter characteristics [absence of formal schooling and experience] at the same time, we altered Mincer formula and used the following version: In(Y) =  $\beta_1 S + \beta_2 x + \beta_3 x^2 + \epsilon$ . After putting the income variable in a logarithm, we can get a normal distribution that allows us to determine the tendency of changes in dependent variable with the change of each marginal unit of any independent variable; while squaring the years of working experience allows us to consider the devaluation of the human capital caused by technological development and demographic aging problem (by squaring the variable in the regression analysis, the variable gets a negative meaning. For instance, the tendency of demographic aging may negatively affect the income).

Mincer's *Earning Function* has certain weaknesses as well. The equation does not include the important variables, such as learning fees, potential income a person refuses to have while studying, etc. Besides, rough calculation of working experience is also problematic. Potential working experience (X) is calculated the following way: real age (A) minus years of formal schooling (S) plus 6 years as pre-school period (X = A - (S + 6). This formula neglects the potential working experience a person may have while still studying or any internships periods. Besides, periods of unemployment or maternity leave are not counted at all that can seriously alter the data.

Despite the abovementioned drawbacks, Mincer's formula is one of the main models for evaluating education return (Lemieux, 2003), thus, our analysis is mostly based on it.

### **Main Findings**

As already mentioned above, one of our research questions concerns the relations between education and employment. Before moving to in-depth statistical analysis, we decided to show rather important tendencies concerning the interrelation between education and employment.

First of all, it is noteworthy that only 33% of the population surveyed nationwide has a paid job (including self-employed individuals with remuneration). Therefore, the majority of interviewed respondents (67%) fall under the category of unemployed. Out of them, 37.5% is economically active looking for job, 23% is pensioner, 19% takes care of household activities, 9.5% is unemployed and not seeking for job, while 7% is student. If we look at the employment status by level of education, we will see that the number of unemployed individuals exceeds that of employed ones in the group without any formal education. The number of unemployed respondents is also high in the group having general (school) education (including non-complete cycle), as well as in the group with vocational education. While in case of the group with higher education the numbers of employed and unemployed individuals are almost equal [see Diagram 1.1.].

#### Diagram 1.1. Employment status according to the levels of formal education<sup>2</sup>

Currently in paid job (including self-employed individuals with monetary income)



Currently unemployed, though had a paid job in the past

Today the public sector is the main employer in Georgia having employed 75% of all employed individuals, while 22% is working in the private sector. It turned out that the biggest share of our respondents is employed in the field of education (23%). Around 10% of the population is employed in each of the following fields: retail/wholesale sales, individual services and production, defence and security, and administrative work [see Diagram 2.1]. It is of note that the results of the present study somewhat coincide with the labour market survey conducted in 2015. According to the latter, the biggest indicator of employed individuals was observed in the

<sup>&</sup>lt;sup>2</sup> Levels of higher education are denoted by abbreviated letters: B – indicating Bachelor's level, M – Master's level, and D – Doctoral level

field of education (181,000), trade and construction services (174,000) (The Survey Report of Labour Market Demand Component, 2015. pp. 6-9).





It is important to look at the distribution of the employed respondents on the labour market according to their education. The research results show that:

- The share of the employees with higher education is rather high in the field of education (83%), complex office/administrative field (83%) and finances/bank/insurance sphere (88%);
- Employed individuals having only general education are mostly represented in the fields of defence and security (83%), production (58%) and construction (60%);
- Individuals with vocational education are predominantly occupied in wholesale and retail sales (36%) and individual services (40%) [see Table 1.1.].

Table 1.1. Distribution	of employees w	ith paid job acco	ording to levels o	f formal education
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			Total		
		General Education	Vocational Education	Higher Education (B/M/D)	
Defence and Security	Quantity	24	4	1	29
	70	82.8%	13.8%	3.4%	100.0%
Arts and creative work	Quantity	0.1%	19.2%	8	11
Wholesale and retail sales	Quantity	5.1%	13.2%	18	36
	%	13.9%	36.1%	50.0%	100.0%
Media and Communication	Quantity	0	0	3	3
	%	0.0%	0.0%	100.0%	100.0%
Healthcare occupations	Quantity	1	8	13	22
	%	4.5%	36.4%	59.1%	100.0%
Education	Quantity	6	10	77	93
	%	6.5%	10.8%	82.8%	100.0%
Financial, bank and insurance occupations	Quantity	2	1	22	25
	%	8.0%	4.0%	88.0%	100.0%
Computer programing and consultation	Quantity	2	2	4	8
	%	25.0%	25.0%	50.0%	100.0%
Professional, scientific and technical occupations	Quantity	0	4	21	25
	%	0.0%	16.0%	84.0%	100.0%
Complex office and administrative work	Quantity	2	3	25	30

%	6.7%	10.0%	83.3%	100.0%
Quantity	8	2	5	15
%	53.3%	13.3%	33.3%	100.0%
Quantity	1	4	4	9
%	11.1%	44.4%	44.4%	100.0%
Quantity	18	2	11	31
%	58.1%	6.5%	35.5%	100.0%
Quantity	7	12	11	30
%	23.3%	40.0%	36.7%	100.0%
Quantity	12	2	6	20
%	60.0%	10.0%	30.0%	100.0%
Quantity	3	2	1	6
%	50.0%	33.3%	16.7%	100.0%
Quantity	0	3	2	5
%	0.0%	60.0%	40.0%	100.0%
Quantity	92	74	232	397
%	23.1%	18.6%	58.3%	100.0%
	%         Quantity         %	%         6.7%           Quantity         8           %         53.3%           Quantity         1           %         11.1%           Quantity         18           %         58.1%           Quantity         7           %         23.3%           Quantity         12           %         60.0%           Quantity         3           %         50.0%           Quantity         0           %         0.0%           Quantity         92           %         23.1%	%         6.7%         10.0%           Quantity         8         2           %         53.3%         13.3%           Quantity         1         4           %         11.1%         44.4%           Quantity         18         2           %         58.1%         6.5%           Quantity         7         12           %         23.3%         40.0%           Quantity         12         2           %         60.0%         10.0%           Quantity         3         2           %         50.0%         33.3%           Quantity         0         3           %         0.0%         60.0%           Quantity         92         74           %         23.1%         18.6%	%         6.7%         10.0%         83.3%           Quantity         8         2         5           %         53.3%         13.3%         33.3%           Quantity         1         4         4           %         11.1%         44.4%         44.4%           Quantity         18         2         11           %         58.1%         6.5%         35.5%           Quantity         7         12         11           %         23.3%         40.0%         36.7%           Quantity         12         2         6           %         60.0%         10.0%         30.0%           Quantity         3         2         1           %         50.0%         33.3%         16.7%           Quantity         0         3         2           %         0.0%         60.0%         40.0%           Quantity         0         3         2           %         0.0%         60.0%         40.0%           Quantity         92         74         232           %         23.1%         18.6%         58.3%

Overall, the biggest share of employed individuals has higher education (58%). They are followed by the respondents with general education (23%), while the employed respondents having vocational education are represented the least (19%). Either in this case, our research results are in line with the tendencies identified in the 2015 labour market study. According to the abovementioned study, the majority of the employed individuals do have higher education (451,000), 133,000 persons have vocational education, while 290,000 employed individuals have only general education (The Survey Report of Labour Market Demand Component, 2015, p.10).

The study also reports that the amount of the labour force with general (school) education directly indicates at the high number of low-skilled positions on the labour market (ibid, p. 9). However, this rather generalized and straightforward conclusion should be based on other circumstances as well. Despite the fact that the Georgian labour market is characterized by having the secondary labour market, this only causes the high quantity of low paying jobs, and not necessarily low-skilled jobs. First of all, it should be admitted that the qualification requirements set by the employers (especially, in case of the public sector) usually enlist higher education as one of the prerequisites for employment (ibid, pp.77-85). In addition, our research showed that according to the levels of education no statistically significant difference was observed between the fields of occupation (Independent T-Test, F(2)= 2.95, p>0.05). In other words, the level of formal education does not determine whether a person gets employed in high-skilled or low-skilled field/position. This conclusion is further confirmed by the fact that about 40% of the employed individuals with higher education is employed in the low-skilled jobs (e.g. transportation, services) [see Table 1.1]. This finding can be explained by the devaluation of the professional knowledge/education (this particularly concerns the adult labour force that is quite prevalent on the national labour market. This segment predominantly has the Soviet education (76%) and cannot easily handle the modern requirements of the labour market, therefore, cannot compete with the younger labour force) that is reflected in the distribution of highly-educated individuals in the fields not necessarily asking for higher education. The abovementioned issue is tightly connected with the low indicator of employment by profession, though this problem also concerns the younger labour force. In total, the compatibility indicators

of education with the labour market demands is rather problematic that will be further explored in the second chapter of this publication.

Gender dimension of the education-employment relationship is also very important. The statistical analysis of the data revealed that the number of men and women are almost equal in the groups without formal or with only general education. While the number of women exceeds that of men on the higher levels of education [see Table 1.2]

		S	ex	Total	
		Male	Female		
Without formal education	Quantity	14	17	31	
	%	45.2%	54.8%	100.0%	
School education (including	Quantity	288	250	538	
incomplete cycle)	%	53.5%	46.5%	100.0%	
Vocational education	Quantity	148	255	403	
	%	36.7%	63.3%	100.0%	
Higher education	Quantity	198	314	512	
(B/M/D)	%	38.7%	61.3%	100.0%	
Total	Quantity	648	836	1484	
	%	43.7%	56.3%	100.0%	

Table 1.2. Distribution of respondents according to the education level and gender

The share of employed men at the national labour market is 37% that is 7% more than that of women (30%). In case of both male and female groups, the share of unemployed individuals exceeds 50% in all educational categories, except for higher education. It is noteworthy that the employment indicators within general and vocational education categories are in favour of men: in case of male respondents with school education, 34% is employed, while this number equals to 14% in case of women; 27% of men and 21% of women with vocational education are employed [see Table 1.3 and Diagram 1.3]

The abovementioned findings let us assume that the impact of formal education on employment differs by gender. This assumption was proved by binary logistical regression that showed that the employment opportunities for men are twice as high in case of having Bachelor's or Master's degree compared to school education. Vocational education and doctoral degree were not identified as statistically significant predictors (p>0.05). In case of women, it turned out that the vocational education as well as all three levels of higher education were statistically significant for employment. The analysis shows that for women the employment chances increase twice in case of vocational education, 5 times – in case of Bachelor's degree, 7 times – in case of Master's, and 45 times in case of doctoral degree [see Annex A, Table 1.4].

			Without formal education	School education (including incomplete cycle)	Vocational education	Higher education (B/M/D)	Total
	Employed	Ν	2	99	40	98	239
	Employed	%	14%	34%	27%	49%	37%
Male	Unomployed	Ν	12	190	108	100	410
	Unemployed	%	86%	66%	73%	51%	63%
	Total		14	289	148	198	649
	Total		100%	100%	100%	100%	100%
	Employed	Ν	1	36	54	157	248
	Employed	%	6%	14%	21%	50%	30%
Female	Unemployed	Ν	16	214	201	156	587
remale	remaie Unemployed	%	94%	86%	79%	50%	70%
	Total	Ν	17	250	255	313	835
	lotal		100%	100%	100%	100%	100%

Table 1.3. Distribution of respondents by gender, level of formal education and employment status

Diagram 1.3. Distribution of employed respondents by gender according to the level of education



The gender differences discussed above are closely connected with the horizontal and vertical segregation on the national labour market meaning that only one gender is dominating in number of fields and occupations (European Union, 2014). According to our research results, out of those having leading (managing) positions at the workplace, 63% are men, while only 37% are women. Women discrimination practices at the workplace should also be considered: during recruitment period (pre-contracting period), promotion, training, firing or distributing additional benefits, etc. (Bendeliani et al., 2014). Taking the aforementioned into account, one can conclude that women have to compete not only with men, but with other women as well. In case of horizontal segregation, fields of occupation that are mostly dominated by women should be also paid attention to. For instance, education and health, services and complex office work are occupied by up to 80% of female employees, while men are dominating in the spheres such as defence/security, construction, transport, etc. [see Diagram 1.4]. Statistical analysis confirmed

the significant gender difference between fields of occupation (One-way ANOVA, F(16, 360)=11.159, p=.000).

It is noteworthy that almost identical findings concerning horizontal segregation are provided in the study conducted by the Center for Social Sciences in 2014 about gender discrimination practices on the Georgian labour market (Bendeliani et al.). According to this research, healthcare, education and administrative work are the directions predominantly occupied by women. The majority of men are employed in production, transport/logistical services, construction and security (ibid, p.40).

Gender wage gap is one more indicator of gender segregation on the labour market. Human capital theory explains this by the female domination on low-paying occupations, and male domination on high-paying ones. In its turn, the abovementioned is caused by the career decision determined by the stereotypical gender roles assigned to men and women. Different from men, women choose to study spheres that may bring lesser benefits in future but are characterized by the flexibility of the working schedule to allow women do the housework at the same time (ibid, p. 14-15). According to the results of our study, career choice of currently employed women falls on pedagogy, humanities, social sciences and arts. In addition, women represent the majority of those working by profession (67%). Though, the career choice of the majority of women comprise of those occupations that are usually characterized by low remuneration if compared to other spheres (dominated by men) [see Diagram 1.4].



Diagram 1.4. Distribution of the respondents on the labour market by gender. The brackets provide average monthly remuneration after taxes characteristic for that particular occupation.

As it was already mentioned above, the impact of formal education on employment opportunities varies by gender. Besides, the level of formal education is also reflected on the male and female average monthly remuneration. The research conducted by CSS in 2014 shows that despite the level of formal education, the monthly average salary of male employee varies between 400-700 GEL, while education level largely affects the monthly remuneration of female employees. In particular, women have to have at least Bachelor's degree in order to earn the similar average amount as men (Bendeliani et al., 2014). Similar tendencies were revealed by our research as well: average monthly income after taxes of female employees with higher education is 406 GEL, while it reaches 691 GEL in case of men [see Diagrams 1.5 and 1.6].

Diagram 1.5. Education level and average monthly income of men Source: Gender Discrimination in Georgian Labour Market, 2014 (pp. 33-34, Diagram 4)



Diagram 1.6. Education level and average remuneration of women Source: Gender Discrimination in Georgian Labour Market, 2014 (pp. 33-34, Diagram 4)



Female

It is also important to look at the employment tendencies in respect to the educational systems and age categories. After the collapse of the Soviet Union, the first structural change of the higher education system occurred in 1994 when the Georgian universities started introducing Bachelor's and Master's programs. Next wide-scale reform started when Georgia joined the Bologna Reform in 2005 (though, before that, in 2004 Georgia adopted the Law on Higher Education that envisaged introduction of three-tier system) creating a basis for introducing the third (doctoral) level of higher education (Law of Georgia on Higher Education, Chapter 7, Article 46; EPPM, 2008). Considering the abovementioned reform, we regard it important to analyse our data in respect to Soviet, post-Soviet and Bologna educational systems. The data allows us to identify the respondents by year of birth and group them according to the educational systems. Therefore, we divided our respondents in three groups:

- Those born in 1922-1970 who attended 5-year programs at the universities in Soviet Georgia (till 1992);
- Those born in 1971-1987 who attended universities in the transitional, post-Soviet period (after 1991);
- Those born in 1988-1994 who received their degrees in contemporary higher education system, i.e. after Georgia joined the Bologna Process in 2005.

Among the employed respondents with higher education (including self-employed individuals with income) the biggest group is compiled by those who attended university in the post-Soviet period (44%). The share of those with Soviet education is 38%, while that of individuals with Bologna education – 18%. As for the employment status in respect to the higher education systems, in the post-Soviet education category, the indicator of employed respondents exceeds that of unemployed by 12%; in Soviet education group, the number of unemployed goes over employed ones by 10%, while in case of Bologna system, this number equals to 4% [see Diagram 1.7]



Diagram 1.7. Employment status by higher education systems

The employed respondents with Soviet education fall under the 47+ age category, the majority of which (54%) varies between the age of 45-54. The employed individuals with post-Soviet education are compiled in 30+ age group and the majority of them (56%) is between the age of

35-44. As for the Bologna graduates, they fall under the 18-34 age group with the majority (60%) being within 25-34 interval [see Table 1.4].

				Age Groups					
			18-24	25-34	35-44	45-54	55-64	65+	
Systems of	Soviet	Quantity	0	0	0	52	24	20	96
higher	her	%	0.0%	0.0%	0.0%	54.2%	25.0%	20.8%	100.0%
education	education Post- Soviet	Quantity	0	43	62	6	0	0	111
		%	0.0%	38.7%	55.9%	5.4%	0.0%	0.0%	100.0%
Bologna	Bologna	Quantity	18	27	0	0	0	0	45
		%	40.0%	60.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Quantity		Quantity	18	70	62	58	24	20	252
To	otal	%	7.1%	27.8%	24.6%	23.0%	9.5%	7.9%	100.0%

 Table 1.4. Distribution of the respondents by educational systems and age groups

Overall, the biggest part of the labour force is comprised of completely Soviet or partly post-Soviet educational system graduates (65%). Therefore, the segment having received school, as well as higher education completely in the post-Soviet period is smaller and constitutes 35% [see Table 1.5]. It is noteworthy that in the latter case, the respondents have gained higher education degrees in the Bologna reformed system that drastically differs from the Soviet and transitional systems. Based on the abovementioned data, it should be underlined that in the contemporary (Bologna) system group, that is one of the primary segments of human resources for economic development and sustainability, the indicator of unemployment exceeds 50% [see Diagram 1.7].

			Age Groups					Total	
			18-24	25-34	35-44	45-54	55-64	65+	
Employment Status	Employed	Quantity	162	172	180	161	132	193	1000
		%	16.2%	17.2%	18.0%	16.1%	13.2%	19.3%	100.0%
	Unemployed	Quantity	53	117	133	102	53	29	487
		%	10.9%	24.0%	27.3%	20.9%	10.9%	6.0%	100.0%
Total		Quantity	215	289	313	263	185	222	1487
		%	14.5%	19.4%	21.0%	17.7%	12.4%	14.9%	100.0%

Table 1.5. Distribution of respondents by employment status and age groups

It is noteworthy that Georgia faces demographic aging problem (Tsuladze, 2013) that directly affects the distribution of labour force on the market. This problem requires the assessment of the skilfulness of the human capital to produce material and nonmaterial wealth for the country. Aging of the labour force is associated with the deterioration of health, physical and mental abilities, decrease of adaptability towards changeable working environment, decrease of knowledge and in the end, decrease of productivity. Considering all the above-mentioned factors, the productivity of the labour force is being developed before the age of 40, and starts to decrease afterwards (Shekhar et al., 2016). Despite such a generalized overview, the international scholarly literature also discusses the types of occupation that positively correlates

or does not correlate at all with the aging of the labour force. For instance, in case of a lawyer or a doctor, the productivity increases with the age; in case of bank officer or electrical engineer, the productivity does not depend on age in any ways, but in case of construction, the productive decreases in line with the increase of age (ibid, p. 6-7). For the occupations that require smart action or decision-making, productivity largely depends on age, while in those jobs that prioritize experience and verbal skills, aged labour force maintains high productivity. We should also consider ongoing economic, technological and organizational innovations that cause frequent and rapid changes of job requirements resulting in the alteration of factors determining labour productivity (such as physical and mental abilities, level of education, working experience). It is hard to predict what effect rapidly changeable labour market may have on the labour force of different age. However, considering the fact that technological development diminishes the demand on physical labour, it is expected that the aged labour force will maintain labour productivity within the innovative management that will pay attention to the improvement of knowledge and skills of its employees despite their age (Chawla et al., 2007).

We would like to underline that according to our data, 78% of the employees over age 41 is employed in the field of education. The respondents of 65+ (43%) represent the biggest share among them. Therefore, we can conclude that the education is the field that most vividly suffers from the problem of aging labour force in Georgia. Therefore, the decrease of productivity in this sphere is particularly expected. Herewith, it should be also considered that the majority of the individuals employed in education have graduated from the Soviet educational system. In addition, the education system, as a field of occupation, is characterized by low flexibility – young labour force rarely enters the field and thus, the aging labour force is rarely updated (Andguladze, 2015).

As for the youngest segment of the labour force (18-24 age group), their biggest part is employed in the wholesale and retail sales (21%) followed by the field of education (15%) and complex office/administrative work (15%).

It is noteworthy that 25-34 age group is the most diverse in respect to economic activities. Their majority is occupied in the banking, financial and insurance spheres (15%), followed by wholesale and retail sales (13%), defence and security (13%), education (12%) and professional, scientific and technical activities (11%) [see Annex A, Diagrams 1.8-1.16].

For more in-depth analysis of the importance of formal education in employment, we created a logistical regression model that described 50% of the variance ( $R^2$ =.501). According the analysis:

- ⇒ Level of formal education determines employment with high probability. In particular, compared to school education, Bachelor's degree increases employment opportunities almost three times, Master's degree 5 times. As for the doctoral degree, apparently, it does not have a statistically significant impact on employment chances;
- $\Rightarrow$  Men have 1.5 higher chances to get employed than women;

- $\Rightarrow$  Employment chances in the public sector is 3 times higher than in the private sector;
- ⇒ In the logistical regression model, profession obtained through higher education as well as the educational systems (Soviet, post-Soviet, Bologna) did not appear to act as predictors for employment (p>0.05) [see Annex A., Table 1.6.]. We will further explore the causes and effects of these findings in the second chapter of the present publication.

Furthermore, we created a second independent logistic regression model that evaluates the factors that may potentially have impact on employment, these are: age, experience of paid work and pre-school-aged children in the household. Despite the fact that this model explains only 5% of variance, the coefficients of the model variables still have statistical significance. According to the findings:

- $\Rightarrow$  Employment chances decrease 0.9 times with the increase of age (18+);
- $\Rightarrow$  In case of having 2-5 years of experience of paid job (including paid internship) the employment chances increase twice;
- ⇒ Despite the fact that in the first model, marital status was not statistically significant predictor for employment (p>0.05), having children under age 6 appeared to be one of the important determinants of employment (p<0.05). In particular, in case of having child(ren) under age 6 in the household, the employment chances decrease by 1. If we look at these data through gender lenses, we will see that having children under age 6 decreases the employment chances for women by 0.5, though it does not have a statistical significance in case of men (p>0.05) [see Annex A, Table 1.7].

As for the individual financial gain (economic return) of education, the statistical analysis shows that the monthly salary of employees differs by the levels of formal education. On average, the monthly salary of individuals with higher education constitutes 623 GEL, in case of the respondents with general (school) education – 497 GEL, while in case of vocational education, this number equals to 375 GEL [see Diagram 1.17]. Disperse analysis reveals that this difference is statistically significant (One-way ANOVA, F(2)=5.29, p=0.005).





<sup>23</sup> 

It is also noteworthy that according to our research, the average net monthly income of an individual is 538 GEL (according to the Caucasus Barometer 2015 this number equals to 250 USD, while World Bank reports it to be 335 USD in 2013). In respect to this indicator, the highest paying occupations are concentrated in the banking, financial and insurance sectors (782 GEL net); it is followed by construction and specialized construction occupations (758 GEL net), and complex office work and media-communication (700-700 GEL net, respectively). Agriculture/livestock, arts and services are behind the abovementioned fields with 538 GEL as monthly average income. Herewith, it should be mentioned that the statistically significant difference was observed between the variables of average monthly income and the field of occupation (One-way ANOVA, F(16)=1.85, p<0.05) [see Diagram 1.18].



Diagram 1.18. Average monthly salary within fields of occupation in respect to the country average indicator (net)

In order to identify the factors influencing the growth of monthly average income of the employed individuals, we used linear regression model in accordance with the Mincer *Earning Function* logic (for detailed methodology concerning Mincer's formula, please see subchapter Data Analysis, p. 12). According to the regression model, the following variables act as predictors of monthly growth of salary: level of formal education, gender, region (Tbilisi and other regions) and employment field. The model explained 27% of variance (R<sup>2</sup>=0.272, F(24)=6.48, p<0.05) [see Annex A, Table 1.8]. The findings of this analysis are as follows:

# Formal Education

- ⇒ Monthly average remuneration (net) of individuals with Bachelor's degree exceeds that of the individuals with complete school education by 40%;
- ⇒ Monthly average remuneration (net) of individuals with Master's degree exceeds that of the individuals with complete school education by 67%;
- $\Rightarrow$  Vocational education and doctoral degree do not have any statistical significance (p>0.05).

#### Gender

 $\Rightarrow$  Monthly average remuneration (net) of men exceeds that of women by 55%.

#### Region

⇒ Monthly average remuneration (NET) of individuals employed in Tbilisi exceeds that of individuals residing in other regions of Georgia by 46%.

#### Employment field

Compared to the field of education that is featured by the biggest share of employed individuals, the monthly average salary of those employed:

- $\Rightarrow$  In construction and specialized construction service is 86% higher;
- $\Rightarrow$  In financial, economic and insurance sector is 74% higher;
- $\Rightarrow$  In defence/security field is 69% higher;
- $\Rightarrow$  In healthcare system is 55% higher;
- $\Rightarrow$  In professional, science and technical fields is 51% higher;
- $\Rightarrow$  In complex and administrative work is 49% higher;
- $\Rightarrow$  In production is 44% higher.

If we replace the levels of education by the years of formal schooling (education) in the abovementioned regression model, we will see that in case of each additional year of schooling, the monthly salary may increase by 7% ( $R^2$ =0.258, F(20)=7.11, p<0.05).

Nevertheless, this indicator differs by gender. More specifically, in case of women, each additional year of formal schooling may increase the average monthly salary by 9% ( $R^2$ =0.068, F(3)=3.09, p<0.05), while this indicator equals to 11% in case of men ( $R^2$  =0.165, F(3)=14.73, p<0.05) [see Diagram 1.19].





#### **Summary**

One of the important problems characteristic of the national labour market is its *traditional* organization and the deficit of modern fields of occupation that, in fact, is the part of inheritance of the Soviet past (Rutkowski, 2013; Kupets, 2015). This contributes to the preservation of the low-productive labour market, and thus, significantly hinders the economic growth of the country. According to the National Statistics Office, the field of education, being the largest employer (23%), is one of the lowest-productive segments construing the country's GDP.

Herewith, it is of note that the highest productive directions in Georgia are production and trade having the highest shares in the country's GDP in 2016 (17% and 26%, respectively). Though, even in the developed economies and modern labour markets such as in the EU states, services (occupations associated with service) is one of the leading components of the EU GDP comprising 73.9% of the overall additional value in 2015 (Eurostat, 2017). The share of these fields in Georgia is rather low (National Statistics Office of Georgia, 2016), despite the fact that after collapse of the Soviet Union, similar to other post-communist countries, enormous part of the Georgian labour force moved from industry to services (Asad et al., 2008).

According to our research, overall, 17% of employed individuals is distributed in the highest productive fields of occupation (production and trade) (according to Caucasus Barometer 2015 data this number equals to 15%; according to the World Bank 2013 data – 17%). In addition, it is of note that the production field is characterized by the aging labour force in Georgia with the majority of employees over 55. Different tendency is revealed in the field of trade that is characterized by the labour force of the age 18-35. Aging of the labour force is associated with the low productivity caused by *credentials inflation* [devaluation of knowledge], i.e. when the labour force is not equipped or trained enough to respond to the specific demand of specific field (Kupets, 2015). Nevertheless, a lack of adequate knowledge and general competences is also visible in the younger labour force. This topic will be further explored in the next chapter.

According to the research on Labour Market Demand Component conducted in 2015, there is a growing demand on services and sales on the Georgian labour market; according to the CSS 2016 survey, these spheres employ only 17% of the labour force. The majority of employees fall under the most productive, prime working age (18-45). It can be declared that in the Georgian realm, the most innovative sector is banking, finances and insurance mostly employing the younger labour force (18-34). However, its share in the country's GDP is low (National Statistics Office of Georgia, 2016). According to Eurostat 2015 data, the abovementioned sphere is characterized by the highest indicator of labour productivity (Eurostat, 2017).

Overall, it should be mentioned that the Georgian labour market is low productive. This is obvious if we look at the GDP per employee (in USD) of 2016 that comprised 6514 USD per annum. This indicator is approximately 12 times smaller than that of the EU, which comprised 77,138 USD (Society and Banks, 2017).

Three main components determine the growth of labour productivity: investments, new technologies and human capital (Investopedia, Labour Productivity, n.d.). The latter falls under the scope of our research. As we saw, the lower age category and the differences of educational systems (Soviet, post-Soviet, Bologna) associated with it do not contribute to the growth of labour productivity and economy in the country. The same can be said about the level of formal education as well: the devaluated Soviet education of the older labour force, as well as career choice of younger generation are inconsistent with the demands of the labour market (that

indicates at the lack of or weak professional orientation practices in the Georgian educational system). This inconsistency contributes to the high vertical and horizontal mismatch between education and employment and structural unemployment (especially in the younger population), that in its turn, negatively affects the labour productivity.

Weak institution collaboration between the employment sector and higher educational system is revealed by the fact that the employers demand higher education diploma whether or not it is necessary for a particular position and/or is reflected in low or high salary. This argument is further strengthened by the fact that the majority of employees (58%) on the labour market have higher education, while the average monthly salary (net) equals to 538 GEL. A very strong tendency of credentials inflation on the labour market, low indicator of average salary, and nonregulated minimum wage policy on the legislative level (Evaluation of Minimum Wage Policy in the Context of Socio-Economic Development and International Obligations, 2016), all contribute to the low indicator of education return. As it was mentioned previously, currently the education return equals to 7% for each additional year of formal education, while the world average in this respect is 10%.

As for the evaluation of education return in respect to gender, it should be admitted that either in Georgia or in high-income countries (e.g. OECD countries), women stay in education for more than men do. For instance, in OECD countries the economic return of women with higher education constitute 73% that of men's (OECD, 2016). The same tendency is visible in the EU countries [see Diagram 1.21]. According the most widely spread definition, due to family obligations women tend to choose less competitive career paths, look for more flexible jobs and work part time. Therefore, compared to men, their financial gain is much lower despite the equal levels of education (ibid, p. 122).



Diagram 1.21. Difference of education return by gender in OECD and EU-22 countries

In general, together with the increase of education levels, the indicators of education return also increase in OECD and EU countries and are especially high for higher education. Indicator of

Master and doctoral levels are higher than that of Bachelor's. In particular, education return of graduate level is higher than the average indicator of Bachelor's level by 11% (ibid, pp 118-119).

Overall, we can conclude that the compatibility of education and employment is a rather problematic topic in Georgia. There is a week institutional link between these two; while nonagreed policy serves as a rooting factor for the lack of innovation on the labour market (due to the deficit of proper human capital). A low-paying (secondary) labour market existing in Georgia strongly contributes to the education inflation; and the allocation of the labour force on the market is more of a random character than relevant to the professional qualification.

We would like to stress that the better cooperation between the higher education and employment market does not necessarily mean the marketization of knowledge/education. What we mean is the quality of human (graduate) employability that is not equivalent to the concept of employment (Knight & York, 2004). From this perspective, employability comprises of four aspects of higher education:

- $\Rightarrow$  Academic knowledge that envisages the quality of theoretical knowledge of the field/subject in accordance with the levels of higher education;
- ⇒ *Procedural knowledge,* i.e. skills of applying theoretical knowledge into practice;
- ⇒ Sense of effectivity/productivity meaning the degree of self-confidence of an individual that he/she has a competence to affect certain situations or events and make certain changes;
- ⇒ Metacognition understanding of an individual of what he/she knows or is capable of doing and how to increase one' knowledge (ibid, p. 38).

Therefore, strengthening the employability of graduates requires a close cooperation of education policy-makers, education suppliers and employers to consider one another's needs and support each other through material or non-material sources that will in the end, contribute to the country's development (high skilled labour force, innovative jobs and overcoming stagnation of the labour market, increase of field productivity, etc.)

Nevertheless, currently, the productivity of the labour force is low in Georgia and the national labour market is characterized by the "traditional" organization. This is caused by the series of factors on macro and micro levels that were partially covered above and will be further explored in the coming chapter.

# Part 2. Assessment of Compatibility of Education with employment and Competences of the Labour Force in Georgia

The discussion and the analysis of the empirical data in the second chapter is a more detailed and in-depth continuation of the abovementioned. This chapter covers: a) assessment of education-job vertical and horizontal mismatch; and b) transferable competences of employed population that are used as alternative measurement of human capital in the econometrics of education. The statistical analysis provided in the second part of the publication is based on two databases: World Bank household survey conducted in Georgia in 2013 and CSS household survey conducted in 2016. We used both descriptive and explanatory statistics for the data analysis (Pearson's bivariate correlation, linear and logistical regression, ANOVA, T-test). The target group comprises of the individuals in paid jobs.<sup>3</sup>

### Subchapter 2.1. Education-Job Vertical and Horizontal Mismatch

#### Context

Analysis of compatibility between education and employment is very important within the context of research of education effectiveness. Scholars distinguish vertical and horizontal education-job mismatch. Vertical mismatch occurs when an employee possesses much higher or lower educational level than required by his/her job (either by content and/or position). In case of vertical mismatch, employees are divided into undereducated, well-matched and overeducated groups. Education-job vertical mismatch is calculated by the difference between the level of education of an employed individual (formal education) and the education required to do his/her work. Herewith, this does not envisage the compatibility between the quality of education with the labour market, but the level of formal education that is proved by individual's diploma. Horizontal mismatch occurs when a person is employed in a paid job, though not by his/her profession/specialty (OECD, 2014; Kupets, 2015).

In post-communist countries where the reforms started relatively late, reconstruction of labour market went differently compared to the developed economies; the employment in these countries increased in conflicting directions, i.e. in the direction of the needs of low and high qualification. In Georgia and other post-Soviet countries, the number of low- and average-skilled jobs increased, as well as the jobs asking for physical skills, such as construction, transportation, wholesale and retail sales. These transformations of the labour market caused the credential inflation of the biggest part of the adult population considering the fact that the post-Soviet countries (including Georgia) are characterized by the high share of university-educated labour

<sup>&</sup>lt;sup>3</sup> Employed individual is a person that did certain work within certain time period and received financial remuneration or non-material compensation; also a person having a job but not working due to vacation, illness, or other temporary reasons (<u>http://geostat.ge</u>).

force (Kupets, 2015). In the end, this was reflected in the high indicators of overeducated labour force as the population with higher education took the low-skilled jobs. At the same time, the adult labour force is no longer equipped with the knowledge and skills necessary for the modern labour market, which on the other hand, indicates to the problem of education inflation. Overall, the abovementioned part of the labour force is downgraded to the low-productivity jobs with the minimal opportunities for professional growth, while the population with lesser qualification is unemployed at all (Kupets, 2015; OECD, 2016; Hanushek, 2017). The constantly increasing numbers of university graduates in the post-communist countries that exceeds the economic possibilities of those countries further enhance the downgrading process. As a result, on the one hand, the labour market suffers from the imbalance between supply and demand of the labour force, and on the other hand, the younger generation labour force that also accepts low-skilled job replaces the older one. The competition on the already limited market increases and the aged labour forces moves towards even lower-skilled jobs or becomes unemployed. Overall, older or younger labour force lacking modern education and skills hinders the development of new technologies on the labour market, innovative directions and the increase of productivity on the macroeconomic level (Kupets, 2015; Aiyar et al., 2016).

#### **Main Findings**

The representative survey conducted by the World Bank in 2013 in Georgia within the STEP Skills Measurement Program revealed that the 64% of the economically active labour force falls in the well-matched category, 30% is overeducated, and 6% is undereducated (World Bank Microdata, 2013). In other words, 64% of the employed individuals reports to have a job relevant (adequate) to their formal education; 30% believes that their jobs require lesser education than they have, while 6% thinks that their job needs higher level of formal education. It is noteworthy that in post-communist Georgia, Ukraine and Armenia with transitional economies, the share of the overeducated labour force is not different from that of the developed economies. As for the undereducated labour force, the indicators of all three abovementioned countries is visibly lower than in the developed countries (Kupets, 2015, p. 6) [see Diagram 2.1].



*Diagram 2.1. Distribution of the labour force in European countries by high (dark blue) and low (light blue) qualification Source: Skill Mismatch and Overeducation in Transition Economies. IZA World of Labour 2016: 224, p.6, Figure.1*  We cannot state that the results of the abovementioned survey in Georgia (and not only) are 100% accurate, as this survey is based on the subjective self-assessment of the respondents. Nevertheless, these results can be explained, especially the ones concerning the high share of well-matched labour force. As it was already mentioned above, the public sector is the largest employer in Georgia with 76% of the well-matched labour force, while the private sector employs 60% of the well-matched labour force [see Diagram 2.2]. It turned out that the difference in the percentages of well-matched labour force in respect to the employment sectors is statistically significant (Independent T-Test, F(786)=36.5, p=0.000). As a post-Soviet country, Georgia is characterized by the high indicator of the population with higher education (43% - World Bank Microdata 2013; 27% - GeoStat 2014 census; 34% - Center for Social Sciences 2016), while the minimal educational level asked by the public sector during the recruitment process is Bachelor's degree (see <u>https://www.hr.gov.ge/</u>). Therefore, mostly the individuals with higher education are hired in the public sector that on the other hand, leads to the high share of well-matched employees in this sector. As for the private sector, even in this case employers prefer to hire individuals with higher education (see The Survey Report of Labour Market Demand Component, 2015). It should be admitted that the preference of higher education does not necessarily mean a blind trust of employers (in both public and private sectors) in the quality of education of applicants. Most probably, this approach is connected with the well-spread opinion that higher educated the labour force, higher the chances that they will produce better and in general, be more productive (World Bank, 2008). In other words, higher the level of literacy and skills of logical thinking of an individual, the easier it is to retrain them and equip with specific knowledge/skills for fulfilling complex tasks. This argument is supported by the fact that in the highly developed economies the sum of years of the formal education is bigger (ibid, pp. 40-43). There is another approach that states that candidates with higher education can adapt to job requirements much more easily in a shorter time period without numerous trainings (that is an additional financial burden for employers, especially in the private sector) (Kupets, 2015). The abovementioned reflects the objectives of the international educational system concerning the skills the competence-based teaching should equip the graduates with to let them easily adapt to the labour market in case they are not able to be employed by their professions (Corominas et. al, 2010). In addition, in case of Georgia, we can presume that the massive demand of employers on higher education (as it was already mentioned above) is a reflection of the credentials inflation. Especially considering the fact that the employers are asking for higher education even for those position that require vocational education (Rutkowski, 2013; Kupets, 2015).

*Diagram 2.2. Distribution of the labour force in the labour sectors according to self-reported assessment of qualification Source: World Bank Microdata 2013* 



As for the distribution of the labour force in respect to the levels of qualification and remuneration, the share of the well-matched labour force is high in all income categories. Its share (51%) is a bit lower in the income category of up to 250 GEL, while in the rest of the groups it exceeds 70%. At the same time, the biggest number of overeducated professionals (41%) fall under the income category of up to 250 GEL. This indicator twice exceeds the share of overeducated individuals in all other income categories [see Diagram 2.3]

*Diagram 2.3. Employee distribution according to self-reported assessment of qualification in the income categories Source: World Bank Microdata 2013* 



One of the major indicators of the aging labour force in Georgia is the rather high share of overeducated labour force on the state level (each third employee). In particular, the highest share of the overeducated individuals is born in 1946-1970 (33%). Although, this indicator is 3% less in the cohorts of 1971-1987 and 1988-1996 (30%). In respect to the link between the age and the qualification, Armenia, Ukraine and Georgia differ from the developed economies. Mainly, in the strongly developed economies, a rather low number of 50+ labour force falls in the overeducated category, as they have better transferable skills and better opportunities for vertical mobility on the labour market if compared with the countries like Georgia (post-communist, transitional ones). Again, this is connected with the fast economic and political reconstructions in Georgia and post-socialist countries, and in the first place, with the collapse of the Soviet planned economy that was followed by the devaluation of the Soviet education and the labour of the workforce with this education (Kupets, 2015).

Despite the fact that the level of compatibility of qualifications with labour requirements is selfreported, the number of highly educated individuals employed on low-paying (elementary) jobs is rather high; this is another proof of the professional downgrading of the labour force caused by the post-Soviet economic restructuring. Herewith, according to the World Bank 2013 data, the majority of the overeducated employees have higher education (40%), 34% of them possesses vocational education, and 26% - general (school) education. In this context, one of the most important changes following the post-Soviet economic transformation is the movement of labour positions from industry to service. Therefore, the part of the labour force that was qualified in industry-related spheres was able to work on elementary, low profile spheres that did not require any specific knowledge/skills (or it was possible to get this knowledge/skills in a short time period) or move to other job (Kupets, 2015, pp. 6-7). For instance, the highest indicator of overeducated labour force is concentrated in the agricultural and service spheres that are among the low-paying directions [see Diagram 2.4]. It is noteworthy that independent from self-assessed competences, the majority of the respondents occupied in the fields displayed on the diagram have higher or vocational education [see Diagram 2.5.].

Diagram 2.4. Distribution of the labour force by occupation Source: World Bank Microdata, 2013



*Diagram 2.5. Distribution of the labour force by level of education and occupation Source: World Bank Microdata, 2013* 



As mentioned above, the horizontal mismatch between education and employment occurs when an individual is not employed by his/her profession/specialty (Kupets, 2015). More precisely, this term denotes the level of compatibility between graduate's educational program, his/her knowledge, skills and his/her job (field of occupation, position). From this perspective, three types of education-job mismatch are distinguished: strong mismatch, weak mismatch and complete mismatch (Robst, 2007a, Nordin et al. 2010, as cited in Domadenik, Farčnik & Pastore, 2013).

Compatibility between the spheres of education and employment defines the labour productivity and remuneration; this topic is discussed through various perspectives by different theories (Domadenik, Farčnik & Pastore, 2013). For instance, according to the human capital theory, educational sphere and program equip individual with broad and at the same time very specific knowledge distinguishing this particular sphere from others. Different from this understanding, the screening theory and the theory of credentialism do not believe that the education directly results in an economic growth, though they highlight that education is an important predictor of a labour productivity and mobility (adaptability, flexibility) of an individual on the labour market. (Robst, 2007a, Arrow, 1973, Spence, 1973, as cited in Domadenik, Farčnik & Pastore, 2013).

There is no straightforward answer to the question about how exactly the horizontal mismatch between education and employment is reflected on the income. According to one opinion, horizontal mismatch brings much more financial loss than the vertical one. However, considering the assumption that in addition to the field knowledge people also acquire general (transferable) skills that are (should be) compatible with other types of work as well, the possibility of education-job mismatch and financial loss decreases (Domadenik, Farčnik & Pastore, 2013, p. 4).

When the remuneration is discussed within the context of education-job horizontal mismatch, we should also consider the reasons why an individual accepts to concrete job. In particular, it is important to look at whether it is connected with the lack of labour positions on the market (the market side, i.e. demand) or with some personal interests of an individual such as desire for better salary, promotion perspectives, additional benefits, etc. (the labour force side, i.e. supply) (ibid. p. 4).

Based on our research goal, we would like to start discussion with the education-related factors that cause education-job horizontal mismatch. At an individual level, the factors such as field of education (specialty) chosen by an individual and the level of education matter a lot. According to the international experience, horizontal mismatch is particularly frequent in case of the humanities graduates, while it is less expected in case of the health specialists (Robst, 2007a, Wolbers, 2003, as cited in Somers et al., 2016). As for the level of formal education, according to one hypothesis there is a higher probability of horizontal match (compatibility) in case of vocational education than in case of higher education, since the former prepares students for predefined very specific fields by equipping them with concrete skills. Different from the

vocational education, higher education gives students broader knowledge and more general competences that "naturally" increase the chances for its graduates of not being hired by their specialties (Levels, van der Velden & Di Stasio, 2014, as cited in Somers et al., 2016). Nevertheless, in case of Georgia, the highest horizontal compatibility between education and employment is identified among the graduates of higher educational institutions; this topic will be explored further below.

According to the results of the 2016 survey conducted by the Center for Social Sciences (CSS), 53% of employees declare that they are working by their professions, while 47% state that they are not. Among those working in their specialties, 80% possess higher education diploma, while only 20% have vocational education. Statistically significant difference was revealed between the vocational and higher education when measuring the employment of respondents in their fields of specialty (Independent T-Test, F(1.9)= 14., p<0.05). This can be explained by the fact that in case of the respondents with vocational education, the share of those employed by their professions is lower (43% works by profession, while 57% does not). The situation is contrary to the described one in case of higher education – the share of the respondents working by their professions is higher (56% works by profession, while 43% does not).

The majority of individuals working by their profession is employed in the field of education (41%). 13% is employed in professional, scientific and technical fields, while 11% - in healthcare. These spheres are more likely to be distinguished with the horizontal compatibility/match with the professional knowledge as they required specific knowledge and competences (Somers et al., 2016). 18% of those declaring not to be employed by their professions, work in the field of wholesale or retail sales, 15% - individual services, 13-13% - in office and administrative work occupations and the field of education [see Diagrams 2.6 and 2.7].



Diagram 2.6. Do you work by your profession?: yes (%). Source: Center for Social Sciences, 2016
#### Diagram 2.7. Do you work by your profession?: no (%). Source: Center for Social Sciences, 2016



If we look at the data in the context of the education level, we will observe that the majority of the respondents with higher or vocational education (48%) is employed in the field of education, while 14% is employed in professional, scientific and technical occupations. It turned out that the healthcare is the field where the majority of the respondents with vocational education employed by their profession is employed (24%). 18% works in the field of education and wholesale and retail trade, while 12% in the professional, scientific and technical occupations [see Annex B, Table 2.1].

As for those not employed by their professions, the majority both, with vocational and higher education (22% and 16%, respectively) is employed in wholesale and retail trade. Based on the research results, one can presume that the trade is the sphere that acts as a "shelter" for the part of the labour force that would get out of the labour market due to vertical or horizontal mismatch [see Annex B., table 2.1].

We will go further with our analysis with discussion of the mobility trends within the labour market that is one of the major components in the discussion of the education-job horizontal mismatch. The data for this analysis was derived from the World Bank 2013 research database.<sup>4</sup> The data analysis showed that almost all the groups, the majority of the respondents works as so-called professionals. In other words, the majority of the respondents is employed by profession and falls under the fourth (highest) level of ISCO-08 classification. This level encompasses the part of the human capital that can not only reproduce knowledge, but produce

<sup>&</sup>lt;sup>4</sup> Since one of the major focus of our research was the links between education and labour market, we are specifically looking at the groups of employed individuals (excluding self-employed respondents) having either vocational or higher education. This group comprised only 20.6% of the overall sample of the CSS survey, while in the World Bank 2013 survey this number equals to 19.6%. This once again proves that CSS survey is statistically representative. Nevertheless, in case of CSS survey, the actual number of such respondents (306 out of 1486) created technical problems when analysing the data in respect to other demographic variables and further statistical analysis. Therefore, for better illustration, we decided to use World Bank 2013 data for this particular analysis, as this database contains higher number of respondents that fall under our scope (588 out of 2996). Herewith, we would like to clarify that the World Bank 2013 survey uses ISCO-08 classification of economic occupations, while in CSS case national classification framework is used.

new knowledge within their competences (International Standard Classification of Occupations: ISCO-08/International Labour Office).

It is noteworthy that the category of professionals enlists the biggest number of respondents from the following groups: education related professions (76%), exact and natural sciences (67%), humanities (66%) and healthcare related professions (57%). In other categories the share of the abovementioned occupations varies between 11-43% [see Diagrams 2.8 and 2.9].

46% of the professionals from the World Bank 2013 database work by their profession; this number equals to 53% in the CSS database (profession-labour market mobility according to the years of birth and educational systems is displayed in Annex B, Table 2.8). According to the international experience, horizontal mismatch is less expected in case of senior and associate professionals and managers (Farooq 2011, as cited in Somers et al., 2016); this is also observed in case of Georgia. Nevertheless, it is questionable whether or not the category of professionals enrolled in the fourth (high) level group defined by ISCO-08 and the national labour market is high-productive. Especially, considering the aging problem of the labour force on the national market and the problem of credential inflation.

Together with the education-related factors, various aspects associated with the labour market should also be considered, such as number and types of vacant positions on the market (Witte & Kalleberg, 1995, as cited in Somers et al., 2016). According to the Survey Report of the Labour Market Demand Component 2015, commerce, repair of motor cars, household goods and personal items, hotels and restaurants, metallurgy and production of finished metal goods and personal services are those economic activities that most suffer from the lack of cadres (p. 20). Particular demand is visible on teachers and healthcare occupations in regions. Though, despite some differences, high demand is observed on accountants, waiters, sales assistants in all regions of Georgia including Tbilisi (ibid, p. 25). More precisely, the table below displays the most demanded positions.

#### Table 2.2. Announced vacancies on concrete positions

Occupations	Number of
	vacancies
Shop sales assistants	621
Hairdressers	465
Process control technicians nec	389
Painters and related workers	367
Sweepers and related labourers	362
Manufacturing labourers nec	354
Waiters	306
Pharmacists	266
Secondary education teachers	264
Professionals (Experts)	256
Cashiers and ticket clerks	217
Early childhood educators	209
Beauticians and related workers	207
Building frame and related trades workers nec	198
Sports coaches, instructors and officials	183

Source: Survey Report of the Labour Market Demand Component, 2015, p.25, Table 25

In respect to the problems related to recruitment process, majority of the employers admit that there is a lack of specific cadres in Georgia and applicants do not possess skills relevant to the working positions. Sales and marketing managers, confectioner, bank cashiers, teachers and journalists are named among the most deficit professions [see Table 2.3].

Table 2.3. Lack of labour resources due to the lack of cadres on concrete positions

Source: Survey Report of the Labour Market Demand Component, 2015, p.18, Table 9

Occupations	Number of
	vacancies
Sales and marketing managers	135
Secondary education teachers	97
Sheet-metal workers	57
Journalists	51
Data entry clerks	48
Managing directors and chief executives	47
Manufacturing labourers nec	47
Bakers, pastry-cooks and confectionery makers	27
Software developers	26
Legal professionals nec	21
University and higher education teachers	19
Information technology trainers	19
Athletes and sports players	18
Accountants	16
Credit and loans officers	15
Bank tellers and related clerks	15
Craft and related workers nec	15

According to the ISCO-08 classification the abovementioned positions are mainly united in the fields of services and trade, personal services, craftsmen/workers and professions in the field of education. Therefore, it is interesting to see which fields are distinguished with the big numbers of graduates in Georgia and whether or not the professional preferences change over time. Based on the data of the National Statistics Office of Georgia, majority of the undergraduates (Bachelor's level) of both public and private universities come from the faculties of social sciences, business and law. These programmes are leading since 2011, especially in case of private universities. Increasing numbers of graduates are observed in the service-related educational programmes and the fields of engineering-construction in both private and public universities. There is a decreasing tendency in case of healthcare, social sciences and agricultural educational programs [see Diagrams 2.8 and 2.9].

*Diagram 2.8. Number of graduates of public higher education institutions Source: National Statistics Office of Georgia* 

$7000 \\ 6000 \\ 5000 \\ 4000 \\ 3000 \\ 2000 \\ 1000 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\$						
0	2011	2012	2013	2014	2015	2016
- Education	82	144	415	311	426	281
- Humanities and Arts	1258	1685	2066	2300	1994	1865
– Social Sciences, Business and Law	3738	4049	5094	6033	4515	4590
- Hard Sciences	1423	1199	1336	1102	2284	2190
- Engineering, Construction	522	650	892	1228	924	883
- Agriculture	60	94	114	52	49	43
Healthcare and Social Protection	1014	1345	1467	1016	769	456
- Services	413	698	607	181	652	686

Diagram 2.9. Number of graduates from private higher education institutions

Source: National Statistics Office of Georgia



As it is visible from the diagrams displayed above, there is a big demand, and thus, higher number of vacant positions in the fields of services and trade and personal services on the contemporary Georgian market. At the same time, the biggest numbers of university graduates are observed in the directions that prepares high level professionals and not workers who would agree to work in trade or services (ISCO-08).

Hence, it would not be exaggeration if we say that the contemporary national labour market is featured with an actual disbalance between the demand and supply of human capital. On the other hand, this argument points at a weak institutional links between the educational policy and the labour market that is significant determinant of education-job horizontal and vertical mismatch (Domadenik et al., 2013; Kupets, 2015; Somers et al., 2016).

Kupets (2015) analyses the interrelationship of education and employment in post-communist transitional states, such as Armenia, Georgia, Macedonia and Ukraine. The author notes that the disbalance between labour force with higher education and the requirements of labour market in the abovementioned countries is caused by not only weak educational state policy, but by the stagnation of labour market as well, since they are characterized slowly emerging new positions

in state-of-the-art and high productive sectors. Different from the labour market, educational systems have significantly expended in the post-communist countries since 90s, especially, on the expense of the increased numbers of private educational institutions. Therefore, limited labour market cannot handle oversupply of university graduates and effectively use the human capital of the country. Kupets admits that in all four transitional countries the majority of the labour positions are supplied in low productive fields such as sales, distribution and renovation, agriculture, services, food, production, transport and public sectors that do not provide adequate remuneration to employees (ibid, pp. 9-10); similar tendency was revealed in our research as well. The author also touches upon the type of education. According to him, one third of the labour positions in Georgia (just as in three other countries) require vocational education, but this demand cannot be met due to two main reasons: there is a lack of human resources with proper necessary knowledge and/or these positions are occupied with highly educated labour force (ibid, p. 10).

The abovementioned argument is supported by the statistical data as well, according to which in 2016 only 2155 persons graduated from the vocational programmes, while 15,575 persons – from Bachelor's programs (National Statistics Office of Georgia). In addition, similar to the university graduates, the majority of the graduates of vocational educational institutions (VET) come from the fields such as engineering-construction, agriculture and hard sciences (ibid). Therefore, even in case of the VET graduates there is a problem of supply-demand balance. If we look at the employment indicators, it equalled to 56% in case of VET graduates by the end of learning process in 2015 (Tracer Study Report, 2015). Considering the fact that we do not have any other graduate employment tracking sources, we can compare the abovementioned data to 2012-2014 employment indicators of university graduates that equalled to 71% by May-July 2015 (Lezhava and Amashukeli, 2015. p. 12). The CSS study revealed that the majority of VET graduates (57%) are not employed by their professions. Also, only 23% of the respondents with vocational education are employed, while this indicator reaches 50% in case of the university graduates [see Chapter 1].

In addition, it is also noteworthy to see which level of education is necessary/enough for getting an anticipated job (including anticipated salary as well) according to the population's beliefs. We should admit that the population's opinion on this matter coincides with the existing reality – higher education diploma is prioritized on the Georgian labour market. 33% of our respondents believe that Master's diploma is necessary, 24% of them think that Bachelor's level is enough, while 18% think that none of the degrees acquired in Georgia is enough to get a desirable job. It is also noteworthy that Master's diploma is believed to be prerequisite for employment in case of respondents without formal education, as well as by the majority of the respondents with general, vocational and higher education [see Table 2.4].

40

Actual level of education of	Bachelor's	Master's	Doctoral	Vocational	General	None of the
the respondents	degree	degree	degree	education	education	abovementioned
						levels
Without formal education	17%	33%	0%	7%	20%	23%
General education	29%	34%	7%	7%	6%	17%
(including incomplete)						
Vocational education	22%	30%	11%	17%	3%	17%
Higher education (B/M/D)	24%	37%	13%	2%	1%	22%

Table 2.4. Level of education necessary for employment according to the respondents' levels of formal educationSource: Center for Social Sciences, 2016

It can also be added here that in rich economies (such as OECD countries), the low level of education more strongly correlates with unemployment, while in non-OECD countries, the situation is vice versa, unemployment is frequently associated with the high levels of education. These results can be explained by the fact that in the poor economies (in non-OECD countries), acquiring education serves as a prerequisite for employment. Therefore, higher the level of education, higher the chances for employment. Similar circumstances can be observed in Georgia concerning the interrelation between higher education and employment: Master's diploma is a prerequisite for increased chances of employment and not for higher remuneration or employment by profession (Bregvadze, 2013) that is also confirmed by the regression analysis provided in the first chapter of this publication [see Chapter 1].

We have discussed the education-employment mismatch on a macro level. Though, factors influencing this mismatch on micro (individual) level are also notable. Career choice of an individual and the rationale behind this decision is one of those factors; this also envisages taking into account the employment perspectives when choosing profession in order to avoid vertical and horizontal mismatch between education and employment, as well as financial loses (inadequate labour remuneration) associated with it (Robst, 2007, as cited in Kupets, 2015). The abovementioned topic was also somewhat discussed in the context of demand-supply disbalance on the Georgian labour market (pp. 12-14). Though, we should also note that according to the dispersion analysis of the World Bank 2013 data, career choice differs according to the age categories (One way ANOVA, F(4)= 3.45, p<0.05). As the GeoStat data revealed young people from 18-27 age group give priority to business and administration (35%), journalism (29%), veterinary (29%), law (19%), etc. Engineering and construction-industrial processing are the professions distinguished with the high representative share of 39+ age group [see Diagram 2.10].

Diagram 2.10 Career choice by age Source: World Bank Microdata, 2013



In addition to career choice, motivations for getting education are also important. For instance, according to the 2016 CSS survey, 52% of the respondents admit that *"better employment opportunities"* is the main reason for getting degree (Bachelor, Master or PhD); it is followed by *"high salary"* <sup>5</sup> (35%), and *"acquiring social status"* (18%). In case of the first response (*"better employment opportunities*) no statistically significant difference was revealed by age (One way ANOVA, F(5)=1.183, p>0.05), gender (Independent T- Test, F(510)=3.39, p>0.05), settlement type (urban/rural) (Independent T- Test, F(510)=1.44, p>0.05) and employment status (Independent T-Test, F(510)=0.049, p>0.05).

In case of the second response (*"high salary"*) statistically significant difference was revealed by respondents' gender (Independent T-Test, F(510)=18.35, p=0.000) and settlement type (Independent T-Test, F(510)=26.90, p=0.000). These results are not unexpected considering the fact that the average monthly income differs by gender in case of the employed respondents with higher education. In particular, average monthly salary after taxes of women with higher education is 243.96 GEL, while it is 495.07 GEL in case of men. As for the settlement type, in urban areas average monthly salary is 368.73 GEL (net), while in rural ones – 293.03 GEL (net).

Overall, it should be admitted that in Georgia formal education influences employment by increasing the possibilities of getting job (as it was discussed in the first chapter, Bachelor's degree increases employment chances 3 times, while Master's degree 4.6 times). Nevertheless, it does not constitute an actual prerequisite for vertical/horizontal compatibility with the labour market, and hence, for "better employment opportunities" or "higher salary." This argument is confirmed by the responses of our respondents to the question on why they decided to work on the position they occupy at the moment:

<sup>&</sup>lt;sup>5</sup> Anticipated/preferable salary for the respondent

- i. "Salary is not good and [my job] does not match my profession, but I had financial problems"
   33%
- ii. "Salary is not good but [my job] matches my profession" 26%
- iii. "It [my job] does not match my profession, but the salary is good" 23%
- iv. "Salary is good and it [my job] matches my profession" 19%

Analysis of the respondents' responses with their levels of formal education reveals a very weak, but negative correlation between these two variables. This points at the fact that the majority of the respondents with higher education agreed to the job due to financial problems (r= -.115; p<0.05). Statistically significant difference was observed between the reason of accepting job offer and respondents' gender (Independent T-Test, F(367)= 15.3, p= 0.000). In particular, 14% more men admit that they accepted the job due to matches between good salary and possibility to work by profession. In case of women, possibilities to work by profession dominates over other reasons despite the fact that salary is not good (74%); also, agreeing to work due to financial problems also shows high percentage (53%) despite not having good salary and existing mismatch with one's profession [see Table 2.5.].

*Table 2.5. Motivation for agreeing to current job by gender Source: Center for Social Sciences, 2016* 

	Male	Female
Salary is not good and [my job] does not match my profession,	48%	53%
but I had financial problems		
Salary is not good but [my job] matches my profession	26%	74%
It [my job] does not match my profession, but the salary is good	57%	43%
Salary is good and it [my job] matches my profession	57%	43%

Analysis of the data by gender revealed that the higher the age category the respondent belongs to, the higher the chances that he/she would agree to low-paying job due to financial problems. 18-24 is the age group which is distinguished by higher matches of good salary and working by one's profession [see Diagram 2.11].



Diagram 2.11. Motivation for agreeing to current job by age groups Source: Center for Social Sciences 2016

Salary is not good and [my job] does not match my profession, but I had financial problems

Salary is not good but [my job] matches my profession

It [my job] does not match my profession, but the salary is good

Salary is good and it [my job] matches my profession

### Summary

Considering the research results, we can conclude that on macro level the best example of education-job vertical and horizontal mismatch in Georgia is an existing structural unemployment, i.e. the labour force is unable to meet the market requirements (Rutkowski, 2013). As it was mentioned for several times, one of the main reasons of structural unemployment in Georgia and other post-communist countries is the series of economic-political transformation that position these countries in the list of transitional states. Having these transformations as background, credential (knowledge) inflation served as one of the reasons of unemployment of those parts of population that were educated (including higher education) in the Soviet system; this was reflected in their employment on the one hand, and increase of education-job vertical mismatch, on the other (Rutkowski, 2013; Kupets, 2015). However, this reason hardly explains unemployment of younger labour force that was educated in post-Soviet Georgia, in particular, who received higher education after the initialization of the Bologna Process. In case of younger population, structural unemployment is caused by the incompatibility (disbalance) between the occupation types required by the contemporary labour market and professions (higher education) chosen by young people (horizontal mismatch). Therefore, majority of these people accepts to low-productive jobs (vertical mismatch) that in addition to the decreased chances of professional development is associated with financial loses considering the money spent on education, or is reflected in structural unemployment (Rutkowski, 2013; Kupets, 2015; Schnabel, 2016; Somers et al., 2016). This disbalance between concrete knowledge (competences) demanded by the market and human resources supplied creates deficit that is one of the important factors causing demand deficient unemployment on the state level. The abovementioned disbalance is a reflection of ineffective cooperation between the Georgian educational system and employers. As it was already discussed, higher education is one of the leading requirements of employers whether or not it is necessary for the concrete position.

For instance, for the positions of warehouse manager, call centre operator or promo agent, employers usually ask for higher education (The Survey Report of Labour Market Demand Component, 2015, pp. 77-85). Though, according to our research results average monthly salary for these positions is around 400 GEL (net). In addition, according to ISCO-08 classification, these positions represent Skill Level 2 category that requires general literacy and simple arithmetic, and not higher education (ISCO-08, 2012, p. 23). Consequently, employers play important role in the reproduction of credentials inflation and maintaining supply-demand disbalance in post-Soviet Georgia.

Besides, the abovementioned problems are closely connected with the minimal wage policy of these countries. Today the only legal act in Georgia defining a minimal wage of 20 GEL for employees of private sectors is Decree No. 351 of the President of Georgia of 4 June 1999 (Trade Unions of Georgia, The Office of Public Defender of Georgia, 2016). This act also spreads on the individuals employed in the public sector. However, Decree No. 43 of the President of Georgia of

24 June 2005 defined different minimal amount (135 GEL) for individuals employed in the executive branch of the government. In addition, minimal threshold of teachers' salary is regulated independently and constitutes 384 GEL in case of full working load (ibid., pp. 4-5). Despite this, it is noteworthy that 62,681 employees earn less than the minimal wage (which equals to 157 GEL according to June 2016 data), while 130,282 persons earn less than the household minimal earning (263 GEL according to June 2016 data) (ibid., p. 5). This statement is confirmed by the Caucasus Barometer 2015 data stating that 17% of the employed population cannot earn enough money for food, 27% can earn money enough only for food, 46% can earn enough for food and clothes (Caucasus Barometer, 2015). The 2016 joint document of the Public Defender of Georgia and Georgian Trade Unions on Assessment of Compatibility of Minimal Wage Policy in the Context of Georgia's Socio-economic Development and Obligations provides set of recommendations, such as: defining fair minimal wage threshold, putting the definition of the minimal wage in the Labour Code of Georgia, monitoring of minimal wage policy by the labour inspection, etc. (Trade Unions of Georgia, The Office of Public Defender of Georgia, 2016).

The major recommendation of the educational policymakers concerning the elimination of the education-job mismatch among the younger population is focused on the enhancement of the career guidance mechanisms in order to avoid ineffective (non-productive) career choice. For this purpose, close cooperation between the employment sector with the educational systems is one of the major prerequisites. In addition, employer should pay more attention to the enhancement of employees' competences, investment in their knowledge/experience advancement and on-job training. Besides, enlargement of the labour market by introducing innovative labour directions is one of the preconditions for sustainable development of the country (Kupets, 2015).

Considering the situation on the national labour market without targeted effective measures, there is a high probability that the increasing tendencies of young population's unemployment due to vertical/horizontal mismatch would be more and more visible. It also should be mentioned here that this tendency is already obvious. For instance, in the cohort of 1988-1994 (i.e. 23-29 age group) who graduated from the university within the Bologna system and have at least bachelor's degree, the biggest share of the respondents fall on the group that is employed in sales and services sectors or work as administrative clerks (42%). The smallest group employed in the abovementioned spheres is the cohort of 1948-1970 (i.e. 47-69 age group) having five-year Soviet education (14%), while in case of the cohort of 1971-1987 (30-46 age group) the share equals to 21%. The number of the individuals employed in the professional category also decreases accordingly and the smallest indicator is observed in case of young people (61%, 46% and 31%, respectively) [see Annex B, Table 2.7]. 42% of the young people working in sales, services and office clerical spheres report to have higher education diplomas in business administration, journalism, humanities, social sciences and healthcare [see Annex B, Table 2.8]. The abovementioned clearly indicates the strong horizontal and vertical mismatch on the national labour market, especially in case of 23-29 aged labour force.

45

# Subchapter 2.2. Assessment of Transferable Competences of Employees in Georgia

# Context

During last decades, the European higher educational systems make bigger focus on the integration of theoretical teaching with the practical one. This envisages the development of the educational programmes that would be in compliance with the demands and challenges of the contemporary world and economic market. These demands go far beyond the field knowledge and seek for human capital with various transferable competences (Lezhava & Amashukeli, 2015).

In a broader sense, competence is an opportunity for performing actions relevant for purpose/anticipated outcome (e.g. competitiveness on the labour market). More precisely, competence as an opportunity implies mobilizing resources (e.g. knowledge, skills) in a specific social context for achieving objectives relevant for this particular context. Competence can be learnt, i.e. it is a direct result of teaching and learning, is necessary and important for all individuals and at the same time, is transferable, meaning that it is relevant for various social environments/situations and occupation spheres/types (OECD, 2016, pp. 96-97).

European Council and European Commission introduced a framework document entitled *Education and Training 2020* defining development of relevant and high-quality knowledge, skills and competences through lifelong learning and their connections with employment, innovation, active citizenship and welfare, as one of the priority directions. The document specifically focuses on the quality assurance of educational outcomes (knowledge, skills, competences) not only for the sake of economic productivity of the country or for increasing the competitiveness of labour force, but for enhancement of democratic, inclusive and equal social life (The Joint Report from the Commission and Member States, 2015).

According to the Education and Training 2020, the development of basic skills supports the development of the key competences and approaches, such as creativity, entrepreneurship and sense of initiative, digital competences, foreign languages, creative thinking, e-literacy and multimedia knowledge. On the other hand, the abovementioned competences develop human capital with the capacity to respond to the vastly developing digital and green economy demands and technological, climate and demographic changes (ibid, pp. 1-3).

During last 30 years the international society defined the set of key competences combined in three main dimensions: knowledge, skills and personal qualities (values, attitudes, perceptions). The table below [see Table 2.9] enlists those skills (and their indicators) that are defined to be essential for participating in the labour market and social life (OECD, 2016).

 Table 2.9. Metaclassification of Competency Framework (OECD, 2016)

Skills Category	Skills Indicators			
1. Cognitive Skills:				
Communication	Reading, writing, verbal communication, foreign languages			
Information Processing	Analytical thinking, organizing information			
Problem-solving	Identifying problem, planning and implementing action plan, identifying			
	causal/correlative links and applying them in the problem-solving process			
Learning	Learning skills, reflection, managing learning process			
Mathematics	Applying quantitative indicators, quantitative reasoning, communicating			
	through mathematical languages			
2. Interpersonal Skills $\rightarrow$	Team work, participating in projects, cultural sensitivity, stress			
	management			
3. Intrapersonal Skills:				
Self-regulation	Comprehending/ acknowledging own actions, self-reflection, cognition,			
	adaption, stress handling			
Management	Managing self (and others), organizing, responsibility			
Creativity/manufacturing	Creative, initiative, assessing and taking risks			
4. Technological Skills:				
ICT	Using technologies			

Despite the positive correlation between the years of formal education and economic growth of countries attested by various empirical research, starting from 60s the scepticism is growing concerning the years of education being the only relevant indicator of human capital (Broecke, 2016; Hanushek, 2017). This scepticism was based on the assumption that the positive correlation between the years of education and economic growth does not point at the causal relations between these two and high-productive human capital due to other important factors, such as quality of education (as well as socio-economic conditions of family, peers, health, etc.). In addition, the average indicator of formal education years does not show the initial quality of education or the tendencies of its changes (increase/decrease). Besides, each additional year of formal education is not identical in all countries, as the educational systems are not homogeneous and differ by country. Therefore, there emerged a necessity of models that would consider quality of education while calculating education return (Hanushek & Kimko, 2000; Dessus, 2001).

In the economics of modern education, the direct assessment of cognitive skills is used as the alternative measurement of human capital; this indicator is called knowledge capital (Hanushek, 2017). As it is displayed in the table above, cognitive skills comprise of the components such as literacy, mathematical thinking, problem identification and solving, communication, learning skill, information processing skill, etc. (OECD, 2016).

Knowledge capital is believed to be a better assessment tool for measuring the economic effect of education, if compared to the years of formal education. This is due to the following reasons: a) increase of knowledge capital indicator explains ¾ of the indicator variance of long-term economic growth between countries, while formal education explains ¼ of this indicator; b) statistical correlation remains stable (does not change) when the additional variables characteristic of the countries are included in the regression model (quantity of population, political stability, share capital, geographic location, etc.). These additional variables control the causal relations between knowledge capital and economic growth that are "lost" in traditional model (having years of formal education as independent variable); and c) statistical correlation between knowledge capital and country's economic growth is very strong. In particular, increase of knowledge capital with one standard deviation is associated with the 2% annual economic growth that is approximately equivalent to the Eastern Asian (e.g. Japan, China) economic growth in respect to the OECD countries' average indicator (Hanushek, 2017, pp. 3-4).

Organisation for Economic Cooperation and Development initiated cycle studies (International Adult Literacy Survey, 1994-1998; Adult Literacy and Life Skills Survey, 2002-2003, 2006; Survey of Adult Skills, 2008-2013, 2012-2016) that serve as the mechanisms for large-scale assessment of adult population's cognitive skills and cross-country comparisons (Broecke, 2016). Despite the fact that none of the abovementioned studies have been conducted in Georgia, within the STEP program (Skills toward Employment and Productivity) the World Bank conducted the survey in Georgia and other developing countries in 2012-2014 about the skills of adult population for employment and labour productivity (the field research in Georgia was conducted in 2013). More specifically, the World Bank database contains the information about cognitive, socio-emotional and employment-related skills of the adult population (Herrera-Sosa et al., 2015, pp. 20-21). In addition, STEP 2013 database provides the information on adult populations literacy levels based not on the self-assessment of those skills, but on the accomplishment of various standardized tasks (such as identifying specific information from the text, interpretation, reflection, etc.).<sup>6</sup> The statistical analysis provided in this subchapter is based specifically on the transferable competences of the adult population in Georgia.

# **Main Findings**

Despite the fact that people develop transferable skills through various mean, formal education is still the mains source for this. Comparative analysis between the countries done by OECD (2016) shows that employees with higher education use information-processing skills more often than those with lower levels of education. According to the research, writing and problem-solving skills are the most used ones at the workplace. They are followed by reading, mathematics and information technology skills. These results support the argument that the frequency of skills usage defines labour productivity, as well as stimulates innovations and investments. Nevertheless, on the other hand, specifics of management also define the quality and frequency of skills usage by employees (OECD, 2016).

According to the World Bank 2013 data on Georgia, 95% of the respondents were able pass the literacy test (responded correctly to 3/8 of questions). 67% of the respondents correctly answered to 8 questions, 17% - 7 questions, while 12% - 1-5 questions. 3.4% of the respondents could not respond correctly to any of the questions (World Bank Microdata, 2013). Herewith, it

<sup>&</sup>lt;sup>6</sup> For detailed methodology, please see the following link:

is noteworthy that in respect to difficulty, 90% of the test questions are placed between first and third levels on 5-level scale, where the first level implies the easiest tasks (A guide to Understanding the Literacy Assessment of the STEP Skills Measurement Survey 2014, p. 14).

It turned out that the most used skill on the national labour market (independent from the level of education) is reading (67%), followed by mathematical skills (60%), writing (52%) and computer literacy (48%) [see Diagram 2.12]. As for the correlation between the usage of these skills with the level of formal education, the Pearson bivariate analysis shows a positive correlation between them. Therefore, the higher the level of education, the higher the intensity of using these skills at the workplace. For instance, the average correlation was observed between the reading skill and education level (r=0.442, p>0.01). It is followed by the correlation level (r=0.331, p>0.01) and finally, the weakest correlation was observed between mathematical skills and education level (r=0.125, p>0.01).



Diagram 2.12. usage of key skills at the workplace. Source: World Bank Microdata, 2013

Computer literacy is a key technical skill connected to labour in the modern world; while technical skills are most demanded on the national labour market in case of blue-collar (workers, craftsmen) as well as white-collar (office workers) labour force (Rutkowski, 2013). In respect to computer usage, the Georgian population is divided in two: those who use computer both at work and outside it very frequently (51%) and those who never use computer (32%) [see Diagram 2.13].

Diagram 2.13. Frequency of using computer. Source World Bank Microdata, 2013



Logistical regression revealed that the higher education, age, employment status, employment sphere, literacy skills and the educational system (Soviet, post-Soviet, Bologna) are the factors that define the intensity of computer usage [see Annex B, Table 2.10]. In particular, compared to the general education, intensity of computer usage is twice as high in case of Bachelor's degree, it is three times higher in case of Master's, and – 10 times higher in case of doctoral degree (World Bank Microdata, 2013).

It should be admitted that compared to the population of 50+, computer usage is 8 times more intense in case of 18-27 age group, 5 times more intense in case of 29-38 age group, and twice as intense in case of 39-48 age group. Intensity of computer usage increases twice with the intensity of usage of reading skill, while it increases 1.5 times with the usage of writing skill. As it was expected, in the higher education system of Georgia, compared to the Bologna graduates, the intensity of the computer usage is 0.33 times lower in the post-Soviet cohort and 0.47 times lower in the Soviet cohort.

The usage of computer increases twice in case of employed respondents compared to unemployed. As for the probability of intensive use of computer according to the fields of occupation, compared to professionals' group, it is 0.4 times less in case of low qualification workers. Though it is twice as high in case of technicians/assistant professionals, three times higher for managers, and 8 times higher in case of office workers. Even simple descriptive statistics show that the intensity of computer usage is moderate or higher than moderate in case of office work, security and defence occupations and management. The labour force employed in the agriculture, industry, sales or craftsmanship does not use computer at all [see Diagram 2.14].

In addition, we can declare that the experience of using computer intensively increases employment probability twice. As for cognitive skills, writing skills and experience (both in formal or informal settings) increase employment probability 2.4 times, while mathematical skills – 1.4 times. Reading skills and achievements in literacy do not act as predictors of employment (p.0.05) [see Annex B., Logistical Regression 2.1].



Diagram 2.14. Usage of computer at the workplace Source: World Bank Microdata, 2013 Interesting tendencies were revealed in CSS 2016 survey as well. In particular, when asked how they would assess their own competences acquired within educational institutions, the respondents' assessments were rather high in case of cognitive skills that combined the following parameters in the factor analysis: field knowledge, analytical thinking, application of theoretical knowledge into practice, communication skills, working in the stressful environment, effective time management and team work. The technical skills, such as management, computer literacy, creative thinking, effective presentations skills (i.e. delivering speech in front of the audience, report and document writing, knowledge of the English language, preparing CV) were evaluated more negatively by the respondents [see Diagram 2.15].





It is noteworthy that the similar tendency was exposed in CSS survey of 2015, which comprised of 1001 respondents graduating from the social sciences and business administration programmes in 2012-2014 (Lezhava & Amashukeli, 2015). According to the research results, the majority of the graduates positively evaluate the role of the universities in development of their cognitive skills, while they are less satisfied with their technical skills, especially in case the graduates of the public universities (ibid., p. 18, 45). Nevertheless, the same research report states that the employers quite negatively evaluate the transferable skills of the graduates and admit that the universities have to work more to develop certain analytical, writing and communication skills in their students, thus, better prepare them to enter the labour market. English proficiency of the university graduates is another problem discussed by the employers. It is noteworthy that the academic and administrative personnel of the higher education institutions partially agree with this statement and declare that there is an urgent need to improve the cooperation between the labour market and universities (ibid., pp. 38-40). Economic effect of transferable skills is no less important; this topic is widely discussed in the modern economics of education (Rutkowski, 2013; Broecke, 2016; Hanushek, 2016). International studies empirically confirm the positive role of enhancing transferable skills of economically active labour force not only on economic growth (macro level), but on the rise of employees' salaries (micro level) and reduction of inequality on the labour market due to difference in remuneration (in case skills development is proportionate to the labour force and does not focus only on elite groups) (Hanushek, 2016, p. 8).

According to the international experience, there is a strong correlation between the usage of transferable skills and the salaries of employees: the remuneration of those deploying general skills at workplace is much higher, despite their professions or levels of education. It is noteworthy that salary most strongly correlates with the intensity of usage of IT and reading skills (OECD, 2016). In order to demonstrate this correlation Broecke (2016) discusses the OECD initiated adult literacy survey (PIAAC survey) results that show that the average income of the individuals able to understand and reflect complex mathematical information (have got 4 or 5 points in mathematics literacy test) is 60% higher than that of the individuals having lesser mathematical skills (got 1 or less in mathematics literacy test) (Broecke, 2016, pp. 5-6).

While discussing links between transferable skills and remuneration, we should also consider the balance of demand-supply on the labour market. In particular, when there is a high demand on certain skills, while there is a lack of the adequate labour force, the economic benefit of an individual increases based on the lower competition. Therefore, both difference in remuneration on the macro level and income inequality increase. And vice versa, when the number of the labour force with relevant skills matches or exceeds the demand, the competition increases while individual economic benefit and income inequality decreases (ibid., p. 7). Compared to the European standards, income inequality is high in Georgia and strongly correlates with the growing indicators of low salary. Low salary is defined as less than 2/3 of average or median income (salary) indicators (Rutkowski, 2013). According to this criterion, about 40% fell under the low-income workers' category in 2013 (ibid., p. 3). Based on the research of the Center for Social Sciences, this indicator has increased to 42% in 2016. Rutkowski (2013) states that the average indicator of low income in the European countries varies between 10-20% and rarely exceeds this percentage. While in Georgia it is twice as high. Herewith, it is noteworthy that the high indicator of low income serves as a poverty indicator of the country (Rutkowski, 2013).

Statistical analysis of the World Bank 2013 Georgia data revealed that the computer usage is the strongest predictor for increasing economic benefit on an individual level. In particular, computer skills increase the average potential monthly remuneration by 68%. As for other skills, 25% average increase is possible in case of good writing skills. Reading skills (tested by cognitive skills standardized test - STEP) did not appear to be a statistically significant variable; though it potentially increases monthly income by 7% in case of each additional correct response to the

test questions. No statistical influence was observed of mathematic and reading skills over income growth (R<sup>2</sup>=0.72, F(10)=1, 3p>0.05) [see Annex B, Linear Regression Analysis 2.1].

The analysis results and particularly statistical importance of computer literacy are not surprising, especially if we consider its deficit among the population (32% does not use computer at all) and he fact that it is less used (48%) on the national market if compared to other skills. At the same time, computer literacy and technical skills in general are highly demanded by the employers. Considering the abovementioned, we can assume that there is a bigger demand on the market than the supply. Therefore, the segment of the labour force that meets the criteria of the market, gets higher economic benefit (68% increase in income in case of having this skill). According to the regression analysis, this perspective is more viable in case of the labour force that received education (at least Bachelor's degree) in the Bologna system and fall under the 18-27 age group. In addition, perspectives of their employment increases in the spheres such as management, complex office and administrative field, security and defence and professional work [see Annex B, Logistic Regression 2.1]. Nevertheless, it is noteworthy that computer skills increase the probability of employment only twice (p. 29) that is determined by more traditional structure of the labour market and thus, existence of low-productive sectors. At the same time, national labour market is less characterized by modern business and financial services that require more educated and highly skilled labour force (Rutkowski, 2013).

## Summary

In addition to the education-employment vertical and horizontal mismatch there is a skill gap on the labour market in Georgia as well, i.e. disbalance between the requirements of the labour market and human capital with the adequate competences (knowledge, skills and interpersonal features). It is also noteworthy that lack of competences is one of the main contributors to the unemployment that is so viable in the country (Rutkowski 2013, p.9). This conclusion sounds logical if we consider that competence means much more than each of its components (e.g. only field knowledge or only skills). In total, competence should be a) multicomponent, and b) transferable, i.e. relevant to various spheres and fields of occupation (OECD, 2016). Therefore, in a country like Georgia that faces structural unemployment caused by education-job vertical and horizontal mismatch, supply of competences adequate to the labour market demand would compensate problems with credential inflation (vertical mismatch) and career choice (horizontal mismatch) as it would enable the labour force to be more flexible, mobile and adaptive to the requirements. Nevertheless, it is less possible to translate the abovementioned into practice taking into account the fact that the labour force (at least, its majority) lacks such resource. This is obvious by the fact that the population lacks two principally essential skills for employment and labour productivity – computer literacy and English language proficiency. It is also noteworthy that these skills are being developed in a very slow pace [see Diagrams 2.16 and 2.17].

Diagram 2.16. Computer literacy among the Georgian population 2008-2015. Green line depicts "some knowledge", while blue line denotes "no basic knowledge". Source: Caucasus Research Resource Centre



Diagram 2.17. English language proficiency among the Georgian population 2008-2015. Green line depicts "some knowledge", while blue line denotes "no basic knowledge". Source: Caucasus Research Resource Centre



Despite the fact that the problem with the lack of competences is actual for the majority of the economically active labour force, it is still the most problematic for 50+ population. It also should be considered that having higher education diploma does not mean (guarantee) that an individual would possess all transferable skills necessary for employment. This factor causes long-term unemployment in the population with higher education, and particularly in the younger labour force (Rutkowski 2013).

It was already mentioned above that the educational systems vary by countries. This heterogeneity is mainly caused by the approach that is more actual for the higher education policy agenda of particular countries: whether it is access approach or quality approach. And as discussed above, the latter envisages supporting the economic development of the country through supplying necessary and relevant human capital (Hanushek, 2017). According to Hanushek and Woessmann (2015) calculations, access to the development of universal basic skills has the strongest positive effect on the growth of the both low-income and high-income economies. In this case, the authors expect the low-income economies to increase their GDPs 13 times by 2030 (though, this envisages the development of basic skills at the school level, such as

understanding of the instructions, processing information according to those instructions and undertaking routine procedures) (Hanushek & Woessmann, 2015).

The World Bank 2008 report about MENA countries (Middle East and North Africa) provides a very interesting insight concerning the quality of education. The report states that educational systems of MENA countries are less focused on critical thinking and problem solving, but more on teaching-repeating definitions, facts and concept. Therefore, the labour force of these countries with high average indicator of education cannot generate productivity and economic growth. Therefore, it is assumed that the weak links between the investment in human capital and economic growth is caused by the low quality education (The International Bank for Reconstruction and Development / The World Bank, 2008).

The abovementioned is reflected by the recent study conducted in Georgia that concerns the assessment of quality of education by the university students and graduates (Lezhava & Amashukeli, 2016). According to the research results, the major problem is the lack of practical component in the teaching process (i.e. application of knowledge into practice), interactive classwork and critical reasoning. According to the students, professors are more focused on theoretical teaching; course syllabi are not updated constantly and there is a problem of access to the Georgian language literature, since neither professors nor students have enough proficiency of English (ibid., p. 113). Weak cooperation between universities and business (employers) is another problem: universities rarely study the labour market demands and needs and are not interested in introduction of high-quality and student-oriented internship programs and projects that would develop certain practical skills in students and motivate them to get working experience (Lezhava & Amashukeli, 2014; Lezhava & Amashukeli, 2016). The fact that the leading public universities have more than 50% of students with below average performance indicator (2.5 GPA out of 4) also points at the low quality of education [see Diagram 2.18].

Diagram 2.18. Percentage of 2014 graduates with GPA lower than average point by universities.

Source: Assurance of Acceptable Quality Education for Students at the Higher Education Institutions. Performance Audit Report (2016).



Despite the problems with the quality of education, the number of graduates gradually increases since 2011. For instance, based on the GeoStat data, total of 23,356 students graduated from both public and private universities in Georgia. Considering the abovementioned situation, we can conclude that the majority of these graduates have received only a paper confirming they have higher education, while it is doubtful whether they acquired those competencies that are necessary for granting that paper, as well as for meeting labour market demands (Rutkowski, 2013).

On the other hand, the lack of relevant competences in the labour force negatively affects innovative sector that is already scarcely represented on the market and its development is significantly hindered by the lack of adequate human resources. Therefore, these problems can be solved in long-term perspective and envisage the improvement of quality of education and adaptation to the labour market demands on the one hand, and investments in the expansion of traditional labour market for creating high-productive and modern labour directions, where the highly competent labour force will be able to fully realize its material and non-material resources (Rutkowski, 2013).

# Subchapter 2.3. Competences of Unemployed Respondents and Job-seeking Activities

# Context

According to the definition of the National Statistics Office of Georgia, unemployed is an individual aged more than 15 without work (even for an hour) for 7 days before the interview, who was looking for a job for previous 4 weeks and was ready to start working in next 2 weeks (National Statistics Office of Georgia, 2016). Eurostat offers the similar definition: unemployed is an individual without work during the reference period, available to start work within the next two weeks and actively having sought employment at some time during the last four weeks (Eurostat, 2010). Eurostat differentiates economically active and inactive population. Economical active envisages employed, self-employed and unemployed individuals; while economically inactive includes students, pensioners and those doing housework and not seeking job (Eurostat, 2010).

According to the International Labour Organization (ILO), unemployed is an individual above a specified age who is labour-productive, not in paid employment or self-employment during the reference period and actively seeking work (OECD, 2001). The present subchapter relies on the definition of the International Labour Organization.

Demographic data of the unemployed respondents seeking work is worth discussion, as well as their skills and the compatibility of those skills with the labour market. According to the World Bank report, there is a severe problem of skill mismatch with labour market demands in Georgia that is regarded as one of the main contributors to the severe economic situation and unemployment in the country (World Bank, 2013). Besides, we should also consider ways of seeking work that can be divided in formal and informal ones. Formal methods are the activities such as getting registered at the private or public employment agencies, applying to job announcement or publishing a note in internet or newspapers. While informal methods mostly mean looking for job through networks (friends, relatives, colleagues) (Blömer, 2015).

In addition to skills or methods of looking for job, the job-seekers can also be differentiated according to type of work acceptable for them. According to the theory of job search, a rational decision of a job-seeker is to look for a job that would offer an income relevant to his/her qualification. Therefore, classical theory of job search states that the following characteristics define what type of work would be acceptable for an individual: more expensive the job search, the faster an actor will agree to an offered job and salary; cheaper the job search, more time an actor dedicates to the job search; bigger the expectations of an individual to get a better offer, higher the chances that he/she refuses unfavourable offer and continues job search (Abraham et al., 2013). Based on the abovementioned, it is interesting to look at the tendencies of job search on the Georgian labour market, how job-seekers evaluate their own skills and to what kind of jobs do they accept in order to be employed.

57

### **Research Method**

The analysis in the present subchapter is based on the representative survey data conducted by the Center for Social Science in summer 2016. As mentioned above, the survey comprised of 1488 respondents; nevertheless, considering the fact that the target group for the present chapter comprises the unemployed respondents looking for job, we selected only those respondents that met this criterion. In particular, the analysis includes the individuals that declare that are unemployed and are actively searching work. Therefore, findings below are representative for this group only and cannot be generalized on the whole sample. Both descriptive and explanatory statistics (Independent Samples T-test, One-way ANOVA, Pearson bivariate correlation) were used for the data analysis.

# **Main Findings**

According to our research 24% (N=351) of the whole sample declares to be unemployed and looking for job, i.e. is economically active. This number comprises those who used to have paid job in the past (54%, N=190), as well as unexperienced unemployed respondents (46%, N=160). At the first stage, we analysed the data without differentiation between these groups, while at the second stage, the data of the abovementioned two groups were analysed separately.

Overall, 28% of male and 20% of female respondents of our survey fall under the category of unemployed/job-seeking respondents. These data at some point coincide with the data of GeoStat (National Statistics Office of Georgia, 2016). Gender distribution within this particular group is almost equal: 53% of respondents are men (N=186), while 47% (N=165) are women. T-test confirms that gender has no statistical significance on the employment status of the respondents: t(895)=.354, p=.724). According to the settlement type, 59% of the job-seeking population lives in urban areas, while 41% - in rural settings. Similar tendency is shown in the GeoStat report that states that unemployment rate in urban settings are higher than in rural ones (National Statistics Office of Georgia, 2016), that most probably is because the biggest part of the rural dwellers are regarded as self-employed.

55% of the economically active unemployed respondents fall under 25-44 age category, i.e. the group with the higher level of labour productivity, while 18-19% of unemployed respondents are distributed in the youngest age group, and the 45-54 age group, respectively [see Diagram 2.19].

Diagram 2.19. Age distribution of unemployed population (%)



If we compare the unemployed respondents by age and gender, we will see that there is no statistically significant difference in case of 18-34 age group (number of female unemployed respondents slightly exceeds that of male respondents), while in case of 35-65 age group, the number of male unemployed respondents is significantly higher. The situation changes over age 65 with the number of female unemployed respondents increasing three times [see Diagram 2.20]. Based on the abovementioned we can conclude that the problem of unemployment is the most severe in case of highly productive male segment, as the biggest share of the economically active, job- seeking respondents falls under this category. Among other reasons, this can be caused by the cultural specifics, i.e. gender stereotypes, expectations and norms assigned to men and women (Shahnazaryan & Aznauryan, 2015). According to the research conducted by the Center for Civil Involvement, the role of a "family breadwinner" is mostly assigned to men, while, housework - to women (Gudashvili et al., 2015). Therefore, considering these expectations towards men and specific roles assigned to them, men are more demanded to look for a job, while women are less expected to earn money for families. This assumption is confirmed by our data as well. In particular, different from men, women are more distributed in other activities, for instance: 21% of female respondents are doing housework, while the minimal number of men (1%) is doing the same.

Diagram 2.20. Unemployed respondents by gender and age



According to our data, the job-seekers are distributed evenly in the education categories: 32% has graduated from general education only (11-12 years of school education), 31% has earned higher education degree (Bachelor's, Master's or PhD), and 30% obtains vocational/technical education. The share of the respondents with incomplete school education (8-9 years of schooling) is relatively low among unemployed respondents (6%). For additional information, please see Diagram 2.21.

It is also noteworthy that our data is in accordance with another study on structural unemployment in Georgia (Kakulia et al., 2016). Particularly, the indicator of the unemployed respondents with incomplete general education is quite low in both cases, while the number of unemployed respondents with school and higher education – higher than others. Therefore, we

can conclude that the unemployment problem is least evident in case of respondents with incomplete education.



Diagrama 2.21. Job-seeking respondents by level of education

Incomplete General General Education Vocational Education Higher Education

Considering the fact that the 31% job-seeking respondents have studied in higher education institutions, and the unemployment is the least prevalent in the segment with incomplete school education, it is interesting to analyse the career choice of unemployed respondents with higher education, as well as their motivation for getting higher education. In addition, it is interesting to see whether or not their education played role in their employment in past.

The data analysis shows that the majority of the unemployed respondents with higher education comes from the sphere of pedagogy and educational sciences, engineering/construction, agronomy/industry and law [see Diagram 2.22]. It is noteworthy that even in case of the employed respondents, the abovementioned first two professions are the most prevalent. This can be caused by the disbalance between supply and demand, i.e. apparently the educational system provides higher number of graduates in these professions than required by the labour market (Kakulia et al., 2016).



Diagram 2.22. Job-seeking respondents by profession

As for the motivation of the respondents for acquiring education, the job-seeking respondents name "good employment opportunities" as the most important reason (59%), which is followed by "high salary" (32%) and "social desirability of higher education" (21%). The similar tendency is revealed in case of employed respondents as well. Therefore, we can assume that despite the employment status, the most important and strongest reasons for entering higher education institution is getting better employment opportunities. It should be admitted, that this assumption reflects the reality, as according to the policy paper entitled "Strategic Development of Higher Education and Science" the employment opportunities of university graduates increases three times compared to school graduates (Bregvadze, 2013). The similar tendency was revealed in our analysis as well (see p. 26).

As for whether or not higher education helped our respondents to get employed in the past, it should be admitted that 65.4% of them believe higher education in fact helped them get jobs. Therefore, we can conclude that these respondents blame education least of all in their unemployment. Overall, despite the level of education, the unemployed respondents regard a lack of vacancies (51%) as the major problem for unemployment. A very small portion of the respondents (14%) thinks that the lack of education is the main reason of unemployment. If we analyse this findings in the context of education levels, we will see that mostly the respondents with complete or incomplete school education (71%) give the latter response. These results once again prove that on the one hand, only very small number of interviewed respondents regard as insufficient for employment.

Based on the abovementioned, it is interesting to verify which educational level is regarded as sufficient for finding a proper, anticipated job for the research respondents. The analysis revealed that despite the level of education, the majority of unemployed respondents (64%) think higher education (at least Bachelor's degree) is necessary to get an anticipated job, while 21% believes that none of the levels acquired in Georgia is sufficient [see Table 2.10].

Level	Quantity	%
Bachelor's	82	23.3
Master's	116	33.1
PhD	29	8.2
Vocational-technical	23	6.6
School (general) education	18	5.2
None of the educational levels in Georgia is not enough to get a	75	21.4
desired		

Table 2.10. Which level of education is enough to get an anticipated job (including desirable salary) for you in Georgia?

In order to verify the perceptions of our respondents concerning the desirable levels of education, we conducted Independent Samples T-test analysis. The obtained results showed that there is no statistically significant difference between the groups of respondents with higher

education and with general education: t(349)=-.198, p=.843. This means that despite having higher education or not, the respondents believe that higher education is necessary for getting an anticipated job.

We used the Independent Samples T-test for analysing the difference between the respondents employed in past and those having no working experience at all; however, in this case also no statistically significant difference was revealed between the two groups (340)=.825, p =.410. Therefore, one can conclude that despite the level of education or working experience, the majority of the respondents do not consider general or vocational education as enough for getting a desired job in Georgia. Similar tendencies were identified in the research on Compatibility of Academic Programs with the Labour Market Requirements in Social Sciences (Lezhava & Amashukeli, 2015). According to the report, the majority of the interviewed respondents believe that Master's degree is necessary for getting a preferred job (p. 11). On the one hand, this can be caused by the specifics of the labour market itself, in particular, by that fact that the majority of the employers set higher education diploma as the prerequisites for employment (whether or not it is necessary for a particular position); On the other hand, as we saw above, the possibility of employment increases twice in case of higher education (Bregvadze, 2013).

Together with the formal degree, the competences and skills developed within the formal educational system are of crucial importance for employment. According to the average indicators of the self-assessment of major competences (on a Likert scale, where 1 means "very law" and 5 means "very high), our respondents evaluate their cognitive skills, such as communication skills, team work, field knowledge, effective time management, by higher than average point (range between 3.25 - 3.45). Technical skills are evaluated by the lowest points: English proficiency (2.31), effective presentation skills (2.52), writing reports and specific documents (2.62). The similar tendency of evaluating technical skills with low points is revealed in case of employed respondents as well (see Diagram 2.23). It is noteworthy that these are the indicators of self-assessment only and do not display objective reality.





Based on the abovementioned findings, we can conclude that the unemployed respondents looking for job evaluate their competences lower than average. Particularly, this is evident when evaluating technical skills such as foreign language proficiency, writing CVs, reports and other specific documents. Similar tendencies are revealed in the research that depicted the negative assessment of their technical skills by the graduates and students of Tbilisi State University and Ilia State University (Lezhava & Amashukeli, 2015, p. 18).

Considering the fact that the skills of applicants are crucially important for employment, and in many cases may have a decisive effect, the perspective of the employers are very important in this respect. According to the abovementioned report, the employers particularly emphasize the low level of skill development among the potential employees, and predominantly the low level of English reading and writing skills (ibid., p. 23). Therefore, we can assume that the poorly developed skills may also cause the unemployment among our respondents.

This mismatch between the labour market demands and the skills applicants possess indicates on comprehensive problems of the labour market, and especially in case when individuals are looking for jobs during a long time-period. Based on our data the majority of the respondents who had jobs in past (48%) have lost last paid jobs in 2013-2016 (15% out of them have lost jobs in 2016). Since the field survey of our research was conducted in 2016, we took 2015 as the ultimate year of unemployment. The analysis revealed that 32% of the respondents have lost their jobs in 2013-2015. Considering the fact that being unemployed for more than 1 year is classified as structural unemployment, one can conclude that the absolute majority of the jobseeking respondents (85%) fall under this category [see table 2.12], which is rather a high indicator. Looking at the abovementioned data, we can assume that the cadre of 25-55 with average or higher qualification is practically useless resource for the Georgian labour market. In addition, long-term unemployment and the lack of working experience causes downgrading of the qualification of the labour force that further complicates their chances to find a job.



Table 2.11. When did your last paid work end? (N=190)

It is also interesting to look at what kind of job offers are acceptable for job-seeking respondents. According to the classical job-search theory, the job-seekers accept offer if it is more beneficial for their current situation/status (Devine and Kiefer, 1991, in Abraham et al., 2013). Therefore, it is important to look at what is regarded as beneficial for Georgian job-seeking population. For this purpose, we first measured the variables that may affect the positive response of applicants to offer, such as source of income, average income of household, and the possibility of losing the source of income. It turned out that the biggest source of income for unemployed/sob-seeking respondents is spouse, and other family members (73%). 77% of the respondents reported that average monthly net income of their household is up to 517 GEL (M=517,05; SD=506,806). It is also important that the absolute majority (90.9%) of our respondents fears or partially fears to lose the source of income. To summarize the above displayed data, the unemployed respondents are basically depending on their family members and are afraid to lose this source. Therefore, we looked at what type of job offers would they accept hypothetically in order to reinforce their financial conditions.

The data showed that mostly job-seeking respondents are ready to work on temporary jobs (73%) and develop new skills (69%). Half of our respondents is ready to take long trip to get to the work (52%), while 45% is ready to take a low-paying job. The most unacceptable thing for them is job mobility within (30.1%) or outside the country (29.2%). This lets us assume that moving to another place is regarded as worse than the respondents actual status, i.e. unemployment; this perception can be affected by the marital status, age and gender. In particular, we can presume that married individuals would be less ready to move to another place as changing location is connected with number of material and non-material flows for a household (Lee, 1966, in Abraham et al., 2013). Similarly, the higher the age, the lower the readiness for job mobility, as economic and psychological expenses increase with the age growth as well. This hypothesis is confirmed by a research conducted in Spain that revealed that compared to younger generations (except for 16-19 age group), the adult cohorts were less prone to labour migration (Ahn, Rica & Urgidos, 1998). Finally, as it was mentioned in the beginning of this chapter, the gender stereotypes play an important role here, i.e. women feel less pressure concerning employment. Therefore, women are expected to be more resistant towards labour migration than men.

We used correlation analysis for verifying these hypothesis. It turned out that marital status (being married) positively correlates with the labour mobility within the country (r=.236) as well as outside the country (r=.206; p=.000). Similar tendency was revealed in case of gender and age. Age growth and female gender positively correlate with low readiness towards labour migration [see Table 2.13].

Table 2.12. Correlation between moving within/outside country and demographic variables, p<.005

	Age	Marital Status	Gender
Movement within the country	.126	.206	.164
Movement outside the country	.248	.236	.213

As for accepting low-paying jobs (that is acceptable for slightly more than half of the respondents), due to lack of data concerning what is perceived as low income by our respondents, we assume that it is slightly less than the potential expenses (material or human) that the individuals have. Therefore, the job-seekers find it non-beneficial to accept such offer. On the other hand, the data show that the majority of the unemployed respondents prefer to have temporary jobs and /or acquire new skills. This can be influenced by the assumption that in both cases, potential benefits are higher than expenses. In particular, in case of temporary job, an individual gets income and does not restrict himself/herself to find a better job, while developing new skills increases human capital and makes an individual more competitive.

One more interesting issue concerning unemployed respondents is the ways of looking for job and activities for developing one's own qualification. These activities can be divided into two categories: formal and informal (Blömer, 2015). Data show that in the most cases, job-seekers address friends, relatives and/or colleagues to find jobs (45%), or directly get in touch with employers (37%). Most rarely, they register in private or public employment agencies (8% and 10%, respectively). It is noteworthy that if we compare these results with that of employed individuals, we will see that their majority have found jobs through social contacts as well (42%), while formal methods of participating in job competitions are used only by 23%. We can assume that in this respect, employed and unemployed respondents do not report any difference and prefer to use informal ways for getting jobs instead of formal ones. Number of other studies revealed similar tendencies as well (Bendeliani et al., 2014; CRRC, 2013). Therefore, we can conclude that today the most effective means of getting a job is using informal social capital. Hussein (2014) discusses this assumption by emphasizing the role of informal relations in all aspects of life including employment in Georgia, as well as the whole South Caucasus.

As for developing one's skills, Perin and Brčić (2014) find that informal education (training and professional development, etc.) increases employment chance. This is due to the fact that the labour market constantly requires flexibility, adaptability, new skills and competences, updated and upgraded knowledge. In addition, employers are less motivated to take care of employees training. In particular, as one of the studies confirms, only 8% of the employers express readiness to take care of updating employees' qualification using their human or material resources (Young Scientists Union "Intellect," 2015). Therefore, job-seekers should be motivated to get informal education and become more competitive. Nevertheless, 91% of our unemployed respondents has not gone through any kind of training for last 12 months. Thus, we can conclude that the majority of job-seeking individuals are not competitive on the labour market even in this respect.

### **Summary**

After analysing demographic variables, we can conclude that more than half of the economically active, job-seeking unemployed respondents are under age 25-44 with the majority of men. Contrary to this, women represent other categories, especially the one "taking care of family activities." In respect to the settlement type, the majority of job-seekers reside in urban settings, while the number of unemployment automatically decreases in rural areas if we consider the individuals self-employed in agriculture as employed ones.

In respect to education, 61% of the respondents possesses either vocational or higher education and falls under the average or high qualification workforce category - this on the other hand, indicates at serious problems on the labour market. Nevertheless, despite the abovementioned situation, majority of the respondents (despite level of education or working experience) believe that higher education is necessary to get an anticipated job. In addition, the respondents with higher education admit that increasing the employment chances was the main motivation for enrolling in the university. However, the data revealed that the majority has higher education among unemployed respondents. Consequently, the assumption of our respondents that higher education is needed for entering the labour market might not be in compliance with the reality - as we saw, the labour market mostly demands low-skilled workforce. This means that there is a big disbalance between supply and demand. According to the alternative thought, there is a demand on high-skilled workforce as well, but this group still lacks actual knowledge and skills that would be compatible with the competences necessary for the market. This assumption is confirmed by the research conducted by the International Organization for Migration (IOM) in 2012. According to this study, the employers are not able to find proper cadres due to the fact that the applicants lack theoretical and practical knowledge. In fact, the latter idea is strengthened by our data as well: as it was discussed above, the majority of the job-seeking respondents with higher education evaluate their skills with average or below average point. In addition, if we consider that 31% of them have obtained higher education in contemporary, Bologna system and still negatively evaluate their skills, we can conclude that the existing educational system is unable to prepare highly qualified, competitive cadre that would possess state-of-the-art knowledge and competences.

In addition to the skills developed within the formal educational settings, the ones developed in informal settings are also important, as well as the ways of searching for job and types of job offers acceptable for the job-seekers. As we discussed above, job-seeking respondents are unable to upgrade professionally through informal education (e.g. trainings), that further deepens the disbalance between the supply and demand of adequate qualifications on the market.

As for the ways of job search, as it turned out, both employed and unemployed individuals prefer informal methods to formal ones. In particular, they address social networks (friends and family) that most probably, happens due to effectiveness of this method. It also turned out that unemployed respondents are ready to accept temporary jobs and gain new skills in order to be employed. We assume that this is caused by the fact that benefits they gain under these circumstances are higher than the expenses. Contrary to this, labour migration both within and outside country's boundaries is less acceptable. In addition, demographic factors, such as increase of age, being married and female sex are more associated with the low desire towards labour migration.

# Part 3. Job Satisfaction

### Context

Job satisfaction is acknowledged as one of the important aspects of the labour market. According to the scholarly literature, organizational success partly depends on the positive attitudes and sense of satisfaction of employees towards their workplace; these positive feelings help people to make more effort on their tasks that affects the success of the whole organization (Deepak, 2016; Mat Ali et al., 2013). The proposed chapter discusses job satisfaction and its causal factors in Georgia. The analysis provided in the chapter is based on the empirical nationwide statistical data collected by the Center for Social Sciences in 2016. The chapter excludes the respondents employed in agricultural sector without any monetary income, as well as self-employed individuals (even those having monetary income). The latter are excluded from the research due to the fact the study aims to evaluate job satisfaction of the respondents employed in an organization, as well as assessment of the overall working climate of the organization. Therefore, the proposed analysis covers 391 respondents in total, out which 47% is female and 53% is male.

Before analysing the empirical data, it is necessary to define job satisfaction, which is perceived as a positive emotional state caused by the "appraisal" of one's work (Lock, 1976 in Dugguh & Ayaga, 2014). This is a subjective attitude of an individual towards their job - whether they like or dislike it (Lyord, 2000 in Mat Ali et al, 2013), while appreciation and depreciation of one's job are caused by different factors. Frederick Herzebrg, who developed one of the most important theories on job satisfaction, identified two factors causing job satisfaction: motivation and hygiene. According to his theory, motivation depends on intrinsic factors such as individual achievements, recognition and appraisal of those achievements, essence of work, sense of responsibility and opportunities of advancement. While hygiene depends on extrinsic factors such as salary, status, security, relationship with management and colleagues, organizational politics and working environment. Intrinsic factors or motivators define the level of satisfaction of an individual, while extrinsic factors cause dissatisfaction (Herzberg, 1987). The author believes that satisfaction and dissatisfaction are not opposite, but rather complementary concepts, which means that a person can be satisfied and dissatisfied with his/her job at the same time (ibid, p. 8).

According to Herzberg theory, positive or negative changes of hygiene factors can increase or decrease dissatisfaction while they will not affect sense of satisfaction. The same logic works for motivators – they can influence only the sense of satisfaction and will not have any effect on dissatisfaction. However, Herzberg's theory is criticized for the lack of concrete indicators for measuring motivators that complicates the empirical verification of the theory (Hackman & Oldham, 1976).

Hackman and Oldham developed an alternative theory that identifies five core characteristics of job satisfaction: autonomy, feedback, skill variety, task identity and task significance (Hackman

& Oldham, 1974, in Mat Ali et al., 2013). Autonomy refers to the level of independence/freedom of an employee in task-related planning and scheduling. Feedback is a reaction of a supervisor on the results of employee's performance. Skill variety implies the diversity of skills and talents required for the work. Task identity refers to the extent to which job involves doing a complete and identifiable piece of work with visible outcomes, as opposed to doing only a portion of the job. Task significance implies the impact of one's job on the lives or work of other people within or outside the organization (ibid, pp. 47-48). It is noteworthy that Heckman and Oldham's Job Characteristics Model neglects the importance of one's satisfaction with salary, while according to our research, this factor is one of the important determinants of job satisfaction.

# **Data Analysis**

As mentioned above the proposed chapter covers only employees and excludes self-employed individuals. Therefore, our sample equals to 391 respondents, out of them 78% reported satisfaction with their jobs, while 7% expressed dissatisfaction.



Diagram 3.1. Job satisfaction

In respect to job satisfaction, statistically significant difference was not observed by gender or age. 82% of the male respondents report job satisfaction while this number equals 74% in case of female respondents. The level of satisfaction varies between 75-83% in case of all age groups.



Diagram 3.2. Job satisfaction by gender and age

Job satisfaction varies according to the level of education. 84% of the respondents with higher education express job satisfaction, while only 67% of the respondents with general education do

the same. As for the respondent with vocational training, this indicator equals to 73%. However, there is very week correlation (r=.14, p<.05) between the level of education and job satisfaction. This can be caused by the amount of monthly salary; as it was shown in the previous chapters, the monthly salary of the majority of the respondents with general or vocational education (75% and 84%, respectively) is 600 GEL. While only 63% of the respondents with higher education have the average salary of 600 GEL, the monthly income of the rest of them (37%) exceeds 600 GEL. 10% of the highly educated responds report to earn more than 1000 GEL per month. Considering the fact that the income satisfaction is one of the determinants of job satisfaction, and the amount of salary increases (though with small proportion) with the level of education, it is no surprise that there is a correlation between education and job satisfaction.



Diagram 3.3. Job satisfaction by the level of education

In respect to job satisfaction, statistically significant difference is not revealed by the sector of employment: 77% of the respondents employed in public sector express job satisfaction, while in case of private sector employees, job satisfaction is reported by 83%. It is noteworthy that the respondents employed in the following sectors express particularly high level of job satisfaction: banking and finances (92%), education (89%) and administration (86%). The lowest level of satisfaction was reported by the employees of agricultural sphere (60%), industry (61%) and individual services (65%) [see diagram 3.4].





As for the employees' work positions, the representatives of the following positions reported high level of job satisfaction: financial specialists (100%), IT and communication specialists (100%), military officers (100%), managers and directors (93%), service specialists (88%) and educational specialists (89%). The least satisfaction was expressed by the agricultural workers (33%), security officers (47%), drivers (50%), food specialists (50%) and craftsmen (53%) [see diagram 3.5].

It is noteworthy that higher job satisfaction is observed among the respondents employed on higher qualification positions. According to the classification of International Labour Organization, ISCO 2008, the division of occupations into categories depends on the skill levels required for particular occupations (ISCO-08, 2012). Skill Level 1 encompasses those professions that normally require performance of rather simple physical and routine tasks. For this skill level, general literacy and simple numeracy is required. Skill Level 2 involves the occupations that envisage working with equipment and machinery; therefore, first or second levels of secondary education are required. As for Skill Level 3, it encompasses more complex and specific occupations that require well-developed interpersonal and communication skills, as well as the first degree of tertiary education (Bachelor's degree). While the Skill Level 4 involves high level occupations such as executives, managers, financial managers, etc. This category requires highly developed analytical, interpersonal and communication skills and second and third degrees of tertiary education (Master or doctoral degrees) (ISCO-08, 2012, pp. 23-24).

Data displayed on Diagram 3.5 reveals that the higher job satisfaction is reported by the respondents representing occupations that belong to Skill Level categories 3 and 4, while the least satisfaction is expressed by the respondent representing Skill Level 2 category. Higher job dissatisfaction is reported by agricultural workers (33%) and construction/mining/manufacturing labourers (27%). This data correspond to Hofstede's conclusion that the personnel who are required to have higher education (Skill Levels 3 and 4) for their occupations pay much more attention to intrinsic factors or motivators when it comes to job satisfaction, while the less-educated individuals occupied on low-level jobs favour extrinsic, hygiene factors (Hofstede & Hofstede, 2011). Thus, considering Herzberg's theory that identifies intrinsic factors as determinants of job satisfaction, relatively high level of job satisfaction of the respondents working on Skill Level 3 and 4 occupations is understandable. In addition, the salaries of these people (for instance, armed forces officers, executives) are rather high compared to other positions [see diagram 1.4, p.17].
#### Diagram 3.5. Job Satisfaction by occupation

Military officers				
Workers	64%	64%		
Drivers	50%		38%	13%
Plant and machine operators	60%		40%	
Food specialists	50%		50%	
Craftsmen	53%		33%	13%
Agricultural workers	33%	33%		33%
Protective services workers	47%		42%	11%
Sales workers	72%		16%	12%
Service personnel (cleaners, hairdressers, caregivers, etc.)	68%		19%	13%
Numerical and material recording clerks		100%		
Customer services clerks	88	3%		13%
Legal, social and cultural professionals	78%			22%
Information and communications technology professionals		100%		
Business administration professionals	839	⁄0		13%4%
Teaching professionals	89	9%		<mark>3%</mark> 8%
Health professionals	77%		1	18% 5%
Science and engineering professionals	62%		33%	5%
Directors, managers, executives	(	93%		7%

Satisfied Neither satisfied, nor dissatisfied Dissatisfied

It is also very important to discuss job satisfaction according to the respondents' remuneration. As Diagram 3.6 depicts the number of respondents expressing job satisfaction is rather high, no matter the amount of monthly salary. Compared to other groups, respondents falling under 20-200 and 201-400 monthly salary groups report job satisfaction at the level of 61% and 68%, respectively. This indicator increases together with the increase of monthly income. Nevertheless, considering the fact that even in these categories (20-200 GEL and 201-400 GEL per month) the level of job satisfaction is quite high, we can conclude that respondents appreciate having a job and thus, having even a small amount of income from it is already enough to be satisfied.



Diagram 3.6. Job satisfaction by monthly remuneration (net amount)



It should be mentioned that higher job satisfaction is reported by the respondents employed on full-time (21-40 hours per week) jobs (84%), and least satisfaction is reported by the respondent

working more than 40 hours per week (71%) [see diagram 3.7]. Overall, 38% of the respondents work overtime (40+ hours per week) and this is a rather high indicator; out of these people only 62% report to have a written agreement, while the rest of the respondents have oral or no contract at all. According to the Labour Code of Georgia, overtime is compensated based on the agreement between two parties (Article 17, Point 4). Lack of unconditional requirement to compensate overtime work allows employer not to include this issue in labour contract. Average monthly income of the abovementioned group (those working overtime) is not different from others and ranges between 200-600 GEL (60%). Therefore, we can assume that their overtime work is not compensated that negatively affects their level of job satisfaction.



Diagram 3.7. Job satisfaction by working hours

In order to determine the factors affecting job satisfaction of employees in Georgia, we decided to test both abovementioned theoretical models. In case of Hackman and Oldham's Job Characteristics Model (JCM) we used linear regression analysis. <sup>7</sup> Job satisfaction was used as a dependent variable, while the following factors were used as independent variables: autonomy, self-assessed cognitive and technical skills of employees, interesting job and task significance (usefulness of job for society). Considering the specifics of our data, JCM was modified: the factor of task identity from the original model was replaced by "interesting job." The statistical analysis showed that Hackman and Oldham model is not relevant for our research (R<sup>2</sup>=-.038, F=.499, p>.05). No statistically significant correlation was observed between the dependant variable and its predictors [see table 3.1]. This can be caused by the fact that there is no correlation either between job autonomy and job satisfaction (r=.052, p=.675) or between competences (both cognitive (r=-.024, p=636) and technical (r=-.03, p=.550)) and job satisfaction. Though, it is noteworthy that according to various scholarly literature, job autonomy is a strong determinant of person's job satisfaction (Nguyen et al., 2003; Amarasena et al., 2015; Belias et al., 2015).

<sup>&</sup>lt;sup>7</sup> We used the nationwide representative data (N=1488) obtained by the Center for Social Sciences in 2016 for the analysis provided in the proposed chapter.

Likewise, high skill level of employees strongly affects their positive attitudes towards work (Allen & Velden, 2001).

Model Summary							
				Std. Error			
			Adjusted	of the			
Model	R	R Square	R Square	Estimate			
1	.194ª	.038	038	1.069			

 Table 3.1. Hackman and Oldham Job Characteristics Model (JCM). Job satisfaction linear regression (model 1)

**Coefficients**<sup>a</sup>

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	В	Std. Error	Beta		
(Constant)	4.708	.589		7.998	.000
Autonomy	.080	.134	.076	.594	.554
Task significance (value for society)	136	.140	127	970	.336
Cognitive Competences	.177	.179	.124	.986	.328
Technical Competences	.121	.178	.085	.680	.499
Interesting Job	.093	.142	.084	.658	.513

As for analysing data in respect to the Herzberg two-factor theory, we also used linear regression model with intrinsic (motivators) and extrinsic (hygiene) factors. Job satisfaction was used as a dependent variable, while the following variables were selected as independent ones:

*Intrinsic factors (motivators):* satisfaction with salary (subjective assessment), perspectives for promotion, experience of being promoted, fear of losing job, and nonmaterial value of job. The latter was derived through computing several contextually similar variables, such as interesting job, possibility to help others and value of the job for society.

*Extrinsic factors (hygiene):* actual nominal salary (monthly salary after taxes), social capital at the workplace (formal and informal relationships with supervisors and colleagues), autonomy (this variable is derived through computing several contextually similar variables, such as independent work, doing work at home during usual working hours, freedom to decide how to organize daily, possibility to take an hour or two off during working hours to take care of personal or family matters), stressful environment, training opportunities at workplace, and occupation (position). We also included the variable of role conflict for the regression model. The latter implies disbalance (conflict) between work and family obligations, i.e. whether or not demands of one's job interfere with their family life, or vice versa, family affairs interfere with job.

In addition, the following demographic variables were used for the regression: education, age, gender, work experience, settlement type and field of employment.

The regression analysis revealed that both intrinsic and part of extrinsic factors affect job satisfaction in Georgia, in particular: satisfaction with salary, nonmaterial value of job, social capital at the workplace, employment field and role conflict. While in case of other factors (gender, age, education, actual salary, etc.) no statistically significant relationship was observed. It is also noteworthy that the 39% of the respondents reporting high job satisfaction, has been promoted either by positional or in terms of remuneration. Nevertheless, no statistically significant correlation was observed between these two variables, therefore, the promotion factor does not affect job satisfaction in the regression. Negative correlation was observed between job satisfaction and stressful environment at the workplace (r=-.190, p=.000) meaning that with the raise of stress, the sense of satisfaction decreases. However, this correlation is rather weak and is insignificant in the regression model.

The combination of the abovementioned predictors explain the 30% of variance (R<sup>2</sup>=.301, F=31.25, p=.000), while the satisfaction with salary (41%), which implies a self-reported subjective assessment of one's own salary and not an actual, nominal remuneration, nonmaterial value of job (24%; as it was already mentioned this predictor is derived through combining various variables, such as interesting job and job valuable for society) are the strongest determinants of job satisfaction. Social capital (15%) and role conflict (12%) also affect job satisfaction, however, it should be noted that there is a negative correlation between role conflict and job satisfaction meaning that the bigger the sense of conflict between one's job and family obligation, the lesser job satisfaction [see table 3.2].

Model Summary								
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate				
1	.558ª	.311	.301	1.028				

 Table 3.2. Herzberg two-factor theory. Job satisfaction linear regression (model 2)

**Coefficients**<sup>a</sup>

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	В	Std. Error	Beta		_
(Constant)	3.858	.210		18.358	.000
Social capital	.188	.057	.149	3.307	.001
Nonmaterial value of job	.319	.062	.236	5.129	.000
Field of employment	.021	.007	.129	2.843	.005
Satisfaction with salary (subjective assessment)	.522	.058	.408	9.005	.000
Role conflict	144	.052	125	-2.771	.006

In addition to the model described above (table 3.2), we elaborated one more model with a single different variable: in order to explain job satisfaction, we used a predictor of actual nominal salary instead of subjective assessment of the remuneration, i.e. satisfaction with salary. The rest of the predictors remained the same as in model 2, but the weight and influence of each predictor was modified in model 3 (see table 3.3). The model explains 15% of variance ( $R^2$ =.152, F=14.86, p=.000). The significance of this modification can be explained with the following argument: having salary is important for the respondent to be satisfied with their jobs, particularly considering high levels of unemployment and poverty in the country (as displayed in the table below (3.3), actual salary affects job satisfaction with 19% only, while the satisfaction with salary (even quite a low one) – with 41% [table 3.2]. Therefore, having a salary in combination with other subjective predictor (positive informal relations with colleagues and job valuable for society) positively affect job satisfaction [see table 3.3].

Table 3.3. Job satisfaction linear regression (model 3)

Model Summary

				Std. Error
			Adjusted	of the
Model	R	R Square	R Square	Estimate
1	.403ª	.163	.152	1.141

	Unstandardized Coefficients		Standardized Coefficients	+	Sig
	В	Std. Error	Beta	L L	Sig.
(Constant)	5.145	.132		38.892	.000
Social capital	.228	.059	.184	3.857	.000
Nonmaterial value of job	.360	.065	.264	5.500	.000
Field of employment	.017	.008	.098	2.069	.039
Role conflict	140	.051	130	-2.740	.006
Actual salary (amount after taxes)	.000	.000	.186	3.937	.000

**Coefficients**<sup>a</sup>

According to Herzberg theory, both abovementioned models [tables 3.2 and 3.3] show that intrinsic, subjective factors have a strong influence on job satisfaction (for instance, satisfaction with salary, nonmaterial value of job), while extrinsic, objective factors (such as autonomy) have no significance. Role conflict, which is an extrinsic factor, has a negative effect. This confirms Herzberg theory, but it is noteworthy that in case of Georgia, two extrinsic factors (actual salary and social capital) have a positive relationship with job satisfaction. This difference between Herzberg's classic model and our model can be explained by specific details characteristics of Georgia which is distinguished by strong informal, bonding social capital and less developed formal, bridging social capital (CRRC, 2011). The societies with strong informal relationships in all aspects of life, including at the workplace, are called diffuse societies by Trompenaars (Trompenaars & Hampden-Turner, 1997). Personal relationships are intertwined with business ones in the diffuse societies. Therefore, influence of social capital, and in particular, informal one

on job satisfaction can be explained with the characteristics of the diffuse culture. Importance of social capital (both formal and informal) at the workplace is underlined by the fact that according to the research conducted by the Center for Social Sciences in 2016, 34% of the respondents having a job were hired through social contacts, friends and family. The same tendency was observed by the research conducted by CSS in 2014 about the gender discrimination in the Georgian labour market. According to the study, 44% of the respondents reported to use social contacts when looking for a job, while 63% got a job through social contacts (Bendeliani et al., 2014 p. 4). The tendency is further observed by the longitudinal data of Caucasus Research Resource Center obtained throughout several years. According to CRRC, social contacts are identified as one of the most important prerequisites for getting a job. This perception got particularly stronger since 2012 and increased to 30-31% from 20% [see Diagram 3.8]. As for the impact of remuneration (actual, nominal) on job satisfaction, this can be again explained by the fact that having salary when there is a high level of poverty in Georgia is itself a satisfactory event.

#### Diagram 3.8. Most important for employment

Source: CRRC, Caucasus Barometer longitudinal data – Georgia



As mentioned above, one of the most influential factors for job satisfaction is the satisfaction with salary: the analysis shows that 34% of the respondents reporting job satisfaction is also satisfied with their salaries, 27% is unsatisfied, while 39% is neutral. At the first glance, these indicators do not seem too much different from one another, however, if looked differently, the picture changes. If we use satisfaction with salary as a dependent variable, while job satisfaction would stand as an independent one, the results change drastically: 99% of respondents reporting satisfaction with salary are also satisfied with their jobs [see Diagram 3.9]. As it was visible from the tables above, subjective sense of satisfaction with salary has a higher value (41%) [Table 3.2] than the variable of actual salary (19%) [Table 3.3] when measuring job satisfaction. This once

again proves the aforementioned conclusion that the respondents care less about the amount of the salary, but care more about the very existence of remuneration.



Diagram 3.9. Salary VS Job Satisfaction

Herewith, as already noted, respondents' age did not affect job satisfaction in the regression model. Nevertheless, this variable is of utmost importance as different factors may affect job satisfaction or dissatisfaction in the different age groups, including subjective perception of salary and actual salary. Thus, we decided to look at those factors in different age groups.

In case of 18-24 age group, no correlation was observed between personal income and job satisfaction (r=.165, p>.05). However, the correlation between these two variables increases with the increase of the age group.<sup>8</sup> This means that the older the respondents the bigger attention is paid to the monthly income. As displayed in the table 3.4, personal monthly average income of the employed respondents ranges between 500-600 GEL after taxes for all age groups except 55-64 and 65+ age groups. As for the average monthly household income, it is noteworthy that in case of 18-24 and 25-34 age groups this indicator largely exceeds the same indicator in case of other age groups and ranges up to 1200 GEL per month.

Age group	Number of respondents	Personal average monthly income (GEL)	Age group	Number of respondents	Household average monthly income (GEL)
18-24	49	536.21	18-24	40	1244.41
25-34	100	621.38	25-34	78	1202.89
35-44	103	524.43	35-44	86	1042.62
45-54	82	540.92	45-54	72	1034.76
55-64	41	414.99	55-64	37	773.38
65+	23	450.04	65+	21	641.06
Total	397	538.23	Total	333	1047.52

Table 3.4. Personal and household average monthly income according to age groups

<sup>&</sup>lt;sup>8</sup> For 25-34 and 35-44 age groups *r*=.546, *p*<.05 and *r*=.493, *p*<.05, while in case of 45-54 and 55-64 age groups *r*=.465 and *r*=.523, *p*<.05.

For identifying the factors influences job satisfaction among 18-24 olds, we used a model consisting of the following four predictors: job priority over salary, non-material value of job, sense of instability connected with the job and social capital. Actual salary and satisfaction with salary have no statistical weight. The predictors explain the 57% of variance of the job satisfaction  $(R^2=.572, F=15.86, p=.000)$ . Regression analysis showed that the very existence of a job defines job satisfaction by 61% (β=.610, p=.000), i.e having a job is satisfactory itself. Non-material value of the job (implying interesting and valuable job for the society) explains job satisfaction by 67% ( $\beta$ =.667, p=.000), while social relationships – by 34% ( $\beta$ =.338, p=.004). Sense of instability ( $\beta$ =.-218, p<.05) is also very important for this age group; this variable is negatively correlated with job satisfaction meaning that the higher the probability that the respondents will have to look for another job within next 12 months, the lesser job satisfaction is reported. 18-24 age group does not show any statistically significant correlation between job satisfaction and actual salary or satisfaction with it. It should be also mentioned here that almost absolute majority (93%) of the respondent from this age group lives with family; their average personal monthly income is 536 GEL, while household monthly income equals to 1244 GEL [see Table 3.4, Diagram 3.10]. In addition, 85% of the respondents believe that their financial condition is satisfactory. Considering all the abovementioned, we can conclude that for 18-24 old respondents, 45% of which has less than 2 years of working experience, career development is much more important than personal income they have at the moment.



Diagram 3.10. Personal Monthly Remuneration of 18-24 Aged Employees

As already mentioned above, in case of 18-24 age group, the factor determining job satisfaction is job security rather than actual nominal salary. Nevertheless, 95% of the respondents from this age group believe that having a high salary is very important, while 50% does not agree to work on low-paying job. At a first glance this discrepancy seems paradoxical, but on the other hand, can be caused by the fact that the respondents are speaking about their future plans, i.e. though at this stage amount of the salary does not really matter for them, but it can be a decisive factor in future. 70% of the respondents refuse to change their place of living within the country in order to have a job (it also should be mentioned that their majority (57%) lives in the city), while 59% agrees to move to other country for that [see Diagram 3.11]. This is a rather interesting indicator, especially considering that in 2012-2016 higher labour migration (22%) was observed exactly within this age group (GeoStat, 2016).



Diagram 3.11. In order to have a job, I agree to... (18-24 Age group)

In case of 25-34 age group, the following factors determine job satisfaction: satisfaction with salary ( $\beta$ =.408, p=.000) and in general, with the financial situation ( $\beta$ =.224, p<.05), promotion perspectives ( $\beta$ =.174, p<.05) and training opportunities at the workplace ( $\beta$ =.456, p=.000). As in case of 18-24 age group, for this age group as well, job security also determines job satisfaction, though these variables are in negative correlation with each other ( $\beta$ =-.319, p=.001). The model explains 49% of variance ( $R^2$ =.492, F=16.36, p=.000). 95% of the respondents from this age group lives with the family; average month personal income after taxes equals to 621 GEL, while average household monthly income is 1200 GEL. Despite the fact that the financial condition of the 25-34 age group does not actually differ from the previous age category, satisfaction with the salary still plays a dominant role while measuring job satisfaction. This can be explained by the fact that within this age group 62% is married (in case of 18-24 age group, this number equals to 32%), therefore, concerns over family financial situation is of priority for them. Most probably its due to the marital status that 57-58% of the respondents refuse to move to another place in order to have a job, either within or outside the country [see Diagram 3.12].





For the respondent of 35-44 age group, job satisfaction depends on the factors, such as satisfaction with salary ( $\beta$ =.455, p=.000), promotion perspectives ( $\beta$ =.250, p=.003) and social capital at workplace, i.e. informal relationships with supervisors and colleagues ( $\beta$ =.395, p=.000). The model explains job satisfaction with the variability of 43% (R<sup>2</sup>=.426, F=23.85, p=.000). 77% of the respondents is married/living with a partner, while 58% has little child or children. As it was mentioned above, the average monthly personal salary after taxes is 524 for the 35-44 age group, while the household monthly income slightly exceeds 1000 GEL. It is noteworthy that different from previous age groups, 35-44 aged respondents have higher sense of security. Despite the fact that 65% is concerned over losing their job, the majority (62%) believes that they will not have to look for a job for next 12 months. It also should be stressed that 73% of the respondents agrees to develop new skills in order to maintain job [see diagram 3.13]. 53% of them have attended various trainings for skill development for last 12 months that correlates with their job satisfaction (r=.277, p<0.5). As for the reported high sense of security, this can be connected with the field of occupation: the biggest portion of the respondents (25%) is occupied in the field of education, followed by the field of defence and security (13%). Both abovementioned fields belong to public sector giving higher guarantees to their employees than the private sector: according to the Law of Georgia on Public Service, public servant is appointed on the position for unlimited time period through contest (Article 33; Article 34, Point 1). In addition, as it was discussed in the first chapter of the present report, the education field is not characterized by the flexibility of the labour force and provides its employees with lesser competition and constant demand (see p. 22). As for moving to another place for maintaining one's job, only 40% of the respondents representing this age category agree to move within or outside the country borders for this purpose. This can also be connected with the sense of security, though no statistically significant correlation was observed between these two variables.



Diagram 3.13. In order to have a job, I agree to... (35-44 Age group)

In case of 45-54 age group only three factors determine job satisfaction: satisfaction with salary ( $\beta$ =.450, p=.000), social capital ( $\beta$ =.207, p<.05) and non-material value of one's job ( $\beta$ =.282, p=.005). 62% of the respondents from this age group are women; 28% of the respondents works

in the field of education and their average monthly personal income is 540 GEL. 76% is married and average monthly household income slightly exceeds 1000 GEL. It is noteworthy that much higher sense of security was reported in this age group compared to others: 77% believes that they will not have to seek for a job within next 12 months, that can be also connected with the field of occupation (education).The model explains 31% of variance (R<sup>2</sup>=.307, F=11.95, p=.000).

As for the 55-64 age group, in this case job satisfaction is determined by two factors: satisfaction with salary ( $\beta$ =.469, p=.001) and physical safety ( $\beta$ =.315, p<.05). The variables of this model explain job satisfaction with the variability of 33% (R<sup>2</sup>=.372, F=10.61, p=.000). In addition, 33% of the respondents are occupied in the field of education and their average monthly income is around 400 GEL. Different from other age groups, in this case average household monthly income is rather low and slightly exceeds 600 GEL [see Table 3.3]. As in case of 45-54 age group, this category also reports high sense of job security – 82% of the respondents believe that they won't have to look for a job within next year.

As it was discussed above, different factors determine job satisfaction within different age groups. If in case of younger respondents, job satisfaction was affected by the fear of losing job and sense of insecurity, this factor has absolutely no effect for the 45+ respondents. Also, if for 18-24 age group job satisfaction did not depend on the sense of satisfaction with salary, the significance of this variable increases over age. It can be concluded that social capital and non-material value of one's job is equally important for all age groups.

#### Summary

As the data displayed above have shown, satisfaction with salary is a strong determinant of job satisfaction except for 18-24 age group. In the latter case, promotion perspectives and existence of a job as a precondition for career development is much more important. It is also noteworthy that when measuring job satisfaction, none of the age groups report any statistically significant correlation between actual nominal salary and job satisfaction. Statistical correlation is observed only between job satisfaction and a subjective perception, sense of satisfaction with salary. Most probably, this means that for the majority of the respondents, the job satisfaction is caused by the fact that they have a job, and thus, at least some income, especially considering the high level of unemployment in Georgia. As it is well known, according to the official data of the Department of Statistics of Georgia, unemployment rate in the country is 12% (GeoStat, 2015 data). However, according to our research, as well as other independent surveys, this indicator varies between 65-70% (Caucasus Barometer longitudinal data for 2008-2015; Ministry of Labour, Health and Social Security, 2015). Plus, according to the official data, 31% of the population is below the poverty line and is registered in the Targeted Social Assistance (TSA) Program database of the Social Service Agency (Social Service Agency, December 2016).

Considering the abovementioned, having a job, even a low-income one, is already very important, and other factors such as job security, match of technical or cognitive skills with job

requirements, etc. is less important. Most likely, this argument explains the fact that none of the age groups reported job autonomy as a determinant of job satisfaction, meaning that having a possibility to work or plan job activities independently does not actually matter for the majority of employees in Georgia, that is one of the strongest determinants of job satisfaction in number of countries (Nguyen et al., 2003; Amarasena et al., 2015; Belias et al., 2015).

It also should be underlined that as our research shows, social capital at the workplace, i.e. personal relationships with colleagues and supervisors, significantly influences job satisfaction. The influence of social capital over job satisfaction can be explained by the collectivist orientation that is characteristic of Georgia, where informal relationships between colleagues is an integral part of the occupation.

As for discussing the data according to respondents' age, it should be admitted that in case of younger respondents, job satisfaction is largely influence by the promotion perspectives, while in older generations – satisfaction with salary is the strongest determinant. Though the latter is not the only determinant, but it weight increases largely in combination with other factors such as promotion perspectives, social capital at the workplace and non-material value of job.

## Recommendations

Based on the analysis of interrelations between education and employment in Georgia, we elaborated set of recommendations for state agencies and public and private employers:

### > Carry out an integrated education, research and innovations (ERI) state policy

Low productive and non-innovative economy in Georgia is determined by the lack of three intertwined components: human capital equipped with necessary knowledge and skills, financial investments and state-of-the-art technologies. The abovementioned problem is further intensified by the fact that the policies of education, innovation and employment are carried out independently from each other. While the economic and social development requires a more integrated, multicomponent and structured approach towards education and science. In particular, based on a tight collaboration between the Ministry of Education and Sciences, Ministry of Labour, Health and Social Affairs and Ministry of Economy and Sustainable Development, a special strategy (and a respective action plan) of education and science development should be elaborated that would combine three elements: education, research and innovation (ERI). Integration of these components should target the maximal realization of academic capital and development in two directions: internationalization and commercialization. Innovation is the main driver for economic development and the enlargement of the labour market in the modern world, while educational systems (especially, tertiary education) that are responsible for producing human capital play central role for developing knowledge-based and innovation-oriented economy (Bonin & Holzl, 2010).

### Minimization of credentials inflation (devaluation of formal education)

- ⇒ It is important to put the problem of credentials inflation on the agenda of the education policy and decision makers. This should be followed by specific actions that in the first place envisages having active communication between higher education institutions and employers (particularly, private sector) and enhanced collaboration between them.
- $\Rightarrow$  In order to avoid credentials inflation, higher education institutions should regularly:
  - Monitor the quality of teaching and learning through internal quality assurance mechanisms;
  - Monitor the latest tendencies and demands of national as well as international labour markets;
  - Integrate intensive teaching of transferable skills in the curricula.
- ⇒ In a long-term perspective, it is essential to introduce career guidance on the level of general (school) education. In particular, it is recommended to have a close communication with private employers for raising awareness concerning the education qualification frameworks and international classifications of economic activities.

### > Implement the principles of lifelong learning into practice

The research revealed that the population lacks two skills particularly important for employment – computer literacy and English proficiency. Therefore, our recommendation towards educational institutions and the state is to focus on the development of these skills in adult population through implementing the lifelong learning systems and optimizing the recognition of LLL mechanisms.

# Annex A.

ცხრილი 1.4. ქალებისა და კაცების ჯგუფებში ფორმალური განათლების საფეხურების გავლენა მათ დასაქმებაზე. ლოგისტიკური რეგრესიის მოდელი

Model Summary								
bvq_01 რესპონდენტის			Cox & Snell R	Nagelkerke R				
სქესი	Step	-2 Log likelihood	Square	Square				
კაცი	1	830.983ª	.035	.048				
ქალი	1	908.223 <sup>b</sup>	.123	.174				

bvq_01	რესპონდე	<u>ა</u> ტის სქესი	В	S.E.	Wald	df	Sig.	Exp(B)
კაცი	Step 1ª	პროფესიული განათლება_Dummy	291	.222	1.723	1	.189	.748
		ბაკალავრის ხარისხი_Dummy	.727	.245	8.784	1	.003	2.070
		მაგისტრის ხარისხი_Dummy	.662	.227	8.471	1	.004	1.938
		დოქტორის ხარისხი_Dummy	-20.503	31923.265	.000	1	.999	.000
		Constant	700	.122	32.929	1	.000	.497
ქალი	Step 1ª	პროფესიული განათლება_Dummy	.512	.234	4.782	1	.029	1.669
		ბაკალავრის ხარისხი_Dummy	1.579	.257	37.806	1	.000	4.850
		მაგისტრის ხარისხი_Dummy	1.964	.228	73.978	1	.000	7.126
		დოქტორის ხარისხი_Dummy	3.807	1.591	5.724	1	.017	45.000
		Constant	-1.830	.177	107.003	1	.000	.160

დიაგრამები 1.8-1.16. დაქირავებით დასაქმებულების განაწილება ეროვნულ შრომის ბაზარზე













ცხრილი 1.6. ფორმალური განათლების მნიშვნელობის შეფასება დასაქმებაში, ლოგისტიკური რეგრესიის მოდელი

Model Summary							
		Cox & Snell R	Nagelkerke R				
Step	-2 Log likelihood	Square	Square				
1	1066.854ª	.364	.501				

		В	S.E.	Wald	df	Sig.	Exp(B)
Step 1ª	ფორმალური განათლების გარეშე _Dummy	850	1.177	.522	1	.470	.427
	არასრული სკოლის განათლება_Dummy	170	.458	.138	1	.711	.844
	ბაკალავრის ხარისხი_Dummy	1.073	.238	20.301	1	.000	2.925
	მაგისტრის ხარისხი_Dummy	1.536	.232	43.887	1	.000	4.646
	დოქტორის ხარისხი_Dummy	1.517	.983	2.379	1	.123	4.557
	პროფესიული განათლება_Dummy	.303	.230	1.729	1	.189	1.354
	დასაქმების სექტორი_Dummy	1.141	.172	43.956	1	.000	3.130
	Male_Dummy	.378	.157	5.791	1	.016	1.459
	ქორწინების სტატუსი_Dummy	123	.204	.363	1	.547	.885
	რეგიონი_Dummy	187	.193	.943	1	.332	.829
	დასახლების ტიპი_ Dummy	161	.173	.874	1	.350	.851
	საბჭოთა უმაღლესი განათლება_Dummy	-21.491	26949.552	.000	1	.999	.000
	პოსტ-საბჭოთა უმაღლესი განათლება_Dummy	-20.706	26949.552	.000	1	.999	.000
	ბოლონიის პროცესი_Dummy	-21.275	26949.552	.000	1	.999	.000
	Constant	18.758	26949.552	.000	1	.999	140110227.800

ცხრილი 1.7. ასაკის, მუშობის გამოცდილების და 6 წლამდე ბავშვის ყოლის გავლენის შეფასება დასაქმების შესაძლებლობებზე

	Мос	lel Summary	
	-2 Log	Cox & Snell R	Nagelkerke R
Step	likelihood	Square	Square
1	1818.677ª	.041	.057

		R	S F	Wald	df	Sig	Evp(B)
		5	5.2.	walu		5.6.	LVb(D)
Step	ასაკი	014	.004	16.567	1	.000	.986
1 <sup>a</sup>	სამუშაო გამოცდილების წლები_Dummy	.839	.154	29.817	1	.000	2.315
	6 წლამდე ბავშვები_ Dummy	353	.131	7.260	1	.007	.702
	Constant	135	.177	.585	1	.445	.873

ცხრილი 1.8. ყოველთვიური ანაზღაურების საშუალოს (ნეტო) ზრდაზე გავლენის მქონე (პრედიქტორი) ცვლადების ანალიზი, წრფივი რეგრესული ანალიზის მოდელი

				Standardiz		
				ed		
		Unstand	dardized	Coefficient		
		Coeffi	cients	5		
0	_	в	Std. Error	Beta	t	Sig.
1	(Constant)	5.292	.132		40.220	.000
	სქესი_Dummy	.440	.084	.296	5.236	.000
	რეგიონი_Dummy	.380	.081	.232	4.706	.000
	თავდაცვა და უსაფრთხოება	.525	.170	.191	3.093	.002
	შემოქმედება და ხელოვნება	029	.224	006	129	.898
	საბითუმო და საცალო ვაჭრობა	.290	.144	.114	2.009	.045
	მედია და კომუნიკაცია	.420	.393	.050	1.068	.286
	ჯანდაცვის საქმიანობეზი	.436	.169	.129	2.587	.010
	საფინანსო. საბანკო და სადაზღვევო საქმიანობები	.553	.179	.164	3.099	.002
	კომპიუტერული დაპროგრამება და კონსულტირება	242	.318	037	762	.447
	პროფესიული. სამეცნიერო და ტექნიკური საჭმიანობები	.413	.158	.130	2.610	.009
	კომპლექსური საოფისე. ადმინისპრაციული სამსახური	.398	.142	.143	2.796	.005
	საქმიანობები სპორტის. გართობის და დასვენების სფეროში	.142	.190	.037	.748	.455
	ტრანსპორტი და დასაწყობება	.217	.250	.043	.870	.385
	წარმოება	.363	.154	.132	2.353	.019
	ინდივიდუალური მომსახურება	103	.141	039	731	.465
	8შენებლობა და სპეციალიზებული სამშინებლო სამოშაოები	.623	.195	.186	3.201	.002
	სოფლის მეურნეობა და მეცხოველეობა	022	.333	003	068	.946
	ანაზღაურებადი მუშაობის გამოცდილება (წლებში)_s quared	8.606E-05	.000	.110	.932	.352
	ანაზღაურებადი მუშაობის გამოკდი ლიბა (წლიბში)	002	.006	037	301	.763
	არასრული სასკოლო განათლება_Dummy	545	.309	092	-1.763	.079
	პროფესიული განათლება_Dummy	.097	.128	.051	.754	.451
	ბაკალავრიატი_Dummy	.333	.122	.188	2.720	.007
	მაგისტრატურა_Dummy	.510	.123	.325	4.160	.000
	დოქტორანტურა_Dummy	.516	.427	.057	1.207	.228
a.დამოკი <u>დ</u>	დებული ცვლადი: log(base e) ყოველთვიუ	ერიანაზ ღაუ	ურება (ნეტი	5)		

### Coefficients<sup>a</sup>

# Annex B.

		სახელმწი ფო მმართველ ობა და უსაფრთხ ოება	შემოქმე დება და ხელოვნე ბა	საბით უმო და საცალ ო ვაჭრობ ა	ჯანდაცვი ს საქმიანობ ები	განათლე ბა	საფინანსო , საბანკო და სადაზღვე ვო საქმიანობ ები	კომპიუტერ ული დაპროგრამ ება და კონსულტი რება	პროფესიუ ლი, სამეცნიერო და ტექნიკური საქმიანობე ბი	კომპლექსურ ი საოფისე, ადმინისტრაც იული სამსახური	საქმიანო ბები სპორტის, გართობი ს და დასვენებ ის სფეროში	ტრანსპორ ტი და დასაწყობ ება	წარმოე ბა	ინდივიდუალ ური მომსახურება	მშენებლობა და სპეციალიზე ბული სამშენებლო სამუშაოები	სოფლის მეურნეობა და მეცხოველე ობა	სხვა (არაკლა სიფიცირ ებული)
მუშაობს პროფესიით	პროფესიული განათლება	0%	3%	12%	24%	18%	3%	6%	12%	0%	3%	3%	0%	6%	0%	0%	9%
	უმაღლესი განათლება	0%	2%	2%	8%	48%	9%	2%	14%	7%	2%	1%	3%	0%	1%	1%	2%
არ მუშაობს პროფესიით	პროფესიული განათლება	9%	4%	22%	0%	2%	9%	0%	0%	0%	7%	4%	7%	4%	22%	4%	4%
	უმაღლესი განათლება	0%	4%	16%	3%	2%	15%	9%	2%	3%	15%	3%	3%	7%	11%	5%	0%

ცხრილი 2.1. რესპონდენტების განაწილება დასაქმების სფეროებში პროფესიით მუშაობისა და განათლების საფეხურის მიხედვით

ცხრილი 2.7. რესპონდენტების განაწილება დასაქმების სფეროებში განათლების სისტემების მიხედვით. წყარო: მსოფლიო ბანკის მონაცემთა ბაზა, 2013

	შეიარაღებულ ძალები	მენეჯერები	მაღალი რანგის პროფესიონალები	ტექნიკოსები და მათთან ასოცირებული პროფესიონალები	ოფისის დამხმარე მუშაკები	მომსახურებისა და გაყიდვების სფეროს მუშები	სოფლის მეურნეობის, მეტყევეობისა და თევზჭერის სფეროს კვალიფიციური მუშები	ხელოსნები და მონათესავე სფეროს მუშაკები	სამრეწველო დანადგარებისა და მანქანების ოპერატორები და ამწყობები	დამწყები კვალიფიკაციის მქონე მუშახელი	სულ
1948-1970		10.1%	61.3%	7.4%	6.9%	7.4%		2.3%	0.5%	4.1%	100.0%
1971-1987	1.7%	13.3%	45.8%	10.0%	7.5%	13.8%	0.4%	3.3%	1.3%	2.9%	100.0%
1988-1994	7.7%	3.8%	30.8%	11.5%	30.8%	11.5%			3.8%		100.0%
სულ	1.2%	11.4%	52.0%	8.9%	8.5%	10.8%	0.2%	2.7%	1.0%	3.3%	100.0%

### ცხრილი 2.8. მობილობა პროფესიიდან შრომის ბაზარზე

1948-1970 წლებში დაბადებულების კოჰორტა	მენეჯერები	მაღალი რანგის პროფესიონალები	ტექნიკოსები და მათთან ასოცირებული პროფესიონალები	ოფისის დამხმარე მუშაკები	მომსახურებისა და გაყიდვების სფეროს მუშები	სოფლის მეურნეობის, მეტყევეობისა და თევზჭერის სფეროს კვალიფიციური მუშები	ხელოსნები და მონათესავე სფეროს მუშაკები	სამრეწველო დანადგარებისა და მანქანების ოპერატორები და ამწყობები	დამწყები კვალიფიკაციის მქონე მუშახელი
განათლებასთან დაკავშირებული პროფესიები	7%	85%			7%				
ჰუმანიტარული მეცნ. და ხელოვნება	6%	71%	2%	3%	12%		3%		3%
სოციალური მეცნ. (ეკონომიკის ჩათვლით)	24%	20%	4%	12%	20%	4%	4%	4%	8%
ჟურნალისტიკა და კომუნიკაცია		100%							
ბიზნესი და ადმინისტრირება	6%	35%	3%	3%	19%		6%		26%
სამდივნო და საოფისე საქმესთან დაკავშირებული პროფესიები				33%	33%				33%
სამართალი და იურიდიული მომსახურება	9%	27%	18%		27%		9%	9%	
ზუსტი და საბუნებისმეტყველო მეცნ.	8%	54%	15%	8%	8%		8%		
კომპიუტერული მეცნ./საინფორმაციო ტექნოლოგიები	50%	17%							33%
ინჟინერია	17%	27%	12%	10%	12%		10%	6%	6%
წარმოება და დამუშავება	9%	9%			36%		9%	18%	18%
მშენებლობა და არქიტექტურა	9%	18%			36%		18%	9%	9%
სოფლის მეურნეობა, მეტყევეობა	33%	11%					22%		33%
ვეტერინარია					50%			50%	
ჯანდაცვა	8%	47%	15%	4%	17%				9%
სოციალურ მოსახურებასთან ასოცირებული პროფესიები	25%	25%					25%		25%
ტურიზმი, სპორტი და გართობასთან დაკავშირებული პროფესიები	25%	50%							25%
სტილისტი, კოსმეტოლოგი							100%		
სატრანსპორტო სფერო			20%		20%				60%
სხვა	3%	26%	21%	9%	21%		9%	3%	9%

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BDMOCMO 2.8.	omongmmos	აოოფესიიდა	0 0000000	05050707	გაგოძელება

1971-1987 წლებში დაბადებულების კოჰორტა	შეიარაღებულ ძალები	მენეჯერებ ი	მაღალი რანგის პროფესიონალ ეზი	ტექნიკოსებიდა მათთან ასოცირებული პროფესიონალე ბი	ოფისის დამხმარე მუშაკები	მომსახურებისა და გაყიდვების სფეროს მუშები	სოფლის მეურნეობის, მეტყევეობისა და თევზჭერის სფეროს კვალიფიციური მუშები	ხელოსნებ იდა მონათესავ ესფეროს მუშაკები	სამრეწველო დანადგარების ა და მანქანების ოპერატორები და ამწყობები	დამწყები კვალიფიკაციი ს მქონე მუშახელი
განათლებასთან დაკავშირებული		9%	50%	9%	14%	14%				5%
პუმანიტარული მეცნ. და ხელოვნება		13%	50%	3%	13%	17%	1%	1%	1%	1%
სოციალური მეცნ. (ეკონომიკის ჩათვლით)		21%	34%	10%	7%	17%	3%			7%
ჟურნალისტიკა და კომუნიკაცია		14%	43%			14%				29%
ბიზნესი და ადმინისტრირება		27%	17%	7%	17%	20%		7%	3%	3%
სამდივნო და საოფისე საქმესთან დაკავშირებული პროფესიები			100%							
სამართალი და იურიდიული მომსახურება	7%	9%	30%	17%	2%	28%			7%	
ზუსტი და საბუნებისმეტყველო მეცნ.		9%	73%		9%	9%				
კომპიუტერული მეცნ./საინფორმაციო ტექნოლოგიები			38%	13%		38%			13%	
ინჟინერია		21%	18%	7%	11%	21%		14%	4%	4%
წარმოება და დამუშავება		25%				25%			25%	25%
მშენებლობა და არქიტექტურა			100%							
სოფლის მეურნეობა, მეტყევეობა			40%					40%		20.0%
ვეტერინარია										100.0%
ჯანდაცვა		14%	45%	14%		19%		2%	2%	2%
ტურიზმი, სპორტი და გართობასთან დაკავშირებული პროფესიები			17%	17%	33%	17%			17%	
სტილისტი, კოსმეტოლოგი						100.0%				
სატრანსპორტო სფერო			25%	50%					25%	
სხვა	3%	18%	39%	6%	6%	15%		12%		

ცხრილი 2.8. მობილობა პროფესიიდან შრომის ბაზარზე (გაგრძელება)

1988-1994 წლებში დაბადებულების კოჰორტა	შეიარაღებულ მალები	მენეჯერები	მაღალი რანგის პროფესიონალები	ტექნიკოსები და მათთან ასოცირებული პროფესიონალები	ოფისის დამხმარე მუშაკები	მომსახურებისა და გაყიდვების სფეროს მუშები	ხელოსნები და მონათესავე სფეროს მუშაკები	სამრეწველო დანადგარებისა და მანქანების ოპერატორები და ამწყობები
განათლებასთან დაკავშირებული პროფესიები						100%		
ჰუმანიტარული მეცნ. და ხელოვნება			80%		20%			
სოციალური მეცნ. (ეკონომიკის ჩათვლით)					50%	50%		
ჟურნალისტიკა და კომუნიკაცია				100%				
ბიზნესი და ადმინისტრირება	11%		11%	22%	33%	22%		
სამართალი და იურიდიული მომსახურება			100%					
კომპიუტერული მეცნ./საინფორმაციო ტექნოლოგიები			100%					
ინჟინერია						33%	33%	33%
ჯანდაცვა			33%		50%	17%		
ტურიზმი, სპორტი და გართობასთან დაკავშირებული პროფესიები		50%			50%			
სხვა			25%		50%	25%		

# ცხრილი 2.10. კომპიუტერის ინტენსიურ გამოყენებაზე მოქმედი ფაქტორების ლოგისტიკური რეგრესიული

	Model Summary			1			
Ston	-2 Log likelihood	Cox & Snell	Nagelkerke R Square	1			
3.ep 1	2908.913 <sup>a</sup>	.304	406	1			
		В.	S.E.	Wald	df	Sig.	Exp(B)
Step 1 <sup>a</sup>	ფორმალური განათლების	-17.873	40192.970	.000	1	1.000	.0
	გარეშე_Dummy	1		i		·	, I
	საოლის განათლება	201	.189	1.125	1	.289	.8
	(არასროლი) Dummy	1	ļ ,	ı		·	, I
	ວັດຕອດບົດງງອງ Jan	.165	.201	.673	1	.412	1.2
	ბაკალავრის ხარისხი Dummy	.799	.223	12.872	1	.000	2.2
	მაგისტრის ხარისხი_Dummy	1.202	184	42.531	1	.000	3.3
	დოქტორის ხარისხი_Dummy	2.289	.604	14.347	1	.000	9.9
	<u>โปลูปo</u> Dummy	.031	.106	.083	1	.773	1.0
	18-27 Dummy	2.096	.302	48.112	1	.000	8.1
	28-38 Dummy	1.555	.245	40.165	1	.000	4.737
	39-48 Dummy	.806	.140	33.116	1	.000	2.239
	სწორი პასუხების რაოდ.	.159	.110	2.070	1	.150	1.172
	წიგნიერების ტესტში_Dummy_ STEP	1		i		·	1
	SKILLS	1	1 J	(		·	1
	დასაქმების სტატუსი_Dummy	.557	.123	20.587	1	.000	1.745
	წერა_dummy	.384	.105	13.286	1	.000	1.468
	მათემატიკური უნარები_dummy	.155	.137	1.282	1	.258	1.167
	კითხვა_dummy	.671	.117	32.764	1	.000	1.956
	შეირაღებული ძალები_Dummy	.245	.884	.077	1	.782	1.277
	მენეჯერები_Dummy	1.121	.278	16.300	1	.000	3.067
		.643	.286	5.054	1	.025	1.903
	პროფესიონალები_Dummy	1	1 J	(		·	1
	ოოფისის მუშაკები_Dummy	2.084	.463	20.263	1	.000	8.037
	მომსახურება/გაყიდვები_Dummy	002	170	.000	1	.993	.998
	სოფლის	1.654	1.004	2.711	1	.100	5.227
	მეურნ./მეცხოველეობა_Dummy	1	1 J	(		·	1
	ნელოსნები_Dummy	.309	.281	1.208	1	.272	1.362
	ოპერატორები/ამწყობები_Dummy	.182		.235	1	.628	1.199
	დამწყები კვალიფიკაციის	889	.269	10.967	1	.001	.411
	ອີງຫວັ້ນອີງເຫດ_Dummy	1	1 J	(		·	1
	ბოლონია		1	13.524	2	.001	í
	პოსო-საბჭოთა	-1.121	.312	12.891	1	.000	.326
	საბჭოთა	746	.232	10.292	1	.001	.474
	Constant	-1.876		22.253	1	.000	.153

ანალიზის მოდელი. წყარო: მსოფლიო ბანკის მონაცემთა ბაზა, 2013

ლოგისტიკური რეგრესია 2.1. კომპეტენციები და დასაქმების შესაძლებლობები წყარო: მსოფლიო ბანკის მონაცემთა ბაზა, 2015

	Moo	lel Summary	
		Cox & Snell R	Nagelkerke R
Step	-2 Log likelihood	Square	Square
1	3158.721ª	.080	.118

		Cox & Snell R	Nagelkerke R
Step	-2 Log likelihood	Square	Square
1	3158.721ª	.080	.118
	·		

		В	S.E.	Wald	df	Sig.	Exp(B)
Step 1 <sup>a</sup>	პროფესიული_Dummy	.455	.151	9.113	1	.003	1.576
	ბაკალავრის	.871	.154	32.109	1	.000	2.388
	ხარისხი_Dummy						
	მაგისტრის ხარისხი_Dummy	.884	.123	51.474	1	.000	2.421
	დოქტორის	1.101	.441	6.220	1	.013	3.007
	ხარისხი_Dummy						
	სქესი_Dummy	.280	.096	8.526	1	.004	1.323
	ასაკი	.018	.004	17.592	1	.000	1.018
	კომპიუტერი_dummy	.554	.125	19.750	1	.000	1.739
	კითხვა_dummy	.202	.128	2.520	1	.112	1.224
	წერა_dummy	.885	.098	80.888	1	.000	2.424
	მათემატიკური	.302	.152	3.958	1	.047	1.353
	უნარები_dummy						
	სწორი პასუხების რაოდ.	125	.108	1.343	1	.247	.882
	წიგნიერების						
	ტესტში_Dummy_ STEP SKILLS						
	Constant	-3.491	.271	165.872	1	.000	.030

წრფივი რეგრესია 2.1. კომპეტენციები და საშუალო ყოველთვიური ანაზღაურების ზრდა წყარო: მსოფლიო ბანკის მონაცემთა ბაზა, 2015

			Adjusted R	Std. Error of the	
Model	R	R Square	Square	Estimate	
1	.409ª	.167	.154	.725	

	Unstandardized Coefficients		Standardized Coefficients		
Model	В	Std. Error	Beta	t	Sig.
(Constant)	631	.213		-2.955	.003
მუშაობის ხანგრძლივობა ამჟამინდელ	-2.464E-06	.000	165	-1.537	.125
სამსახურში_squared					
მუშაობის ხანგრმლივობა ამჟამინდელ	.001	.001	.178	1.575	.116
სამსახურში (გაზომილია თვეებით)					
კომპიუტერი_Dummy	.521	.083	.257	6.304	.000
კითხვა_Dummy	059	.095	026	625	.532
წერა_Dummy	.227	.064	.142	3.527	.000
მათემატიკური უნარები_Dummy	.045	.107	.016	.416	.678
სწორი პასუხების რაოდ. წიგნიერების	.065	.019	.126	3.427	.001
ტესტში_ STEP SKILLS					
სექტორი_Dummy	.124	.062	.078	2.001	.046
სქესი_Dummy	.397	.062	.239	6.370	.000
ასაკი	.006	.003	.084	1.821	.069

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