International School of Economics at Tbilisi State University

Literature Critique

Overeducation, Causes and Consequences

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1. Overeducation Phenomenon

Human resources represent a unique component of production processes because the role of man, even in an era of high-technology industries, cannot be replaced completely; people still actively participate at each stage in the production chain starting from producing raw materials to the sales of final goods and/or services. Apparently, there are no such companies (even the most advanced ones) that can fully operate without a competent labor force (researchers, engineers, managers, factory workers, etc.).

An influential economist, Alfred Marshall (1890) once remarked that "knowledge is our most powerful engine of production; it enables us to subdue Nature and force her to satisfy our wants". After several decades, a stock of relevant skills and knowledge of workers was formally defined as human capital (Schultz 1961), which became widely considered as a critical factor for the production process. Due to its importance, investments in human capital through education and/or training increase labor productivity at the workplace, and as a result, raise individual wages (Becker 1993). Moreover, business activities in any country are largely dependent on the quality of the human capital that finally makes substantial contributions to a country`s economic growth and development (Lucas 1988; Romer 1986). On top of it all, some also argue that education increases the civic participation, reduces crime and encourages healthier lifestyle (Craig 2006).

Due to the aforementioned role of knowledge, individuals try to enhance their educational attainments. However, pursuing further education obviously incurs significant expenditures (such as the direct monetary cost of studying, foregone earnings while studying, and non-monetary costs such as effort, time etc.), it is not always rewarded appropriately (one of the greatly expected benefits of education is entering a desired/adequate occupation) and some highly educated people are forced to take jobs where they cannot use their knowledge effectively.

Under the threat of prolonged unemployment or under the hope to learn by doing (as Baert, Cockx and Verhaest 2013 argue), a person might take a job for which he/she is overeducated – has much higher education than it is needed to perform well his/her duties and correspondingly, his/her knowledge (productivity) is not fully utilized at work.

In order to avoid any misunderstanding, overeducation should be differentiated from a situation when an employee has high education but it is irrelevant for his/her job; for example, a person with an MA in economics working as a receptionist in hospital is not considered as an overeducated worker (but as a person who made the serious mistakes while receiving an education or choosing a job). On the contrary, the overeducation phenomenon is only detected when an employer demands fewer skills (or knowledge) from a worker that he/she has but this person`s education is closely related to his/her career. For instance, a taxi driver who has a degree in geography might confirm the existence of the overeducation phenomenon because the taxi driver can only use the knowledge of local geography at work. Thus, overeducation describes a situation in which a

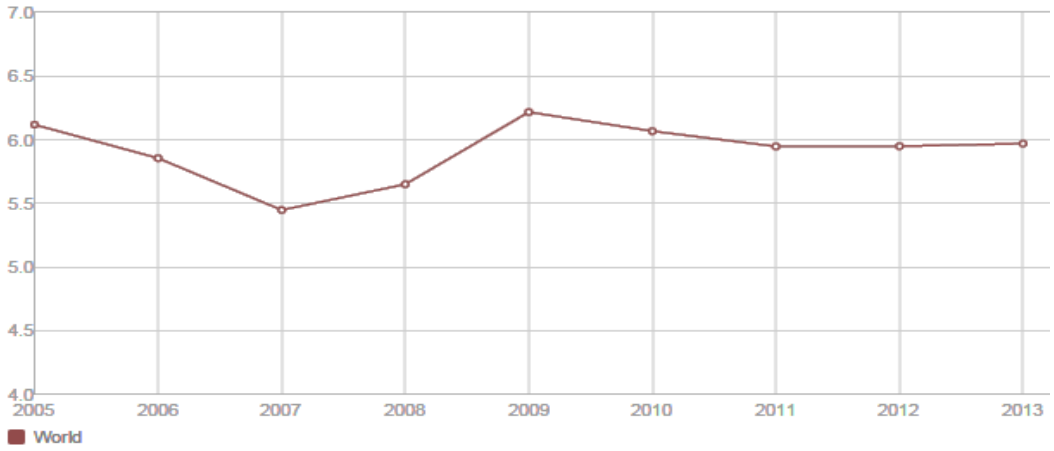
worker is much more educated than it is sufficient to fulfill his/her job requirements.

Freeman (1976) made one of the first steps in analyzing this problem. He explored the wage effect of overeducation for educated Americans. Initially, this term was associated with a reduction in the incomes of high educated labor in accordance with a significant increase in the number of cohorts. It is straightforward that overeducation incurs other types of costs too. One of the most obvious components of it is the inefficient use of human capital; furthermore, if a person is not able to use his/her education completely, with other negative consequences (e.g. cognitive decline, job dissatisfaction, and others[1]), investment in education becomes a waste of money and time.

The problem of overeducation attracted a special attention after the global economic crisis because unemployment was significantly high (see Figure 1). At the same time, educational attainments among workers were still increasing (see Figure 2). Thus, there was a surplus of skilled workers who could not find jobs or in the best case-scenario they had jobs, which required much less knowledge than they actually had. Nowadays, these problems are quite pressing too. In order to prevent such inefficient allocation of resources, identifying the primary causes and possible consequences of this phenomenon can be worthwhile from a policy perspective.

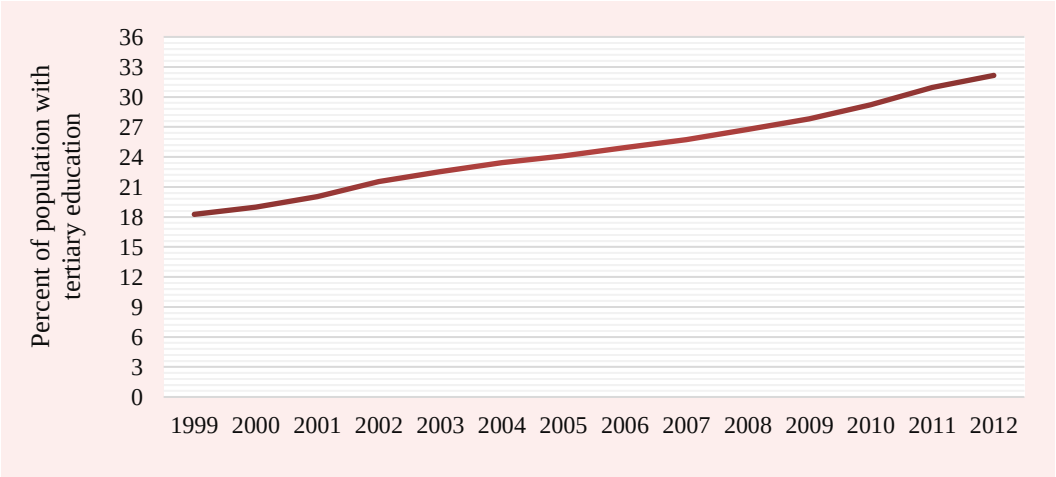
[1] See section 5.

Figure 1: Unemployment Rate



Source: The World Bank. Unemployment, Total (% of Total Labor Force) (modeled ILO Estimate). http://data.worldbank.org/indicator/SL.UEM.TOTL.ZS/countries/1W?display=graph (accessed April 20, 2015).

Figure 2: Gross Enrollment Ratio in Tertiary Education



Source: UNESCO Institute for Statistics. Education: Gross Enrollment Ratio by Level of Education. http://data.uis.unesco.org/?queryid=142# (accessed April 20, 2015).

This literature critique will scrutinize the problem of overeducation and answer several research questions: (i) what is the observed incidence of overeducation according to different researchers across countries; (ii) what are the main causes of overeducation; and (ii) which political, economic and social consequences follow due to its existence.

2. Theories Explaining Overeducation

Overeducation is a relatively recent concept which was developed during early 1970s, but there are number of labor market theories that differently clarify the existence of this phenomenon.

According to **the theory of human capital** by Becker (1993), if an individual receives additional formal education or job related training and/or gains working experience in the field, this will improve his/her human capital and consequently, increase his/her productivity at work. The theory says that in equilibrium, an employee receives remuneration equivalent to his/her marginal productivity. Hence, people invest in their education in order to increase their wages through improving individual productivities. According to human capital theory, overeducation cannot be a long-run phenomenon – workers use their knowledge/productivity fully in equilibrium. However, this theory allows overeducation to be presented temporarily; first of all, this is because employers can cheaply and easily substitute better educated labor for workers with lower human capital. During the adjustment processes,[2] however, firms under-utilize new workers` ability (and the problem of overeducation arises). Correspondingly, wages might not fully compensate overeducated employees` exerted effort (productivity). Secondly, over a long period of time, overeducated workers will also adapt to the unfavorable circumstances by reducing their investments in human capital due to little reward for excess educational attainment and/or by

[2] The period while firms are adjusting their production processes in order to utilize new workers` higher productivities more effectively.

moving to well-matched jobs (jobs that demand the level of education they have and pay them higher wages as well).

Similar to human capital theory, **job matching theory** (Jovanovic 1979) assumes that overeducation is caused due to imperfect information and expenditures related to a job/worker search. Job seekers do not have perfect information about job requirements and wages, neither does an employer know exactly applicants` productivities. The theory asserts that, because of the search costs, both a worker and an employer might temporarily agree on an imperfect match. But later overeducated worker will definitely change his/her position to new one where he/she will better utilize his/her qualifications, skills and knowledge.

Another theory which explains the overeducation phenomenon is **career mobility theory**, which was developed by Nachum Sicherman (1991). The theory explains that sometimes individual intentionally accepts a job for which he/she is overeducated in order to acquire more practical skills and get some hands-on experience in the field. Afterwards, such person can easily move to an adequate position. This is one of the unusual cases when researchers claim that overeducation can have some beneficial consequences (also Guironnet 2007 claims that in the short term person can receive monetary benefits – high salary due to the excess education). But Baert, Cockx and Verhaest (2013), using the Timing of Events approach, found that the abovementioned benefits of overeducation are outweighed by the seriously delayed transition to a well-matched job; contrary to Sicherman (1991), these authors state that it is better to

be an unemployed some period of time after graduation and search for an adequate job rather than take a job which is not suitable for a worker`s qualifications because overeducated person might stay mismatched for a long period of time.

Unlike the human capital theory**, the job competition model** (Thurow 1975) claims that wages are not determined by individual productivities but according to the characteristics of the job – particularly its educational and skills requirements, and jobs, which require high level of education, offer high wages too. Also, workers vary in terms of their educational attainments and less educated individuals need more training in order to acquire job specific skills. According to the model, an employer assumes that an applicant with more education than others will perform a job better without very costly job related training, hence the probability of hiring such a person is strong. Finally, a highly qualified worker will be employed in a better job where a higher wage is offered (and at the same time, the requirements are stricter as well). But overeducation might emerge from the facts that individuals are willing to invest in their education in order to improve their employment prospects by lowering their training costs and/or in order to preserve their current positions. Therefore, if job requirements stay the same, while the supply of educated labor increases, then only a limited number of educated workers will be matched to the best jobs, but others will substitute for less educated people employed in jobs with low requirements; regarding the replaced workers, they have to take low-paid jobs or in extreme cases, they might even end up unemployed. Thus, according to the job

competition model, overeducation will persist until job requirements are unchanged and will cause not only inefficient utilization of valuable (human, financial, time, etc.) resources but also increased unemployment.

Assignment theory (Sattinger 1993) argues that jobs and workers are heterogeneous, and that the process of allocating workforce to corresponding jobs is based on workers` choices (after solving the individual income/utility maximization problem). Under this model, wages are not entirely contingent on the level of educational attainment (unlike the theory of human capital) or job characteristics (different from job competition model), but instead labor income is the consequence of the assignment of employees to jobs (so wage is based to certain extent on both the job and individual characteristics). Assignment theory provides alternative explanation for the overeducation phenomenon, stating that overeducation might be caused by the free choices of employers and employees in order to maximize their utilities.

One of the most distinctive view on education is presented in **the job signaling model** (Spence 1973). Under the imperfect information setup, it determines the level of education as a tool for labor suppliers only to signal their productivities (but not as a way of increasing it). But when there is little difference in costs of studying for less and more productive individuals while the gap in wages offered according to educational attainment is significant, we can find less productive people overinvesting in their education in order to pretend to be highly productive workers and raise their wages.

3. Measurement of Overeducation

While exploring this topic, the most controversial issue is the measurement of overeducation. There are a lot of suggestions by numerous researchers which belong to one of the following main measurement approaches: job assessment, worker`s self-assessment and realized matches (Chevalier 2003).

The Job assessment approach (JA) is the oldest method among various approaches which try to measure the incidence of overeducation. For this purpose, researchers studied and formalized the educational attainments that were required by different jobs. In this way, for example, Dictionary of Occupational Titles (DOT) was created in the US and each occupation was matched to a particular education level. In general, job specialists analyze the educational requirements of particular jobs and create occupational dictionaries in order to compare those requirements with the actual level of education of workers. Therefore, according to the job assessment approach, an overeducated worker is a person whose human capital is much higher than required for the job he/she occupies. But this approach has several important limitations; firstly, firms might have different requirements for the same profession that in practice make it difficult to understand how well workers and jobs are matched.[3] Moreover, the expansion of educational attainments worldwide may cause the imposition of higher educational

[3] For example, supervisors in different types of companies are assigned not the same tasks. Consequently, firms' requirements for this position might be diverse.

requirements for each occupation[4], which indicates the importance of regular revising of occupational dictionaries.

On the contrary, **worker`s self-assessment approach (WA)** is entirely based on an employee`s opinion about the qualification that is necessary to perform the job at her current occupation. Alternatively, in order to determine magnitude of overeducation, researchers directly ask workers whether they consider themselves as overeducated. There are also some problems related to this approach that might cause a misleading measurement of overeducation which are the following: workers characterize overestimation of educational requirements of the job (to pretend that their job is hard to get and perform) and their own educational attainments (Hartog 2000).

Finally, according to **the realized matches approach (RM)** (Verdugo and Verdugo 1989)**,** researchers calculate the average (alternative RM approach computes mode of educational attainments and compares it with individual levels) education level of all employees for each occupation. Those with educational attainment higher than the mean by one standard deviation constitute overeducated workers. The most obvious drawback of the approach is that if there are a lot of overeducated workers, then average education is higher too and correspondingly, incidence of overeducation is underestimated. Furthermore, like in the job assessment approach, the requirements for the same occupations can be

[4] Because individuals are receiving more and more education, employers might require higher levels of education for the same job. Thus, the requirements for the job can be different over time and occupational dictionaries need to be adjusted accordingly.

different, and in such cases, the aforementioned identification mechanism might not provide reliable results.

Therefore, job experts objectively and precisely specify what the job requirements are and express them in corresponding years of schooling, but this approach entails a lot of resources in order to update existing occupational dictionaries. Regarding workers assessment, this approach provides the latest information on the job requirements and also takes into account heterogeneity of occupations. However, it is subject to personal opinions and might provide biased results. Lastly, the attractiveness of the third approach is that information is readily available. But due to its dependence on educational attainments of each cohort, it is considered as a less reliable measure among researchers (Chevalier 2003).[5] Thus, each of these measures has its pros and cons, which is why there is no unified system of measurement of overeducation; however, some scholars prefer JA due to its aforementioned advantages (Hartog 2000).

4. Overeducation Across Countries

Besides the different measurement approaches discussed in the previous section**,** various studies also differ according to how they restrict their samples: some papers examine the case of overeducation for entire population (all studies shown in the Table 1 below, except Chevalier 2003 and Green and Zhu 2010), while others explore the incidence of overeducation across graduates (Baert,

[5] It might be the case when job requirements are the same but a new cohort has higher education than the previous one, so the mean or mode of the educational attainments for them will be higher and reported overeducation cannot be directly comparable to the earlier estimates of overeducation.

Cockx and Verhaest 2013). It is also noteworthy that due to the availability and better quality of the data, a majority of the works are carried out in the US, the UK and the Netherlands; however, there are also a limited number of studies for Italy, Spain, Australia, Germany, Belgium, Portugal, etc. Due to the same reasons, most works have been conducted for developed countries and only a few studies are dealt with the overeducation phenomenon in developing economies (e.g. Mehta, Felipe, Quising and Camingue 2009 analyzed the case of the Philippines, Mexico, India and Taiwan).

Table 1 shows the incidence of overeducation in several countries observed by different authors. Not surprisingly, the most frequently used measurement method is workers' self-assessment approach and the United States is the country observed by the majority of researches (the reasons of these are already explained above). When analyzing the magnitude of overeducation using different measurement methods the results are significantly different from each other. For example, Verhaest and Omey (2004) found that in Belgium overeducation was 10.5% using RM method and 54.2% using JA approach. However, Robst (1995) and Sicherman (1991) both employed WA approach but they still obtained different estimates of overeducation; in the US, according to Robst (1995), 44.68% of the country`s population was overeducated, while Sicherman (1991) claimed that only 40% of all Americans have considered themselves as overeducated. An important message here is that without a unified and more sophisticated measurement system, economists are incapable of making reasonable conclusions; for instance, they cannot easily compare countries by

their level of overeducation or find the occupations that involve the highest risk of overeducation. However, these and other findings would help the researchers to recognize the optimal ways of resolving the inefficient allocation of scarce resources.

Table 1: The Incidence of Overeducation in Different Studies

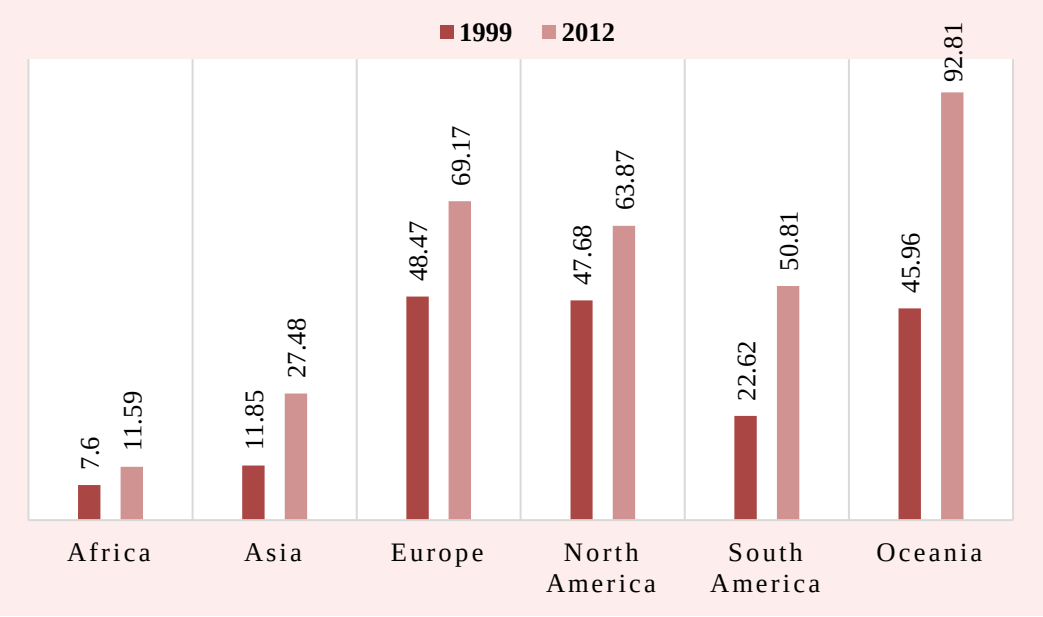
Researcher	***Date***	***Country***	***Overeducation***	***Measure***
Aberg	2003	Sweden	35.8%	WA
Burris	1983	US	21.7%	JA
Chevalier	2003	UK	17%	JA, WA
Green, Zhu	2010	UK	33.2%	WA
Linsley	2005	Australia	27.1 %	WA
Mehta, Felipe, Quising, Camingue [6]	2009	Philippines, Mexico, India, Thailand	44.3%, 10.7% , 2.2%, 14.8%	JA[7]
Robst	1995	US	44.68%	WA
Rumberger	1981	US	16%	JA, WA
Sicherman	1991	US	40%	WA
Verhaerst, Omey[8]	2004	Belgium	54.2% , 10.5%, 26.5%, 44.0%	JA, RM, DSA, ISA

[6] Mehta, Felipe, Quising and Camingue (2009) found that 13.8% of employees were overeducated in Mexico using RM (mean approach) and 38.4% using also RM but mode approach.
[7] Estimation procedure of Mehta, Felipe, Quising and Camingue (2009) is a modified version of JA.
[8] Verhaerst and Omey (2004) split WA into two measure: DSA and ISA. DSA stands for Direct Self-Assessment and it is used when researcher directly asks worker whether she is overeducated for the job. ISA means Indirect Self-Assessment and used when researcher asks workers about the

5. Causes and Consequences of Overeducation

According to the online database of the UNESCO Institute for Statistics (UIS) (which provides cross-country comparable figures on education), a relatively large educational expansion can be observed; particularly, the global gross enrollment ratio in tertiary education increased from 18% to 32% between 1999 and 2012 (as shown in Figure 2). While analyzing specific (UNESCO) regions, participation in higher education (from 1999 to 2012) has grown at different rates: Asia has the highest growth rate – 134%, then South America – 124%, Africa – 53%, Europe – 43%, North America – 34%. The lowest increase in enrollment rates of the past decade is in Oceania – 32% (see Figure 3). If, after such a significant expansion of higher education across regions, labor demand responds slowly as well, an excess supply of educated workers can further compound the overeducation problem.

Figure 3: Gross Enrollment Ratio in Tertiary Education, by UNESCO Regions

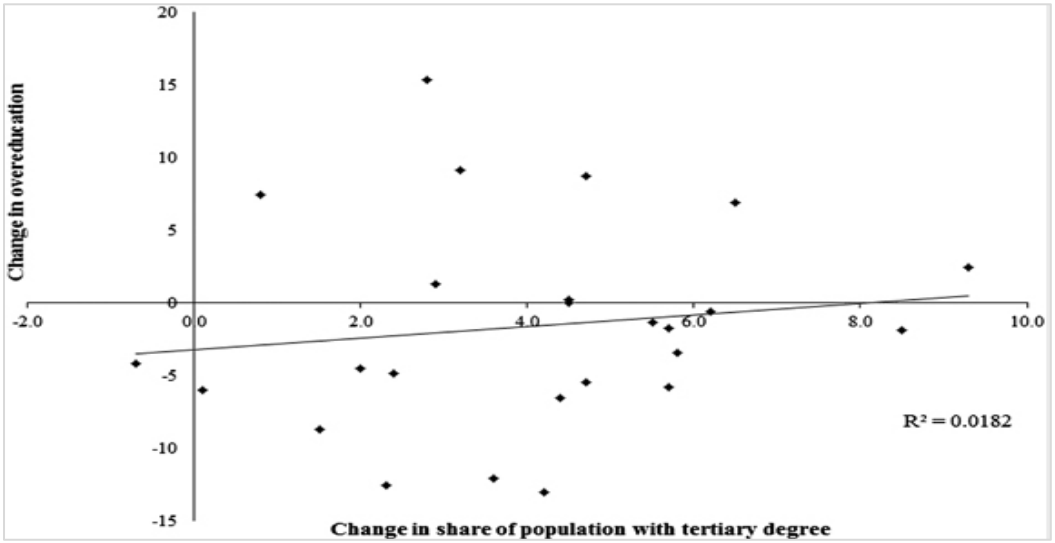


Source: UNESCO Institute for Statistics. Education: Gross Enrollment Ratio by Level of Education. http://data.uis.unesco.org/?queryid=142# (accessed May 11, 2015).

necessary educational attainments for her job. Hence, these authors estimated overeducation using four measure JA, RM, DSA, ISA in order to show the variation between different measures.

However, a recent study (Croce and Ghignoni 2012) which examined overeducation in Europe among college graduates arrived at the opposite conclusion – despite the fact that the enrollment ratios in higher education increased among almost all examined European countries, a positive relationship between overeducation and increased supply of educated workers was not found (see Figure 4). Thus, according to Croce and Chignoni (2012), even when the number of educated workers rises, overeducation does not follow its increase.

Figure 4: Overeducation and Supply of Educated People, Changes 1998-2006



Source: Croce and Chignoni (2012).

Apparently, decisions about pursuing higher education are not bound but strongly influenced by wage expectations. Individuals may overinvest in their knowledge (and skills) if they are overestimating the expected value of their future earnings (Brunello, Lucifora and Winter-Ember 2004). Indeed, Brunello, Lucifora and Winter-Ember (2004), using survey data from 3000 college students (of business and economics faculties) of numerous universities in ten European

countries, found that on average expected wages are much higher (more than 10 percent) than actual wages.[9] One of the offered interpretations was over-optimism (or over self-confidence) of students from business and economics faculties.

On top of it all, the (high) incidence of overeducation may be found due to a measurement error. More precisely, most studies cannot control for the quality of education (as mentioned by Mehta, Felipe, Quising and Camingue 2009); then overeducated people may simply represent those with excess years of schooling than it is required[10] but without relevant skills and knowledge in the specific fields (Chevalier 2003 defined this phenomenon as apparent overeducation). Due to measurement issue, estimates of overeducation will be biased (it can be over or under estimated); moreover, the true problem cannot be accurately identified (observed overeducation might be the consequence of low quality of education or the inefficient assignment of well educated and high skilled workers to low-skilled jobs) and the policy recommendations based on such misleading results will not provide meaningful/effective remedies.

The first economists who were interested in the effect of overeducation on wages were Richard Freeman (1976) and Russell W. Rumberger (1981). They were examining US labor market and observed that overeducation was indeed increasing over the years but they could not find notable evidence of a reduction in wages of American college graduates. Several years later, Herbert Smith (1986) explained that decline in the wages was caused not by overeducation but

[9] Information on actual wages was taken mostly from the European Community Household Panel (ECHP).
[10] As already mentioned in section 3, required education can be determined by job experts.

by the slow response of the American labor market to increased labor supply. He also tried to expand this notion to encompass large mismatch problems and called it "underemployment". But the majority of the studies are still focused on how extra years of schooling affect earnings and non-pecuniary issues are not paid enough attention. However, there are some interesting papers examining other consequences of overeducation which will be presented in this section.

Val Burris (1983) was one of the first economists who evaluated the political and social repercussions of overeducation in the US. He showed that job satisfaction is negatively affected by overeducation (however, the effect was limited); Burris (1983) could not find confirmation of undesirable political consequences (such as political leftism and alienation) from being overeducated. After finding weak empirical evidence for adverse effects of overeducation on social and political variables[11], he became very doubtful of any significant relationship between them.

Unlike Burris (1983), a recent study conducted by Green and Zhu (2010) in Britain, examining the similar topic, adopted a useful approach[12] and split overeducated workers between formally overeducated (those having simply extra years of schooling without practical skills) and actually overeducated (whose excess skills were only partially utilized at work). After this procedure, they obtained sensible results – there was not a significant negative relationship

[11] Burris (1983) analyzed how each of four different social (job dissatisfaction and social stratification) and political variables (political leftism and alienation) was affected by increased incidence of overeducation in the US. Contrary to the popular idea, only job dissatisfaction was slightly increased due to the overeducation.

[12] This approach is similar to one used by Chevalier (2003) who also split overeducation in two term: apparent (like formal) and genuine (like real) overeducation.

between formal overeducation and job satisfaction but 22 percent of overqualified workers were dissatisfied with their jobs while only 7 percent of adequately educated expressed job dissatisfaction in 2006.

Intuitively, not only can job satisfaction be lowered if the person has too much high education with respect to an employer`s requirements, but also his/her social class might move him/her towards a lower position as discovered by Rune Aberg (2003). This is the case because social status is mostly determined by the job one has and when a high educated person cannot find an occupation which is relevant for his/her educational achievements, his/her social class position is worsened.

Researchers usually find that overeducation causes a reduction in the wages of overeducated workers in comparison to adequately educated ones (for instance, Hartog 2000). Observing increasing incidence of overeducation in France, Guironnet and Jaoul-Grammare (2007) decided to examined the widely stated negative effect of overeducation on wages (and on the GDP growth). Surprisingly, they found that an overeducated person has higher wages at the start of his/her career than an adequately educated worker. This positive wage effect, on the one hand, encourages overinvestment in higher education, but on the other hand, increased overeducation will negatively influence economic growth because an overeducated workforce`s productivity is applied only partially, while it can be used more effectively in the absence of the overeducation problem.

Similar to Sicherman (1991), John Robst (1995) states that overeducated[13] people might need to take jobs with lower requirement than their educational attainment in order to gain practical experience and increase their career prospects. He found strong evidence that the probability of changing jobs is higher in the case of overeducated worker rather than well-matched worker because after developing the necessary skills, he/she would like to move up the career ladder and earn higher wages. In short, motivation and, indeed, the incidence of leaving jobs and starting better ones are higher for overeducated people compared to adequately educated workers.

De Grip, Bosmay and Willemsz (2008) examined the relationship between cognitive ability and overeducation. One of the advantages of their study is that they take into consideration the magnitude of overeducation and found that when highly overeducated individuals cannot use his/her knowledge fully at work, the cognitive ability of such person is in danger of declining significantly while an undereducated worker (who does not have required skills for his/her job) can even benefit because he is under pressure to learn more.

6. The Case of Georgia

While analyzing the case of Georgia, in this context, most researchers came to an interesting figure – 27.93% of the working age Georgian population have

[13] According to De Grip, Bosmay and Willemsz (2008) overeducated person just has excess years of schooling but not relevant knowledge/skill (same as formally overeducated, suggested by Green and Zhu 2010).

tertiary education (according to the UNSECO database, in 2012[14]), a level which is close to the enrollment ratio (28.06%) of middle income countries (but Georgia belongs to the lower middle income countries according to the World Bank[15]); however, according to the Global Competitiveness Report 2012-2013, one of the most severe growth constraints in Georgia is the low quality of human capital. To be more precise, firms frequently complain about inadequately educated and low-skilled labor.

One possible (and apparent) explanation for this situation can be that the high enrollment ratio does not indicate the high quality of Georgia`s educational system but the opposite; according to the aforementioned report of the World Economic Forum (2012), educated individuals do not have relevant skills and knowledge for working in existing industries. This can also be verified by high unemployment rates among people with tertiary education (40% of total unemployed people had tertiary education in 2010, according to the World Bank).

Unfortunately, there are no comprehensive scientific studies investigating the overeducation problem of Georgia. Indeed, there are lots of newspaper articles and blog posts providing interesting (but brief) analysis of the related issues (like several blog posts at The ISET Economist[16]). They come to a similar conclusion – there is no overeducation problem in Georgia, but that skills mismatch between

[14] Source: UNESCO Institute for Statistics. Education: Gross Enrollment Ratio by Level of Education. http://data.uis.unesco.org/?queryid=142# (accessed April 20, 2015).
[15] Source: The World Bank. Georgia. http://data.worldbank.org/country/georgia (accessed April 20, 2015).
[18] Source: The World Bank. Unemployment with Tertiary Education (% of Total Unemployment). http://data.worldbank.org/indicator/SL.UEM.TERT.ZS (accessed April 20, 2015).
[16] The ISET Economist.2012. "The “Over-Education” Trap." http://www.iset.ge/blog/?p=533 (accessed April 20, 2015).

what are demanded by employers and what are supplied by workers is the most severe issue here. There is still need to be a rigorous examination of these claims, however.

7. Concluding Remarks

To sum up, the welfare of the society is closely related to the quality of its human capital because even in this high tech era, labor still performs an essential part of the production process. Knowing this, people make investments in their education in order to increase their productivity and finally, get satisfactory jobs. They quite often discover themselves overeducated, however, in situation when they cannot use their knowledge entirely. This reduces job satisfaction and, furthermore, causes losses to the whole society (Baert, Cockx and Verhaest 2013). Due to its non-negligible harm for nations (which were analyzed in the previous section), policy makers should be highly interested in the origin and possible effects of overeducation, which is indeed the subject of this literature critique.

However, in order to have more comprehensive and informative studies on this topic, the creation of a uniform measurement system (like unemployment which is measured more or less the same way) which also incorporates the quality of schooling is necessary. Nowadays, the same study can find different incidences of overeducation for a country when using different measurement approaches (Verhaest and Omey 2006); moreover, without controlling for the quality of education, even the best measure of overeducation can provide distorted estimates. Thus, such an improvement should be next logical step of the scholars

interested in the topic, which will create a golden opportunity for researchers to thoroughly investigate the magnitude of overeducation across countries, occupations, age, gender, etc., and enable them to provide comparable findings and clear policy recommendations.

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